



Pin Information for the Cyclone® III LS EP3CLS70 Device  
Version 1.1  
Notes (1),(2)

| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
| B1          | VREFB1N0    | IO                  | DIFFIO_L1p           |                        | G5   | B1                               | G5   | B1                               | H6   |                                  |                       |                         |                       |                         | DQ2L0                 | DQ1L0                   | DQ1L0                   |
| B1          | VREFB1N0    | IO                  | DIFFIO_L1n           |                        | F4   |                                  | F4   |                                  | G6   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N0    | IO                  | DIFFIO_L2p           |                        | E4   |                                  | E4   |                                  | F5   |                                  |                       |                         |                       |                         | DQ2L1                 | DQ1L1                   | DQ1L1                   |
| B1          | VREFB1N0    | IO                  | DIFFIO_L2n           |                        | E3   |                                  | E3   |                                  | F4   |                                  |                       |                         |                       |                         | DQ2L2                 | DQ1L2                   | DQ1L2                   |
| B1          | VREFB1N0    | IO                  | VREFB1N0             |                        | F3   |                                  | F3   |                                  | J5   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N0    | IO                  | DIFFIO_L3p           |                        | B2   |                                  | B2   |                                  | D3   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N0    | IO                  | DIFFIO_L3n           |                        | B1   |                                  | B1   |                                  | D2   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N0    | IO                  | DIFFIO_L4p           |                        | C2   |                                  | C2   |                                  | C1   |                                  | DQS2L/CQ3L, CDPCLK0   | DQS2L/CQ3L, CDPCLK0     | DQS2L/CQ3L, CDPCLK0   | DQS2L/CQ3L, CDPCLK0     | DQS2L/CQ3L, CDPCLK0   | DQS2L/CQ3L, CDPCLK0     | DQS2L/CQ3L, CDPCLK0     |
| B1          | VREFB1N0    | IO                  | DIFFIO_L4n           |                        | C1   |                                  | C1   |                                  | D1   |                                  |                       |                         |                       |                         | DQ2L3                 | DQ1L3                   | DQ1L3                   |
| B1          | VREFB1N0    | IO                  | DIFFIO_L5p           |                        | D2   |                                  | D2   |                                  | G5   |                                  |                       |                         |                       |                         | DQ2L4                 | DQ1L4                   | DQ1L4                   |
| B1          | VREFB1N0    | IO                  | DIFFIO_L5n           | DATA1.ASDO             | D1   |                                  | D1   |                                  | G4   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N0    | IO                  | DIFFIO_L6p           |                        | G7   | B8_B1                            | G7   | B8_B1                            | E2   |                                  |                       |                         |                       |                         | DQ2L5                 | DQ1L5                   | DQ1L5                   |
| B1          | VREFB1N0    | IO                  | DIFFIO_L6n           |                        | H7   | B8_B1                            | H7   | B8_B1                            | E4   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N0    | IO                  | DIFFIO_L7p           |                        | H6   | B1                               | H6   | B1                               | E3   |                                  |                       |                         |                       |                         | DQ2L6                 | DQ1L6                   | DQ1L6                   |
| B1          | VREFB1N0    | IO                  | DIFFIO_L7n           |                        | J6   | B1                               | J6   | B1                               | E1   |                                  |                       |                         |                       |                         | DQ2L7                 | DQ1L7                   | DQ1L7                   |
| B1          | VREFB1N1    | IO                  | DIFFIO_L7n           |                        | J5   | B1                               | J5   | B1                               | F1   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N1    | IO                  | DIFFIO_L8p           | FLASH_nCE,nCSO         | E2   |                                  | E2   |                                  | K6   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N1    | IO                  | DIFFIO_L8n           |                        | E1   |                                  | E1   |                                  | K5   |                                  |                       |                         |                       |                         |                       | DQ1L8                   | DQ1L8                   |
| B1          | VREFB1N1    | IO                  | DIFFIO_L9p           |                        | J4   | B1                               | J4   | B1                               | G2   |                                  |                       |                         |                       |                         | DM2L                  | DM1L0/BWS#1L0           | DM1L0/BWS#1L0           |
| B1          | VREFB1N1    | IO                  | DIFFIO_L9n           |                        | J3   | B1                               | J3   | B1                               | G1   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N1    | IO                  | VREFB1N1             |                        | H4   | B1                               | H4   | B1                               | J4   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N1    | IO                  | VREFB1N1             |                        | F2   |                                  | F2   |                                  | J3   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N1    | IO                  | DIFFIO_L10p          |                        |      |                                  |      |                                  | J7   |                                  |                       |                         |                       |                         | DQ0L0                 | DQ1L9                   | DQ1L9                   |
| B1          | VREFB1N1    | IO                  | DIFFIO_L10n          |                        |      |                                  |      |                                  | J6   |                                  |                       |                         |                       |                         | DQ0L1                 | DQ1L10                  | DQ1L10                  |
| B1          | VREFB1N1    | nSTATUS             | nSTATUS              | nSTATUS                | F1   |                                  | F1   |                                  | M1   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N1    | IO                  | DIFFIO_L11p          |                        |      |                                  |      |                                  | L5   |                                  |                       |                         |                       |                         | DQ0L2                 | DQ1L11                  | DQ1L11                  |
| B1          | VREFB1N1    | IO                  | DIFFIO_L11n          |                        |      |                                  |      |                                  | L4   |                                  |                       |                         |                       |                         | DQ0L3                 | DQ1L12                  | DQ1L12                  |
| B1          | VREFB1N1    | IO                  | DIFFIO_L12p          |                        | H3   |                                  | H3   |                                  | G3   |                                  | DQS0L/CQ1L, DPCLK0    | DQS0L/CQ1L, DPCLK0      | DQS0L/CQ1L, DPCLK0    | DQS0L/CQ1L, DPCLK0      | DQS0L/CQ1L, DPCLK0    | DQS0L/CQ1L, DPCLK0      | DQS0L/CQ1L, DPCLK0      |
| B1          | VREFB1N1    | IO                  | DIFFIO_L12n          |                        |      |                                  |      |                                  | H3   |                                  |                       |                         |                       |                         | DQ0L4                 | DQ1L13                  | DQ1L13                  |
| B1          | VREFB1N1    | IO                  | DIFFIO_L13p          |                        | L2   | B1_B2                            | L2   | B1_B2                            | K2   | B1                               | DQ1L0                 | DQ1L0                   | DQ1L0                 | DQ1L0                   |                       |                         |                         |
| B1          | VREFB1N1    | IO                  | DIFFIO_L13n          |                        | L1   | B1_B2                            | L1   | B1_B2                            | K3   |                                  | DQ1L1                 | DQ1L1                   | DQ1L1                 | DQ1L1                   | DQ0L5                 | DQ1L14                  | DQ1L14                  |
| B1          | VREFB1N1    | IO                  | DIFFIO_L14p          |                        |      |                                  |      |                                  | J2   | B1                               |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | IO                  | DIFFIO_L14n          |                        |      |                                  |      |                                  | J1   | B1                               |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | IO                  | DIFFIO_L15p          |                        |      |                                  |      |                                  | M6   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | IO                  | DIFFIO_L15n          |                        |      |                                  |      |                                  | N6   | B1                               |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | IO                  | VREFB1N2             |                        |      |                                  |      |                                  | L1   | B1                               |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | IO                  | VREFB1N2             |                        | J2   |                                  | J2   |                                  | K4   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | IO                  | DIFFIO_L16p          |                        |      |                                  |      |                                  | H2   |                                  |                       |                         |                       |                         | DQ0L6                 | DQ1L15                  | DQ1L15                  |
| B1          | VREFB1N2    | IO                  | DIFFIO_L16n          |                        |      |                                  |      |                                  | H1   |                                  |                       |                         |                       |                         | DQ0L7                 | DQ1L16                  | DQ1L16                  |
| B1          | VREFB1N2    | IO                  | DIFFIO_L17p          |                        | L5   | B1_B2                            | L5   | B1_B2                            | M5   |                                  |                       |                         |                       |                         |                       | DQ1L17                  | DQ1L17                  |
| B1          | VREFB1N2    | IO                  | DIFFIO_L17n          |                        | L4   | B1_B2                            | L4   | B1_B2                            | M4   |                                  |                       |                         |                       |                         | DM0L                  | DM1L1/BWS#1L1           | DM1L1/BWS#1L1           |
| B1          | VREFB1N2    | IO                  | DIFFIO_L18p          |                        |      |                                  |      |                                  | P4   | B1                               |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | IO                  | DIFFIO_L18n          |                        |      |                                  |      |                                  | P3   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | IO                  | VREFB1N2             |                        |      |                                  |      |                                  | P1   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | DCLK                | DCLK                 | DCLK                   | G2   |                                  | G2   |                                  | L6   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | IO                  | DATA0                | DATA0                  | H5   |                                  | H5   |                                  | K1   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | nCONFIG             | nCONFIG              | nCONFIG                | G1   |                                  | G1   |                                  | M3   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | TDI                 | TDI                  | TDI                    | K4   |                                  | K4   |                                  | P5   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | TCK                 | TCK                  | TCK                    | H1   |                                  | H1   |                                  | P2   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | TMS                 | TMS                  | TMS                    | H2   |                                  | H2   |                                  | N3   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | TDO                 | TDO                  | TDO                    | K5   |                                  | K5   |                                  | P6   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | nCE                 | nCE                  | nCE                    | J1   |                                  | J1   |                                  | M2   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | CLK0                | DIFFCLK_0p           |                        | K2   |                                  | K2   |                                  | N2   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B1          | VREFB1N2    | CLK1                | DIFFCLK_0n           |                        | K1   |                                  | K1   |                                  | N1   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B2          | VREFB2N0    | CLK2                | DIFFCLK_1p           |                        | N2   |                                  | N2   |                                  | T2   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B2          | VREFB2N0    | CLK3                | DIFFCLK_1n           |                        | N1   |                                  | N1   |                                  | T1   |                                  |                       |                         |                       |                         |                       |                         |                         |



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Version 1.1  
Notes (1),(2)

| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |               |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|---------------|
| B2          | VREFB2N0    | IO                  | DIFFIO_L19p          |                        | L6   | B1_B2                            | L6   | B1_B2                            | T3   |                                  |                       |                         |                       |                         |                       | DQ1L0                   | DQ3L0                   | DQ1L18        |
| B2          | VREFB2N0    | IO                  | DIFFIO_L19n          |                        | M6   |                                  | M6   |                                  | T4   |                                  |                       |                         |                       |                         |                       | DQ1L1                   | DQ3L1                   | DQ1L19        |
| B2          | VREFB2N0    | IO                  |                      |                        |      |                                  |      |                                  | U4   |                                  |                       |                         |                       |                         |                       | DQ1L2                   | DQ3L2                   | DQ1L20        |
| B2          | VREFB2N0    | IO                  | DIFFIO_L20p          |                        | M2   |                                  | M2   |                                  | T6   |                                  | DQ1L2                 | DQ1L2                   | DQ1L2                 | DQ1L2                   | DQ1L3                 | DQ3L3                   | DQ1L21                  |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L20n          |                        | M1   |                                  | M1   |                                  | T5   |                                  | DQ1L3                 | DQ1L3                   | DQ1L3                 | DQ1L3                   | DQ1L4                 | DQ3L4                   | DQ1L22                  |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L21p          |                        | M4   |                                  | M4   |                                  | U1   |                                  | DQ1L4                 | DQ1L4                   | DQ1L4                 | DQ1L4                   | DQ1L5                 | DQ3L5                   | DQ1L23                  |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L21n          |                        | M3   |                                  | M3   |                                  | V1   |                                  | DQ1L5                 | DQ1L5                   | DQ1L5                 | DQ1L5                   |                       |                         |                         |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L22p          |                        | P2   |                                  | P2   |                                  | V4   |                                  | DQ1L6                 | DQ1L6                   | DQ1L6                 | DQ1L6                   | DQ1L6                 | DQ3L6                   | DQ1L24                  |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L22n          |                        | P1   |                                  | P1   |                                  | W3   |                                  | DQ1L7                 | DQ1L7                   | DQ1L7                 | DQ1L7                   | DQ1L7                 | DQ3L7                   | DQ1L25                  |               |
| B2          | VREFB2N0    | IO                  |                      |                        |      |                                  |      |                                  | W1   |                                  |                       |                         |                       |                         |                       | DQ1L8                   | DQ3L8                   | DQ1L26        |
| B2          | VREFB2N0    | IO                  | VREFB2N0             |                        | P3   |                                  | P3   |                                  | U5   |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L23p          |                        | T2   |                                  | T2   |                                  | Y2   |                                  | DM1L/BWS#1L           | DM1L0/BWS#1L0           | DM1L/BWS#1L           | DM1L0/BWS#1L0           | DM1L/BWS#1L           | DM3L0/BWS#3L0           | DM1L2/BWS#1L2           |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L23n          |                        | R1   |                                  | R1   |                                  | Y1   |                                  | DQ1L8                 | DQ1L8                   | DQ1L8                 | DQ1L8                   |                       |                         |                         |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L24p          |                        | T1   |                                  | T1   |                                  | U3   |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L24n          |                        | U1   |                                  | U1   |                                  | U2   |                                  | DQ3L1                 | DQ1L10                  | DQ3L1                 | DQ1L10                  |                       |                         |                         |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L25p          |                        |      |                                  |      |                                  | AA2  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N0    | IO                  | DIFFIO_L25n          |                        | M5   |                                  | M5   |                                  | AA1  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N1    | IO                  | DIFFIO_L26p          |                        | R3   |                                  | R3   |                                  | W5   |                                  | DQS1L/CQ1L#, DPCLK1   | DQS1L/CQ1L#, DPCLK1     | DQS1L/CQ1L#, DPCLK1   | DQS1L/CQ1L#, DPCLK1     | DQS1L/CQ1L#, DPCLK1   | DQS1L/CQ1L#, DPCLK1     | DQS1L/CQ1L#, DPCLK1     |               |
| B2          | VREFB2N1    | IO                  | DIFFIO_L26n          |                        | R2   |                                  | R2   |                                  | W4   |                                  | DQ3L0                 | DQ1L9                   | DQ3L0                 | DQ1L9                   |                       |                         |                         |               |
| B2          | VREFB2N1    | IO                  | DIFFIO_L27p          |                        | V2   |                                  | V2   |                                  | AB1  |                                  | DQ3L2                 | DQ1L11                  | DQ3L2                 | DQ1L11                  | DQ3L0                 | DQ3L9                   | DQ1L27                  |               |
| B2          | VREFB2N1    | IO                  | DIFFIO_L27n          |                        | V1   |                                  | V1   |                                  | AC1  |                                  | DQ3L3                 | DQ1L12                  | DQ3L3                 | DQ1L12                  | DQ3L1                 | DQ3L10                  | DQ1L28                  |               |
| B2          | VREFB2N1    | IO                  | DIFFIO_L28p          |                        | Y1   |                                  | Y1   |                                  | Y3   |                                  | DQ3L4                 | DQ1L13                  | DQ3L4                 | DQ1L13                  |                       |                         |                         |               |
| B2          | VREFB2N1    | IO                  | DIFFIO_L28n          |                        | AA1  |                                  | AA1  |                                  | W2   |                                  | DQ3L5                 | DQ1L14                  | DQ3L5                 | DQ1L14                  |                       |                         |                         |               |
| B2          | VREFB2N1    | IO                  | DIFFIO_L29p          |                        | N5   |                                  | N5   |                                  | AB3  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N1    | IO                  | DIFFIO_L29n          |                        | P5   |                                  | P5   |                                  | AB2  |                                  |                       |                         |                       |                         |                       | DQ3L2                   | DQ3L11                  | DQ1L29        |
| B2          | VREFB2N1    | IO                  | DIFFIO_L30p          |                        | R5   |                                  | R5   |                                  | AD2  |                                  |                       |                         |                       |                         |                       | DQ3L3                   | DQ3L12                  | DQ1L30        |
| B2          | VREFB2N1    | IO                  | DIFFIO_L30n          |                        | P4   |                                  | P4   |                                  | AD1  |                                  |                       |                         |                       |                         |                       | DQ3L4                   | DQ3L13                  | DQ1L31        |
| B2          | VREFB2N1    | IO                  | DIFFIO_L31p          |                        | Y2   | B2_B3                            | Y2   | B2_B3                            | AB4  |                                  | DQ3L6                 | DQ1L15                  | DQ3L6                 | DQ1L15                  |                       |                         |                         |               |
| B2          | VREFB2N1    | IO                  | DIFFIO_L31n          |                        | AA2  | B2_B3                            | AA2  | B2_B3                            | AC4  |                                  | DM3L/BWS#3L           | DM1L1/BWS#1L1           | DM3L/BWS#3L           | DM1L1/BWS#1L1           |                       |                         |                         |               |
| B2          | VREFB2N1    | IO                  | DIFFIO_L32p          |                        | T5   |                                  | T5   |                                  | AE2  |                                  |                       |                         |                       |                         |                       | DQ3L5                   | DQ3L14                  | DQ1L32        |
| B2          | VREFB2N1    | IO                  | DIFFIO_L32n          |                        | R4   |                                  | R4   |                                  | AE1  |                                  |                       |                         |                       |                         |                       | DQ3L6                   | DQ3L15                  | DQ1L33        |
| B2          | VREFB2N1    | IO                  |                      |                        |      |                                  |      |                                  | AF1  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N1    | IO                  | VREFB2N1             |                        | U3   |                                  | U3   |                                  | V5   |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N2    | IO                  | DIFFIO_L33p          |                        | V4   | B2_B3                            | V4   | B2_B3                            | W7   |                                  | DQ3L7                 | DQ1L16                  | DQ3L7                 | DQ1L16                  | DQ3L7                 | DQ3L16                  | DQ1L34                  |               |
| B2          | VREFB2N2    | IO                  | DIFFIO_L33n          |                        | W4   | B2_B3                            | W4   | B2_B3                            | V6   |                                  | DQ3L8                 | DQ1L17                  | DQ3L8                 | DQ1L17                  | DQ3L8                 | DQ3L17                  | DQ1L35                  |               |
| B2          | VREFB2N2    | IO                  | RUP1                 |                        | W2   |                                  | W2   |                                  | W6   |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N2    | IO                  | RDN1                 |                        | W1   |                                  | W1   |                                  | Y6   |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N2    | IO                  | DIFFIO_L34p          |                        |      |                                  |      |                                  | AD4  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N2    | IO                  | DIFFIO_L34n          |                        |      |                                  |      |                                  | AE3  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N2    | IO                  |                      |                        |      |                                  |      |                                  | AD3  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N2    | IO                  | VREFB2N2             |                        | U2   |                                  | U2   |                                  | AB5  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N2    | IO                  | DIFFIO_L35p          |                        | U4   |                                  | U4   |                                  | AA4  |                                  | DQS3L/CQ3L#, CDPCLK1  | DQS3L/CQ3L#, CDPCLK1    | DQS3L/CQ3L#, CDPCLK1  | DQS3L/CQ3L#, CDPCLK1    | DQS3L/CQ3L#, CDPCLK1  | DQS3L/CQ3L#, CDPCLK1    | DQS3L/CQ3L#, CDPCLK1    |               |
| B2          | VREFB2N2    | IO                  | DIFFIO_L35n          |                        | V3   |                                  | V3   |                                  | AA3  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N2    | IO                  | DIFFIO_L36p          |                        |      |                                  |      |                                  | AA6  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N2    | IO                  | DIFFIO_L36n          |                        |      |                                  |      |                                  | AA5  |                                  |                       |                         |                       |                         |                       | DM3L/BWS#3L             | DM3L1/BWS#3L1           | DM1L3/BWS#1L3 |
| B2          | VREFB2N2    | IO                  |                      |                        |      |                                  |      |                                  | AE4  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |               |
| B2          | VREFB2N2    | IO                  |                      |                        |      |                                  |      |                                  | AB6  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |               |
| B3          | VREFB3N2    | IO                  | DIFFIO_B1p           |                        |      |                                  |      |                                  | AA8  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B3          | VREFB3N2    | IO                  | DIFFIO_B1n           |                        | AA3  |                                  | AA3  |                                  | AA9  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B3          | VREFB3N2    | IO                  | DIFFIO_B2p           |                        |      |                                  |      |                                  | AC6  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |               |
| B3          | VREFB3N2    | IO                  | DIFFIO_B2n           |                        |      |                                  |      |                                  | AD6  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B3          | VREFB3N2    | IO                  | DIFFIO_B3p           |                        | W5   |                                  | W5   |                                  | AE5  |                                  | DQ3B8                 | DQ3B17                  | DQ3B8                 | DQ3B17                  |                       |                         |                         |               |
| B3          | VREFB3N2    | IO                  | DIFFIO_B3n           |                        | Y5   |                                  | Y5   |                                  | AF5  |                                  | DQ3B7                 | DQ3B16                  | DQ3B7                 | DQ3B16                  | DQ1B7                 |                         |                         |               |
| B3          | VREFB3N2    | IO                  |                      |                        |      |                                  |      |                                  |      |                                  | DQS1B/CQ1B#, CDPCLK2  | DQS1B/CQ1B#, CDPCLK2    | DQS1B/CQ1B#, CDPCLK2  | DQS1B/CQ1B#, CDPCLK2    | DQS1B/CQ1B#, CDPCLK2  | DQS1B/CQ1B#, CDPCLK2    | DQS1B/CQ1B#, CDPCLK2    |               |
| B3          | VREFB3N2    | IO                  | PLL1_CLKOUTp         |                        | AB3  |                                  | AB3  |                                  | AF4  |                                  |                       |                         |                       |                         |                       |                         |                         |               |



Pin Information for the Cyclone® III LS EP3CLS70 Device  
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Notes (1),(2)

| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
| B3          | VREFB3N2    | IO                  | PLL1_CLKOUTn         |                        | AB4  |                                  | AB4  |                                  | AG4  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N2    | IO                  | DIFFIO_B4p           |                        | V8   |                                  | V8   |                                  | AD7  |                                  |                       |                         |                       |                         |                       | DQ1B6                   |                         |
| B3          | VREFB3N2    | IO                  | DIFFIO_B4n           |                        |      |                                  |      |                                  | AE7  |                                  |                       |                         |                       |                         |                       | DQ1B5                   |                         |
| B3          | VREFB3N2    | IO                  |                      |                        | AB2  | B2_B3                            | AB2  | B2_B3                            | AF6  |                                  |                       |                         |                       |                         |                       | DQ1B4                   |                         |
| B3          | VREFB3N2    | IO                  | VREFB3N2             |                        | Y7   |                                  | Y7   |                                  | AF8  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N2    | IO                  | DIFFIO_B5p           |                        | AA5  |                                  | AA5  |                                  | AG2  |                                  | DQ3B6                 | DQ3B15                  | DQ3B6                 | DQ3B15                  | DQ1B3                 |                         |                         |
| B3          | VREFB3N2    | IO                  | DIFFIO_B5n           |                        | AB5  |                                  | AB5  |                                  | AH2  |                                  | DM3B/BWS#3B           | DM3B1/BWS#3B1           | DM3B/BWS#3B           | DM3B1/BWS#3B1           | DQ1B2                 |                         |                         |
| B3          | VREFB3N2    | IO                  | DIFFIO_B6p           |                        | AA6  |                                  | AA6  |                                  | AB9  |                                  | DQ3B5                 | DQ3B14                  | DQ3B5                 | DQ3B14                  |                       |                         |                         |
| B3          | VREFB3N2    | IO                  | DIFFIO_B6n           |                        | AB6  |                                  | AB6  |                                  | AC9  |                                  | DQ3B4                 | DQ3B13                  | DQ3B4                 | DQ3B13                  |                       |                         |                         |
| B3          | VREFB3N2    | IO                  | DIFFIO_B7p           |                        | T9   |                                  | T9   |                                  | AH3  |                                  |                       |                         |                       |                         | DQ1B1                 |                         |                         |
| B3          | VREFB3N2    | IO                  | DIFFIO_B7n           |                        | U8   |                                  | U8   |                                  | AH4  |                                  |                       |                         |                       |                         | DQ1B0                 |                         |                         |
| B3          | VREFB3N2    | IO                  | DIFFIO_B8p           |                        | V7   |                                  | V7   |                                  | AD9  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N2    | IO                  | DIFFIO_B8n           |                        | W7   |                                  | W7   |                                  | AE8  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N2    | IO                  |                      |                        | U9   |                                  | U9   |                                  | AG8  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N1    | IO                  | DIFFIO_B9p           |                        |      |                                  |      |                                  | AG5  |                                  |                       |                         |                       |                         | DQ3B8                 | DQ3B17                  | DQ5B35                  |
| B3          | VREFB3N1    | IO                  | DIFFIO_B9n           |                        |      |                                  |      |                                  | AH5  |                                  |                       |                         |                       |                         | DQ3B7                 | DQ3B16                  | DQ5B34                  |
| B3          | VREFB3N1    | IO                  | DIFFIO_B10p          |                        | AA7  |                                  | AA7  |                                  | AB10 |                                  | DQ3B3                 | DQ3B12                  | DQ3B3                 | DQ3B12                  | DQ3B6                 | DQ3B15                  | DQ5B33                  |
| B3          | VREFB3N1    | IO                  | DIFFIO_B10n          |                        | AB7  |                                  | AB7  |                                  | AC10 |                                  | DQ3B2                 | DQ3B11                  | DQ3B2                 | DQ3B11                  | DM3B/BWS#3B           | DM3B1/BWS#3B1           | DM5B3/BWS#5B3           |
| B3          | VREFB3N1    | IO                  | DIFFIO_B11p          |                        | AA8  |                                  | AA8  |                                  | AD10 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N1    | IO                  | DIFFIO_B11n          |                        |      |                                  |      |                                  | AE10 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N1    | IO                  | DIFFIO_B12p          |                        |      |                                  |      |                                  | AG6  |                                  |                       |                         |                       |                         | DQ3B5                 | DQ3B14                  | DQ5B32                  |
| B3          | VREFB3N1    | IO                  | DIFFIO_B12n          |                        |      |                                  |      |                                  | AH6  |                                  |                       |                         |                       |                         | DQ3B4                 | DQ3B13                  | DQ5B31                  |
| B3          | VREFB3N1    | IO                  | DIFFIO_B13p          |                        |      |                                  |      |                                  | AB11 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N1    | IO                  | DIFFIO_B13n          |                        |      |                                  |      |                                  | AB12 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N1    | IO                  |                      |                        |      |                                  |      |                                  | AF11 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N1    | IO                  | DIFFIO_B14p          |                        |      |                                  |      |                                  | AE9  |                                  |                       |                         |                       |                         | DQ3B3                 | DQ3B12                  | DQ5B30                  |
| B3          | VREFB3N1    | IO                  | DIFFIO_B14n          |                        |      |                                  |      |                                  | AF9  |                                  |                       |                         |                       |                         | DQ3B2                 | DQ3B11                  | DQ5B29                  |
| B3          | VREFB3N1    | IO                  | VREFB3N1             |                        | W9   |                                  | W9   |                                  | AG11 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N1    | IO                  |                      |                        |      |                                  |      |                                  | AE11 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N1    | IO                  | DIFFIO_B15p          |                        | AB8  |                                  | AB8  |                                  | AH7  |                                  | DQS3B/CQ3B#, DPCLK2   | DQS3B/CQ3B#, DPCLK2     | DQS3B/CQ3B#, DPCLK2   | DQS3B/CQ3B#, DPCLK2     | DQS3B/CQ3B#, DPCLK2   | DQS3B/CQ3B#, DPCLK2     | DQS3B/CQ3B#, DPCLK2     |
| B3          | VREFB3N1    | IO                  | DIFFIO_B15n          |                        |      |                                  |      |                                  | AH8  |                                  |                       |                         |                       |                         | DQ3B1                 | DQ3B10                  | DQ5B28                  |
| B3          | VREFB3N1    | IO                  | DIFFIO_B16p          |                        |      |                                  |      |                                  | AG9  |                                  |                       |                         |                       |                         | DQ3B0                 | DQ3B9                   | DQ5B27                  |
| B3          | VREFB3N0    | IO                  | DIFFIO_B16n          |                        | V10  |                                  | V10  |                                  | AH9  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N0    | IO                  | DIFFIO_B17p          |                        | AA9  |                                  | AA9  |                                  | AB13 |                                  | DQ3B1                 | DQ3B10                  | DQ3B1                 | DQ3B10                  | DM5B/BWS#5B           | DM3B0/BWS#3B0           | DM5B2/BWS#5B2           |
| B3          | VREFB3N0    | IO                  | DIFFIO_B17n          |                        | AB9  |                                  | AB9  |                                  | AC12 |                                  | DQ3B0                 | DQ3B9                   | DQ3B0                 | DQ3B9                   | DQ5B8                 | DQ3B8                   | DQ5B26                  |
| B3          | VREFB3N0    | IO                  | DIFFIO_B18p          |                        | W11  | B3_B4                            | W11  | B3_B4                            | AH10 |                                  | DQ5B8                 | DQ3B8                   | DQ5B8                 | DQ3B8                   | DQ5B7                 | DQ3B7                   | DQ5B25                  |
| B3          | VREFB3N0    | IO                  | DIFFIO_B18n          |                        | Y11  | B3_B4                            | Y11  | B3_B4                            | AH11 |                                  | DQS5B/CQ5B#, DPCLK3   | DQS5B/CQ5B#, DPCLK3     | DQS5B/CQ5B#, DPCLK3   | DQS5B/CQ5B#, DPCLK3     | DQS5B/CQ5B#, DPCLK3   | DQS5B/CQ5B#, DPCLK3     | DQS5B/CQ5B#, DPCLK3     |
| B3          | VREFB3N0    | IO                  | DIFFIO_B19p          |                        |      |                                  |      |                                  | AB14 |                                  |                       |                         |                       |                         | DQ5B6                 | DQ3B6                   | DQ5B24                  |
| B3          | VREFB3N0    | IO                  | DIFFIO_B19n          |                        |      |                                  |      |                                  | AC14 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N0    | IO                  | DIFFIO_B20p          |                        |      |                                  |      |                                  | AG12 |                                  |                       |                         |                       |                         | DQ5B5                 | DQ3B5                   | DQ5B23                  |
| B3          | VREFB3N0    | IO                  | DIFFIO_B20n          |                        |      |                                  |      |                                  | AH12 |                                  |                       |                         |                       |                         | DQ5B4                 | DQ3B4                   | DQ5B22                  |
| B3          | VREFB3N0    | IO                  | DIFFIO_B21p          |                        |      |                                  |      |                                  | AE12 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N0    | IO                  | DIFFIO_B21n          |                        |      |                                  |      |                                  | AD12 |                                  |                       |                         |                       |                         | DQ5B3                 | DQ3B3                   | DQ5B21                  |
| B3          | VREFB3N0    | IO                  | VREFB3N0             |                        | Y9   |                                  | Y9   |                                  | AF12 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N0    | IO                  |                      |                        | V9   |                                  | V9   |                                  | AH14 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N0    | IO                  | DIFFIO_B22p          |                        | U11  | B3_B4                            | U11  | B3_B4                            | AD14 |                                  |                       |                         |                       |                         | DQ5B2                 | DQ3B2                   | DQ5B20                  |
| B3          | VREFB3N0    | IO                  | DIFFIO_B22n          |                        | V11  | B3_B4                            | V11  | B3_B4                            | AE14 |                                  |                       |                         |                       |                         | DQ5B1                 | DQ3B1                   | DQ5B19                  |
| B3          | VREFB3N0    | IO                  | DIFFIO_B23p          |                        | AA11 | B3_B4                            | AA11 | B3_B4                            | AF13 |                                  | DM5B/BWS#5B           | DM3B0/BWS#3B0           | DM5B/BWS#5B           | DM3B0/BWS#3B0           | DQ5B0                 | DQ3B0                   | DQ5B18                  |
| B3          | VREFB3N0    | IO                  | DIFFIO_B23n          |                        | AB11 | B3_B4                            | AB11 | B3_B4                            | AE13 |                                  | DQ5B7                 | DQ3B7                   | DQ5B7                 | DQ3B7                   |                       |                         |                         |
| B3          | VREFB3N0    | CLK15               | DIFFCLK_6p           |                        | AA10 |                                  | AA10 |                                  | AG13 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B3          | VREFB3N0    | CLK14               | DIFFCLK_6n           |                        | AB10 |                                  | AB10 |                                  | AH13 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N2    | CLK13               | DIFFCLK_7p           |                        | AA13 |                                  | AA13 |                                  | AG16 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N2    | CLK12               | DIFFCLK_7n           |                        | AB13 |                                  | AB13 |                                  | AH16 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N2    | IO                  | DIFFIO_B24p          |                        |      |                                  |      |                                  | AF16 |                                  |                       |                         |                       |                         | DM4B                  | DM5B1/BWS#5B1           | DM5B1/BWS#5B1           |
| B4          | VREFB4N2    | IO                  | DIFFIO_B24n          |                        |      |                                  |      |                                  | AE16 |                                  |                       |                         |                       |                         | DQ5B17                | DQ5B17                  | DQ5B17                  |
| B4          | VREFB4N2    | IO                  | DIFFIO_B25p          |                        | U12  |                                  | U12  |                                  | AG15 | B3_B4                            |                       |                         |                       |                         | DQ4B7                 | DQ5B16                  | DQ5B16                  |



Pin Information for the Cyclone® III LS EP3CL70 Device  
Version 1.1  
Notes (1),(2)

| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
| B4          | VREFB4N2    | IO                  | DIFFIO_B25n          |                        | V12  |                                  | V12  |                                  | AH15 | B3_B4                            |                       |                         |                       |                         | DQ4B6                 | DQ5B15                  | DQ5B15                  |
| B4          | VREFB4N2    | IO                  | DIFFIO_B26p          |                        |      |                                  |      |                                  | AH17 |                                  |                       |                         |                       |                         | DQ4B5                 | DQ5B14                  | DQ5B14                  |
| B4          | VREFB4N2    | IO                  | DIFFIO_B26n          |                        |      |                                  |      |                                  | AH18 |                                  |                       |                         |                       |                         | DQ4B4                 | DQ5B13                  | DQ5B13                  |
| B4          | VREFB4N2    | IO                  |                      |                        |      |                                  |      |                                  | AC16 |                                  |                       |                         |                       |                         | DQ4B3                 | DQ5B12                  | DQ5B12                  |
| B4          | VREFB4N2    | IO                  | DIFFIO_B27p          |                        | AA12 |                                  | AA12 |                                  | AC15 | B3_B4                            | DQ5B6                 | DQ3B6                   | DQ5B6                 | DQ3B6                   |                       |                         |                         |
| B4          | VREFB4N2    | IO                  | DIFFIO_B27n          |                        | AB12 |                                  | AB12 |                                  | AB16 |                                  | DQ5B5                 | DQ3B5                   | DQ5B5                 | DQ3B5                   | DQ4B2                 | DQ5B11                  | DQ5B11                  |
| B4          | VREFB4N2    | IO                  | VREFB4N2             |                        | AA14 |                                  | AA14 |                                  | AD16 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N2    | IO                  |                      |                        |      |                                  |      |                                  | AF15 | B3_B4                            |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N2    | IO                  | DIFFIO_B28p          |                        | W12  |                                  | W12  |                                  | AG18 |                                  | DQ5B4                 | DQ3B4                   | DQ5B4                 | DQ3B4                   | DQ4B1                 | DQ5B10                  | DQ5B10                  |
| B4          | VREFB4N2    | IO                  | DIFFIO_B28n          |                        | Y12  |                                  | Y12  |                                  | AH19 |                                  | DQS4B/CQ5B, DPCLK4    | DQS4B/CQ5B, DPCLK4      | DQS4B/CQ5B, DPCLK4    | DQS4B/CQ5B, DPCLK4      | DQS4B/CQ5B, DPCLK4    | DQS4B/CQ5B, DPCLK4      | DQS4B/CQ5B, DPCLK4      |
| B4          | VREFB4N2    | IO                  | DIFFIO_B29p          |                        | AB14 |                                  | AB14 |                                  | AG20 |                                  | DQ5B3                 | DQ3B3                   | DQ5B3                 | DQ3B3                   | DQ4B0                 | DQ5B9                   | DQ5B9                   |
| B4          | VREFB4N2    | IO                  | DIFFIO_B29n          |                        | AB15 |                                  | AB15 |                                  | AH20 |                                  | DQ5B2                 | DQ3B2                   | DQ5B2                 | DQ3B2                   |                       |                         |                         |
| B4          | VREFB4N2    | IO                  | DIFFIO_B30p          |                        | V13  |                                  | V13  |                                  | AG21 |                                  |                       |                         |                       |                         | DM2B                  | DM5B0/BWS#5B0           | DM5B0/BWS#5B0           |
| B4          | VREFB4N2    | IO                  | DIFFIO_B30n          |                        |      |                                  |      |                                  | AH21 |                                  |                       |                         |                       |                         | DQ2B7                 | DQ5B8                   | DQ5B8                   |
| B4          | VREFB4N2    | IO                  | DIFFIO_B31p          |                        | W14  |                                  | W14  |                                  | AA17 |                                  | DQ5B1                 | DQ3B1                   | DQ5B1                 | DQ3B1                   |                       |                         |                         |
| B4          | VREFB4N2    | IO                  | DIFFIO_B31n          |                        | Y14  |                                  | Y14  |                                  | AB17 |                                  | DQ5B0                 | DQ3B0                   | DQ5B0                 | DQ3B0                   |                       |                         |                         |
| B4          | VREFB4N1    | IO                  | DIFFIO_B32p          |                        | AA15 |                                  | AA15 |                                  | AG22 |                                  |                       |                         |                       |                         | DQ2B6                 | DQ5B7                   | DQ5B7                   |
| B4          | VREFB4N1    | IO                  | DIFFIO_B32n          |                        | AA16 |                                  | AA16 |                                  | AH22 |                                  |                       |                         |                       |                         | DQ2B5                 | DQ5B6                   | DQ5B6                   |
| B4          | VREFB4N1    | IO                  | DIFFIO_B33p          |                        | AB16 |                                  | AB16 |                                  | AC17 |                                  | DQS2B/CQ3B, DPCLK5    | DQS2B/CQ3B, DPCLK5      | DQS2B/CQ3B, DPCLK5    | DQS2B/CQ3B, DPCLK5      | DQS2B/CQ3B, DPCLK5    | DQS2B/CQ3B, DPCLK5      | DQS2B/CQ3B, DPCLK5      |
| B4          | VREFB4N1    | IO                  | DIFFIO_B33n          |                        | AB17 |                                  | AB17 |                                  | AD17 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N1    | IO                  | DIFFIO_B34p          |                        |      |                                  |      |                                  | AH23 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N1    | IO                  | DIFFIO_B34n          |                        |      |                                  |      |                                  | AH24 |                                  |                       |                         |                       |                         | DQ2B4                 | DQ5B5                   | DQ5B5                   |
| B4          | VREFB4N1    | IO                  | DIFFIO_B35p          |                        | T12  |                                  | T12  |                                  | AE17 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N1    | IO                  | DIFFIO_B35n          |                        | T13  |                                  | T13  |                                  | AE18 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N1    | IO                  | DIFFIO_B36p          |                        | T14  |                                  | T14  |                                  | AE19 |                                  |                       |                         |                       |                         | DQ2B3                 | DQ5B4                   | DQ5B4                   |
| B4          | VREFB4N1    | IO                  | DIFFIO_B36n          |                        | U14  |                                  | U14  |                                  | AF18 |                                  |                       |                         |                       |                         | DQ2B2                 | DQ5B3                   | DQ5B3                   |
| B4          | VREFB4N1    | IO                  | DIFFIO_B37p          |                        | AA18 |                                  | AA18 |                                  | AE21 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N1    | IO                  | DIFFIO_B37n          |                        |      |                                  |      |                                  | AE22 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N1    | IO                  | DIFFIO_B38p          |                        |      |                                  |      |                                  | AF20 |                                  |                       |                         |                       |                         | DQ2B1                 | DQ5B2                   | DQ5B2                   |
| B4          | VREFB4N1    | IO                  | DIFFIO_B38n          |                        | V14  |                                  | V14  |                                  | AF21 |                                  |                       |                         |                       |                         | DQ2B0                 | DQ5B1                   | DQ5B1                   |
| B4          | VREFB4N1    | IO                  |                      |                        | V17  |                                  | V17  |                                  | AE20 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N1    | IO                  | DIFFIO_B39p          |                        | AB20 | B4_B5                            | AB20 | B4_B5                            | AB18 |                                  |                       |                         |                       |                         | DM0B                  | DQ5B0                   | DQ5B0                   |
| B4          | VREFB4N1    | IO                  | DIFFIO_B39n          |                        | AB21 | B4_B5                            | AB21 | B4_B5                            | AB19 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N1    | IO                  | VREFB4N1             |                        | AA17 |                                  | AA17 |                                  | AD19 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  | RUP2                 |                        | W16  |                                  | W16  |                                  | AE23 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  | RDN2                 |                        | Y16  |                                  | Y16  |                                  | AF22 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B40p          |                        | W18  |                                  | W18  |                                  | AF24 |                                  |                       |                         |                       |                         | DQ0B7                 |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B40n          |                        | Y19  |                                  | Y19  |                                  | AG24 |                                  | DQS0B/CQ1B, CDCLK3    | DQS0B/CQ1B, CDCLK3      | DQS0B/CQ1B, CDCLK3    | DQS0B/CQ1B, CDCLK3      | DQS0B/CQ1B, CDCLK3    | DQS0B/CQ1B, CDCLK3      | DQS0B/CQ1B, CDCLK3      |
| B4          | VREFB4N0    | IO                  | DIFFIO_B41p          |                        | U15  |                                  | U15  |                                  | AG25 |                                  |                       |                         |                       |                         | DQ0B6                 |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B41n          |                        | V15  |                                  | V15  |                                  | AH25 |                                  |                       |                         |                       |                         | DQ0B5                 |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B42p          |                        |      |                                  |      |                                  | AB20 |                                  |                       |                         |                       |                         | DQ0B4                 |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B42n          |                        |      |                                  |      |                                  | AC19 |                                  |                       |                         |                       |                         | DQ0B2                 |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B43p          |                        |      |                                  |      |                                  | AE25 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B43n          |                        |      |                                  |      |                                  | AF25 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  | VREFB4N0             |                        | Y18  |                                  | Y18  |                                  | AE24 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B44p          |                        | T15  |                                  | T15  |                                  | AH26 |                                  |                       |                         |                       |                         | DQ0B3                 |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B44n          |                        | T16  |                                  | T16  |                                  | AH27 |                                  |                       |                         |                       |                         | DQ0B1                 |                         |                         |
| B4          | VREFB4N0    | IO                  |                      |                        |      |                                  |      |                                  | AD25 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  | PLL4_CLKOUTp         |                        | AB18 |                                  | AB18 |                                  | AD22 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  | PLL4_CLKOUTn         |                        | AB19 |                                  | AB19 |                                  | AD21 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  |                      |                        |      |                                  |      |                                  | AD24 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B45p          |                        | V16  |                                  | V16  |                                  | AC21 |                                  |                       |                         |                       |                         |                       |                         |                         |
| B4          | VREFB4N0    | IO                  | DIFFIO_B45n          |                        |      |                                  |      |                                  | AC22 |                                  |                       |                         |                       |                         | DQ0B0                 |                         |                         |
| B5          | VREFB5N2    | IO                  | DIFFIO_R41n          |                        | V19  | B4_B5                            | V19  | B4_B5                            | AA24 |                                  |                       |                         |                       |                         | DM3R/BWS#3R           | DM3R1/BWS#3R1           | DM1R3/BWS#1R3           |
| B5          | VREFB5N2    | IO                  | DIFFIO_R41p          |                        | W19  | B4_B5                            | W19  | B4_B5                            | AA23 |                                  |                       |                         |                       |                         | DQ3R8                 | DQ3R17                  | DQ1R35                  |



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| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |               |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|---------------|
| B5          | VREFB5N2    | IO                  |                      |                        |      |                                  |      |                                  | AC24 |                                  |                       |                         |                       |                         |                       | DQ3R7                   | DQ3R16                  | DQ1R34        |
| B5          | VREFB5N2    | IO                  | RUP3                 |                        | W22  |                                  | W22  |                                  | AB24 |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N2    | IO                  | RDN3                 |                        | V22  |                                  | V22  |                                  | AB25 |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N2    | IO                  |                      |                        | V20  |                                  | V20  |                                  | AE27 |                                  | DQS3R/CQ3R#, CDPCLK4  | DQS3R/CQ3R#, CDPCLK4    | DQS3R/CQ3R#, CDPCLK4  | DQS3R/CQ3R#, CDPCLK4    | DQS3R/CQ3R#, CDPCLK4  | DQS3R/CQ3R#, CDPCLK4    | DQS3R/CQ3R#, CDPCLK4    |               |
| B5          | VREFB5N2    | IO                  | VREFB5N2             |                        | V21  |                                  | V21  |                                  | AC25 |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N2    | IO                  | DIFFIO_R40n          |                        | AA21 |                                  | AA21 |                                  | AE26 |                                  | DM3R/BWS#3R           | DM3R1/BWS#3R1           | DM3R/BWS#3R           | DM3R1/BWS#3R1           | DQ3R6                 | DQ3R15                  | DQ1R33                  |               |
| B5          | VREFB5N2    | IO                  | DIFFIO_R40p          |                        | AA20 | B4_B5                            | AA20 | B4_B5                            | AF27 |                                  |                       |                         |                       |                         | DQ3R5                 | DQ3R14                  | DQ1R32                  |               |
| B5          | VREFB5N2    | IO                  | DIFFIO_R39n          |                        | U19  |                                  | U19  |                                  | W23  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N2    | IO                  | DIFFIO_R39p          |                        | T18  |                                  | T18  |                                  | Y23  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N2    | IO                  | DIFFIO_R38n          |                        |      |                                  |      |                                  | AE28 |                                  |                       |                         |                       |                         |                       | DQ3R4                   | DQ3R13                  | DQ1R31        |
| B5          | VREFB5N2    | IO                  | DIFFIO_R38p          |                        |      |                                  |      |                                  | AF28 |                                  |                       |                         |                       |                         |                       | DQ3R3                   | DQ3R12                  | DQ1R30        |
| B5          | VREFB5N2    | IO                  | DIFFIO_R37n          |                        | T21  |                                  | T21  |                                  | W25  |                                  | DQ3R8                 | DQ3R17                  | DQ3R8                 | DQ3R17                  | DQ3R2                 | DQ3R11                  | DQ1R29                  |               |
| B5          | VREFB5N2    | IO                  | DIFFIO_R37p          |                        | U20  |                                  | U20  |                                  | W24  |                                  | DQ3R7                 | DQ3R16                  | DQ3R7                 | DQ3R16                  |                       |                         |                         |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R36n          |                        | R18  |                                  | R18  |                                  | AD27 |                                  |                       |                         |                       |                         |                       | DQ3R1                   | DQ3R10                  | DQ1R28        |
| B5          | VREFB5N1    | IO                  | DIFFIO_R36p          |                        | R17  | B4_B5                            | R17  | B4_B5                            | AD26 |                                  |                       |                         |                       |                         |                       | DQ3R0                   | DQ3R9                   | DQ1R27        |
| B5          | VREFB5N1    | IO                  | DIFFIO_R35n          |                        | R19  |                                  | R19  |                                  | U24  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R35p          |                        |      |                                  |      |                                  | U23  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R34n          |                        | W21  |                                  | W21  |                                  | AB26 |                                  | DQ3R6                 | DQ3R15                  | DQ3R6                 | DQ3R15                  |                       |                         |                         |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R34p          |                        | Y21  |                                  | Y21  |                                  | AA25 |                                  | DQ3R5                 | DQ3R14                  | DQ3R5                 | DQ3R14                  |                       |                         |                         |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R33n          |                        | P19  |                                  | P19  |                                  | AC28 |                                  |                       |                         |                       |                         |                       | DM1R/BWS#1R             | DM3R0/BWS#3R0           | DM1R2/BWS#1R2 |
| B5          | VREFB5N1    | IO                  | DIFFIO_R33p          |                        |      |                                  |      |                                  | AD28 |                                  |                       |                         |                       |                         |                       | DQ1R8                   | DQ3R8                   | DQ1R26        |
| B5          | VREFB5N1    | IO                  | DIFFIO_R32n          |                        | Y22  |                                  | Y22  |                                  | Y26  |                                  | DQ3R4                 | DQ3R13                  | DQ3R4                 | DQ3R13                  | DQ1R7                 | DQ3R7                   | DQ1R25                  |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R32p          |                        | AA22 |                                  | AA22 |                                  | AA26 |                                  | DQ3R3                 | DQ3R12                  | DQ3R3                 | DQ3R12                  |                       |                         |                         |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R31n          |                        | P18  |                                  | P18  |                                  | W26  |                                  |                       |                         |                       |                         |                       | DQ1R6                   | DQ3R6                   | DQ1R24        |
| B5          | VREFB5N1    | IO                  | DIFFIO_R31p          |                        | P17  |                                  | P17  |                                  | V25  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R30n          |                        |      |                                  |      |                                  | AB28 |                                  |                       |                         |                       |                         |                       | DQ1R5                   | DQ3R5                   | DQ1R23        |
| B5          | VREFB5N1    | IO                  | DIFFIO_R30p          |                        |      |                                  |      |                                  | AB27 |                                  |                       |                         |                       |                         |                       | DQ1R4                   | DQ3R4                   | DQ1R22        |
| B5          | VREFB5N1    | IO                  | DIFFIO_R29n          |                        | U22  |                                  | U22  |                                  | V24  |                                  | DQ3R2                 | DQ3R11                  | DQ3R2                 | DQ3R11                  | DQ1R3                 | DQ3R3                   | DQ1R21                  |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R29p          |                        | U21  |                                  | U21  |                                  | V23  |                                  |                       |                         |                       |                         |                       | DQ1R2                   | DQ3R2                   | DQ1R20        |
| B5          | VREFB5N1    | IO                  | VREFB5N1             |                        | R20  |                                  | R20  |                                  | U27  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R28n          |                        |      |                                  |      |                                  | R24  | B5_B6                            |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N1    | IO                  | DIFFIO_R28p          |                        |      |                                  |      |                                  | R23  | B5_B6                            |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R27n          |                        | R22  |                                  | R22  |                                  | AA28 |                                  | DQ3R1                 | DQ3R10                  | DQ3R1                 | DQ3R10                  |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R27p          |                        | T22  |                                  | T22  |                                  | AA27 |                                  | DQ3R0                 | DQ3R9                   | DQ3R0                 | DQ3R9                   |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R26n          |                        |      |                                  |      |                                  | R28  | B5_B6                            |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R26p          |                        |      |                                  |      |                                  | R27  | B5_B6                            |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R25n          |                        | N18  |                                  | N18  |                                  | U26  |                                  |                       |                         |                       |                         |                       | DQ1R1                   | DQ3R1                   | DQ1R19        |
| B5          | VREFB5N0    | IO                  | DIFFIO_R25p          |                        |      |                                  |      |                                  | U25  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | VREFB5N0             |                        | P21  |                                  | P21  |                                  | T23  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R24n          |                        |      |                                  |      |                                  | Y28  |                                  |                       |                         |                       |                         |                       | DQ1R0                   | DQ3R0                   | DQ1R18        |
| B5          | VREFB5N0    | IO                  | DIFFIO_R24p          |                        | P20  |                                  | P20  |                                  | Y27  |                                  | DQS1R/CQ1R#, DPCLK6   | DQS1R/CQ1R#, DPCLK6     | DQS1R/CQ1R#, DPCLK6   | DQS1R/CQ1R#, DPCLK6     | DQS1R/CQ1R#, DPCLK6   | DQS1R/CQ1R#, DPCLK6     | DQS1R/CQ1R#, DPCLK6     |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R23n          | DEV_OE                 | P22  |                                  | P22  |                                  | W28  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R23p          | DEV_CLRN               | R21  |                                  | R21  |                                  | W27  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R22n          |                        | M20  |                                  | M20  |                                  | T26  |                                  | DM1R/BWS#1R           | DM3R0/BWS#3R0           | DM1R/BWS#1R           | DM3R0/BWS#3R0           |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R22p          |                        | M19  |                                  | M19  |                                  | R25  | B5_B6                            |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R21n          |                        | M22  |                                  | M22  |                                  | U28  |                                  | DQ1R8                 | DQ3R8                   | DQ1R8                 | DQ3R8                   |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  | DIFFIO_R21p          |                        | M21  |                                  | M21  |                                  | V28  |                                  | DQ1R7                 | DQ3R7                   | DQ1R7                 | DQ3R7                   |                       |                         |                         |               |
| B5          | VREFB5N0    | IO                  |                      |                        |      |                                  |      |                                  | R26  | B5_B6                            |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N0    | CLK7                | DIFFCLK_3n           |                        | N22  |                                  | N22  |                                  | T28  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B5          | VREFB5N0    | CLK6                | DIFFCLK_3p           |                        | N21  |                                  | N21  |                                  | T27  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B6          | VREFB6N2    | CLK5                | DIFFCLK_2n           |                        | K22  |                                  | K22  |                                  | N28  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B6          | VREFB6N2    | CLK4                | DIFFCLK_2p           |                        | K21  |                                  | K21  |                                  | N27  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B6          | VREFB6N2    | CONF_DONE           |                      | CONF_DONE              | J21  |                                  | J21  |                                  | P22  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B6          | VREFB6N2    | MSEL0               |                      | MSEL0                  | J20  |                                  | J20  |                                  | P25  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B6          | VREFB6N2    | MSEL1               |                      | MSEL1                  | J19  |                                  | J19  |                                  | P23  |                                  |                       |                         |                       |                         |                       |                         |                         |               |
| B6          | VREFB6N2    | MSEL2               |                      | MSEL2                  | J22  |                                  | J22  |                                  | P24  |                                  |                       |                         |                       |                         |                       |                         |                         |               |



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| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
| B6          | VREFB6N2    | MSEL3               |                      | MSEL3                  | K19  |                                  | K19  |                                  | N22  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N2    | IO                  | DIFFIO_R20n          | INIT_DONE              | H22  |                                  | H22  |                                  | P27  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N2    | IO                  | DIFFIO_R20p          | CRC_ERROR              | H21  |                                  | H21  |                                  | P26  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N2    | IO                  |                      |                        |      |                                  |      |                                  | P28  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N2    | IO                  | VREFB6N2             |                        | K18  |                                  | K18  |                                  | N23  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N2    | IO                  | DIFFIO_R19n          | nCEO                   | G22  |                                  | G22  |                                  | L28  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N2    | IO                  | DIFFIO_R19p          | CLKUSR                 | G21  |                                  | G21  |                                  | M28  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N2    | IO                  | DIFFIO_R18n          |                        | L22  | B5_B6                            | L22  | B5_B6                            | N26  |                                  | DQS0R/CQ1R, DPCLK7    | DQS0R/CQ1R, DPCLK7      | DQS0R/CQ1R, DPCLK7    | DQS0R/CQ1R, DPCLK7      | DQS0R/CQ1R, DPCLK7    | DQS0R/CQ1R, DPCLK7      | DQS0R/CQ1R, DPCLK7      |
| B6          | VREFB6N2    | IO                  | DIFFIO_R18p          |                        | L21  | B5_B6                            | L21  | B5_B6                            | M25  |                                  |                       |                         |                       | DM0R                    | DM1R1/BWS#1R1         | DM1R1/BWS#1R1           |                         |
| B6          | VREFB6N2    | IO                  | DIFFIO_R17n          |                        | L19  | B5_B6                            | L19  | B5_B6                            | M27  |                                  |                       |                         |                       |                         | DQ1R17                | DQ1R17                  | DQ1R17                  |
| B6          | VREFB6N2    | IO                  | DIFFIO_R17p          |                        | M18  | B5_B6                            | M18  | B5_B6                            | M26  |                                  |                       |                         |                       | DQ0R7                   | DQ1R16                | DQ1R16                  |                         |
| B6          | VREFB6N2    | IO                  | DIFFIO_R16n          |                        | L18  | B5_B6                            | L18  | B5_B6                            | L25  |                                  |                       |                         |                       | DQ0R6                   | DQ1R15                | DQ1R15                  |                         |
| B6          | VREFB6N2    | IO                  | DIFFIO_R16p          |                        | L17  |                                  | L17  |                                  | L24  |                                  |                       |                         |                       | DQ0R5                   | DQ1R14                | DQ1R14                  |                         |
| B6          | VREFB6N2    | IO                  | DIFFIO_R15n          |                        |      |                                  |      |                                  | K28  |                                  |                       |                         |                       | DQ0R4                   | DQ1R13                | DQ1R13                  |                         |
| B6          | VREFB6N1    | IO                  | DIFFIO_R15p          |                        |      |                                  |      |                                  | K27  |                                  |                       |                         |                       | DQ0R3                   | DQ1R12                | DQ1R12                  |                         |
| B6          | VREFB6N1    | IO                  | DIFFIO_R14n          |                        | F22  |                                  | F22  |                                  | K26  |                                  | DQ1R6                 | DQ3R6                   | DQ1R6                 | DQ3R6                   | DQ0R2                 | DQ1R11                  | DQ1R11                  |
| B6          | VREFB6N1    | IO                  | DIFFIO_R14p          |                        | F21  |                                  | F21  |                                  | K25  |                                  | DQ1R5                 | DQ3R5                   | DQ1R5                 | DQ3R5                   | DQ0R1                 | DQ1R10                  | DQ1R10                  |
| B6          | VREFB6N1    | IO                  | DIFFIO_R13n          |                        | J18  |                                  | J18  |                                  | J28  |                                  |                       |                         |                       | DQ0R0                   | DQ1R9                 | DQ1R9                   |                         |
| B6          | VREFB6N1    | IO                  | DIFFIO_R13p          |                        | J17  |                                  | J17  |                                  | J27  |                                  |                       |                         |                       |                         | DQ1R8                 | DQ1R8                   |                         |
| B6          | VREFB6N1    | IO                  |                      |                        |      |                                  |      |                                  | H28  |                                  |                       |                         |                       |                         | DM2R                  | DM1R0/BWS#1R0           | DM1R0/BWS#1R0           |
| B6          | VREFB6N1    | IO                  | DIFFIO_R12n          |                        | H17  |                                  | H17  |                                  | J26  |                                  |                       |                         |                       | DQ2R7                   | DQ1R7                 | DQ1R7                   |                         |
| B6          | VREFB6N1    | IO                  | DIFFIO_R12p          |                        | H16  |                                  | H16  |                                  | J25  |                                  |                       |                         |                       | DQ2R6                   | DQ1R6                 | DQ1R6                   |                         |
| B6          | VREFB6N1    | IO                  | DIFFIO_R11n          |                        | E22  |                                  | E22  |                                  | G28  |                                  | DQ1R4                 | DQ3R4                   | DQ1R4                 | DQ3R4                   | DQ2R5                 | DQ1R5                   | DQ1R5                   |
| B6          | VREFB6N1    | IO                  | DIFFIO_R11p          |                        | E21  |                                  | E21  |                                  | G27  |                                  | DQ1R3                 | DQ3R3                   | DQ1R3                 | DQ3R3                   | DQ2R4                 | DQ1R4                   | DQ1R4                   |
| B6          | VREFB6N1    | IO                  | VREFB6N1             |                        | F20  |                                  | F20  |                                  | M24  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N1    | IO                  |                      |                        |      |                                  |      |                                  | H27  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N1    | IO                  | DIFFIO_R10n          |                        | C22  |                                  | C22  |                                  | E28  |                                  | DQ1R2                 | DQ3R2                   | DQ1R2                 | DQ3R2                   |                       |                         |                         |
| B6          | VREFB6N1    | IO                  | DIFFIO_R10p          |                        | D22  |                                  | D22  |                                  | F28  |                                  | DQ1R1                 | DQ3R1                   | DQ1R1                 | DQ3R1                   |                       |                         |                         |
| B6          | VREFB6N1    | IO                  | DIFFIO_R9n           |                        | H20  |                                  | H20  |                                  | L23  |                                  | DQ1R0                 | DQ3R0                   | DQ1R0                 | DQ3R0                   | DQ2R3                 | DQ1R3                   | DQ1R3                   |
| B6          | VREFB6N1    | IO                  | DIFFIO_R9p           |                        | H19  |                                  | H19  |                                  | M23  |                                  |                       |                         |                       | DQ2R2                   | DQ1R2                 | DQ1R2                   |                         |
| B6          | VREFB6N1    | IO                  | DIFFIO_R8n           |                        | B22  |                                  | B22  |                                  | J24  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N1    | IO                  | DIFFIO_R8p           |                        | B21  | B6_B7                            | B21  | B6_B7                            | K24  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R7n           |                        |      |                                  |      |                                  | C28  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R7p           |                        |      |                                  |      |                                  | D28  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R6n           |                        | C21  | B6_B7                            | C21  | B6_B7                            | K23  |                                  |                       |                         |                       | DQ2R1                   | DQ1R1                 | DQ1R1                   |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R6p           |                        | D21  |                                  | D21  |                                  | K22  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R5n           |                        | D19  | B6_B7                            | D19  | B6_B7                            | E26  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R5p           |                        | E19  |                                  | E19  |                                  | E27  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R4n           |                        | F19  |                                  | F19  |                                  | G26  |                                  | DQS2R/CQ3R, CDPCLK5   | DQS2R/CQ3R, CDPCLK5     | DQS2R/CQ3R, CDPCLK5   | DQS2R/CQ3R, CDPCLK5     | DQS2R/CQ3R, CDPCLK5   | DQS2R/CQ3R, CDPCLK5     | DQS2R/CQ3R, CDPCLK5     |
| B6          | VREFB6N0    | IO                  | DIFFIO_R4p           |                        |      |                                  |      |                                  | H26  |                                  |                       |                         |                       | DQ2R0                   | DQ1R0                 | DQ1R0                   |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R3n           |                        |      |                                  |      |                                  | F25  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R3p           |                        |      |                                  |      |                                  | G25  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R2n           |                        |      |                                  |      |                                  | D27  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R2p           |                        |      |                                  |      |                                  | D26  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | VREFB6N0             |                        | E20  |                                  | E20  |                                  | J23  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R1n           |                        | H18  |                                  | H18  |                                  | G24  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B6          | VREFB6N0    | IO                  | DIFFIO_R1p           |                        |      |                                  |      |                                  | G23  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T47n          |                        |      |                                  |      |                                  | F22  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T47p          |                        |      |                                  |      |                                  | F21  |                                  |                       |                         |                       |                         | DQ0T0                 |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T46n          |                        | A20  |                                  | A20  |                                  | E24  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T46p          |                        | A21  | B6_B7                            | A21  | B6_B7                            | F24  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T45n          |                        |      |                                  |      |                                  | E21  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T45p          |                        | C19  |                                  | C19  |                                  | E22  |                                  | DQS0T/CQ1T, CDPCLK6   | DQS0T/CQ1T, CDPCLK6     | DQS0T/CQ1T, CDPCLK6   | DQS0T/CQ1T, CDPCLK6     | DQS0T/CQ1T, CDPCLK6   | DQS0T/CQ1T, CDPCLK6     | DQS0T/CQ1T, CDPCLK6     |
| B7          | VREFB7N0    | IO                  |                      |                        |      |                                  |      |                                  | E25  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T44n          |                        | D18  | B6_B7                            | D18  | B6_B7                            | C25  |                                  |                       |                         |                       |                         |                       |                         |                         |



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| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
| B7          | VREFB7N0    | IO                  | DIFFIO_T44p          |                        | E18  | B6_B7                            | E18  | B6_B7                            | D25  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N0    | IO                  | VREFB7N0             |                        | B20  |                                  | B20  |                                  | D24  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T43n          |                        |      |                                  |      |                                  | D22  |                                  |                       |                         |                       |                         | DQ0T2                 |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T43p          |                        |      |                                  |      |                                  | D23  |                                  |                       |                         |                       |                         | DQ0T3                 |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T42n          |                        | E16  |                                  | E16  |                                  | A27  |                                  |                       |                         |                       |                         | DQ0T4                 |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T42p          |                        | E17  |                                  | E17  |                                  | B27  |                                  |                       |                         |                       |                         | DQ0T5                 |                         |                         |
| B7          | VREFB7N0    | IO                  | PLL2_CLKOUTn         |                        | A18  |                                  | A18  |                                  | C21  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N0    | IO                  | PLL2_CLKOUTp         |                        | A19  |                                  | A19  |                                  | D21  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T41n          |                        |      |                                  |      |                                  | A25  |                                  |                       |                         |                       |                         | DQ0T6                 |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T41p          |                        |      |                                  |      |                                  | A26  |                                  |                       |                         |                       |                         | DQ0T7                 |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T40n          |                        |      |                                  |      |                                  | B25  |                                  |                       |                         |                       |                         | DM0T                  |                         |                         |
| B7          | VREFB7N0    | IO                  | DIFFIO_T40p          |                        | F15  |                                  | F15  |                                  | C24  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N1    | IO                  | RUP4                 |                        | C18  |                                  | C18  |                                  | D20  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N1    | IO                  | RDN4                 |                        | B18  |                                  | B18  |                                  | D19  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N1    | IO                  |                      |                        |      |                                  |      |                                  | B24  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N1    | IO                  | DIFFIO_T39n          |                        | A17  |                                  | A17  |                                  | G19  |                                  | DQ5T0                 | DQ5T0                   | DQ5T0                 | DQ5T0                   | DQ2T0                 | DQ5T0                   | DQ5T0                   |
| B7          | VREFB7N1    | IO                  | DIFFIO_T39p          |                        | B17  |                                  | B17  |                                  | G20  |                                  | DQ5T1                 | DQ5T1                   | DQ5T1                 | DQ5T1                   | DQ2T1                 | DQ5T1                   | DQ5T1                   |
| B7          | VREFB7N1    | IO                  | DIFFIO_T38n          |                        | D16  |                                  | D16  |                                  | B19  |                                  |                       |                         |                       |                         | DQ2T2                 | DQ5T2                   | DQ5T2                   |
| B7          | VREFB7N1    | IO                  | DIFFIO_T38p          |                        | E15  |                                  | E15  |                                  | C19  |                                  |                       |                         |                       |                         | DQ2T3                 | DQ5T3                   | DQ5T3                   |
| B7          | VREFB7N1    | IO                  | DIFFIO_T37n          |                        |      |                                  |      |                                  | D17  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N1    | IO                  | DIFFIO_T37p          |                        |      |                                  |      |                                  | D18  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N1    | IO                  | DIFFIO_T36n          |                        | A16  |                                  | A16  |                                  | E19  |                                  | DQ5T2                 | DQ5T2                   | DQ5T2                 | DQ5T2                   |                       |                         |                         |
| B7          | VREFB7N1    | IO                  | DIFFIO_T36p          |                        | B16  |                                  | B16  |                                  | F19  |                                  | DQ5T3                 | DQ5T3                   | DQ5T3                 | DQ5T3                   |                       |                         |                         |
| B7          | VREFB7N1    | IO                  | DIFFIO_T35n          |                        | E14  |                                  | E14  |                                  | B22  |                                  |                       |                         |                       |                         | DQ2T4                 | DQ5T4                   | DQ5T4                   |
| B7          | VREFB7N1    | IO                  | DIFFIO_T35p          |                        | F14  |                                  | F14  |                                  | C22  |                                  |                       |                         |                       |                         | DM2T                  | DM5T0/BWS#5T0           | DM5T0/BWS#5T0           |
| B7          | VREFB7N1    | IO                  | DIFFIO_T34n          |                        |      |                                  |      |                                  | F17  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N1    | IO                  | DIFFIO_T34p          |                        |      |                                  |      |                                  | E17  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N1    | IO                  | VREFB7N1             |                        | C16  |                                  | C16  |                                  | A24  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N1    | IO                  | DIFFIO_T33n          |                        | E13  |                                  | E13  |                                  | B18  |                                  |                       |                         |                       |                         | DQ2T5                 | DQ5T5                   | DQ5T5                   |
| B7          | VREFB7N1    | IO                  | DIFFIO_T33p          |                        | D14  |                                  | D14  |                                  | C18  |                                  | DQS2T/CQ3T, DPCLK8    | DQS2T/CQ3T, DPCLK8      | DQS2T/CQ3T, DPCLK8    | DQS2T/CQ3T, DPCLK8      | DQS2T/CQ3T, DPCLK8    | DQS2T/CQ3T, DPCLK8      | DQS2T/CQ3T, DPCLK8      |
| B7          | VREFB7N1    | IO                  | DIFFIO_T32n          |                        | A15  |                                  | A15  |                                  | B21  |                                  | DQ5T4                 | DQ5T4                   | DQ5T4                 | DQ5T4                   | DQ2T6                 | DQ5T6                   | DQ5T6                   |
| B7          | VREFB7N1    | IO                  | DIFFIO_T32p          |                        | B15  |                                  | B15  |                                  | A21  |                                  | DM5T/BWS#5T           | DM5T0/BWS#5T0           | DM5T/BWS#5T           | DM5T0/BWS#5T0           | DQ2T7                 | DQ5T7                   | DQ5T7                   |
| B7          | VREFB7N2    | IO                  | DIFFIO_T31n          |                        | A14  |                                  | A14  |                                  | G17  |                                  |                       |                         |                       |                         |                       | DQ5T8                   | DQ5T8                   |
| B7          | VREFB7N2    | IO                  | DIFFIO_T31p          |                        | B14  |                                  | B14  |                                  | G18  |                                  | DQ5T5                 | DQ5T5                   | DQ5T5                 | DQ5T5                   |                       |                         |                         |
| B7          | VREFB7N2    | IO                  | DIFFIO_T30n          |                        |      |                                  |      |                                  | A22  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N2    | IO                  | DIFFIO_T30p          |                        |      |                                  |      |                                  | A23  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N2    | IO                  | DIFFIO_T29n          |                        |      |                                  |      |                                  | D16  |                                  |                       |                         |                       |                         | DQ4T0                 | DQ5T9                   | DQ5T9                   |
| B7          | VREFB7N2    | IO                  | DIFFIO_T29p          |                        |      |                                  |      |                                  | E16  |                                  |                       |                         |                       |                         | DQ4T1                 | DQ5T10                  | DQ5T10                  |
| B7          | VREFB7N2    | IO                  | DIFFIO_T28n          |                        |      |                                  |      |                                  | A15  | B7_B8                            |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N2    | IO                  | DIFFIO_T28p          |                        |      |                                  |      |                                  | B15  | B7_B8                            |                       |                         |                       |                         | DQ4T2                 | DQ5T11                  | DQ5T11                  |
| B7          | VREFB7N2    | IO                  |                      |                        |      |                                  |      |                                  | C15  | B7_B8                            |                       |                         |                       |                         | DQ4T3                 | DQ5T12                  | DQ5T12                  |
| B7          | VREFB7N2    | IO                  | VREFB7N2             |                        | C14  |                                  | C14  |                                  | C16  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N2    | IO                  | DIFFIO_T27n          |                        | C12  |                                  | C12  |                                  | F16  |                                  | DQ5T6                 | DQ5T6                   | DQ5T6                 | DQ5T6                   | DQ4T4                 | DQ5T13                  | DQ5T13                  |
| B7          | VREFB7N2    | IO                  | DIFFIO_T27p          |                        | D12  |                                  | D12  |                                  | G16  |                                  | DQ5T7                 | DQ5T7                   | DQ5T7                 | DQ5T7                   | DQ4T5                 | DQ5T14                  | DQ5T14                  |
| B7          | VREFB7N2    | IO                  | DIFFIO_T26n          |                        | A12  |                                  | A12  |                                  | A19  |                                  | DQ5T8                 | DQ5T8                   | DQ5T8                 | DQ5T8                   | DQ4T6                 | DQ5T15                  | DQ5T15                  |
| B7          | VREFB7N2    | IO                  | DIFFIO_T26p          |                        | B12  |                                  | B12  |                                  | A20  |                                  | DQS4T/CQ5T, DPCLK9    | DQS4T/CQ5T, DPCLK9      | DQS4T/CQ5T, DPCLK9    | DQS4T/CQ5T, DPCLK9      | DQS4T/CQ5T, DPCLK9    | DQS4T/CQ5T, DPCLK9      | DQS4T/CQ5T, DPCLK9      |
| B7          | VREFB7N2    | IO                  |                      |                        | E12  |                                  | E12  |                                  | D15  | B7_B8                            |                       |                         |                       |                         | DQ4T7                 | DQ5T16                  | DQ5T16                  |
| B7          | VREFB7N2    | IO                  | DIFFIO_T25n          |                        | F11  | B7_B8                            | F11  | B7_B8                            | A17  |                                  |                       |                         |                       |                         |                       | DQ5T17                  | DQ5T17                  |
| B7          | VREFB7N2    | IO                  | DIFFIO_T25p          |                        | F12  |                                  | F12  |                                  | A18  |                                  |                       |                         |                       |                         | DM4T                  | DM5T1/BWS#5T1           | DM5T1/BWS#5T1           |
| B7          | VREFB7N2    | CLK8                | DIFFCLK_5n           |                        | A13  |                                  | A13  |                                  | A16  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B7          | VREFB7N2    | CLK9                | DIFFCLK_5p           |                        | B13  |                                  | B13  |                                  | B16  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N0    | CLK10               | DIFFCLK_4n           |                        | A10  |                                  | A10  |                                  | A13  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N0    | CLK11               | DIFFCLK_4p           |                        | B10  |                                  | B10  |                                  | B13  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N0    | IO                  | DIFFIO_T24n          |                        | E11  | B7_B8                            | E11  | B7_B8                            | A12  |                                  | DQ3T0                 | DQ5T9                   | DQ3T0                 | DQ5T9                   | DQ5T0                 | DQ3T0                   | DQ5T18                  |
| B8          | VREFB8N0    | IO                  | DIFFIO_T24p          |                        |      |                                  |      |                                  | B12  |                                  |                       |                         |                       |                         | DQ5T1                 | DQ3T1                   | DQ5T19                  |
| B8          | VREFB8N0    | IO                  | DIFFIO_T23n          |                        | A11  | B7_B8                            | A11  | B7_B8                            | D13  |                                  | DQ3T1                 | DQ5T10                  | DQ3T1                 | DQ5T10                  | DQ5T2                 | DQ3T2                   | DQ5T20                  |



Pin Information for the Cyclone® III LS EP3CLS70 Device  
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Notes (1),(2)

| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
| B8          | VREFB8N0    | IO                  | DIFFIO_T23p          |                        | B11  | B7_B8                            | B11  | B7_B8                            | E14  |                                  | DQ3T2                 | DQ5T11                  | DQ3T2                 | DQ5T11                  | DQ5T3                 | DQ3T3                   | DQ5T21                  |
| B8          | VREFB8N0    | IO                  | DIFFIO_T22n          |                        | C11  | B7_B8                            | C11  | B7_B8                            | A10  |                                  |                       |                         |                       |                         | DQ5T4                 | DQ3T4                   | DQ5T22                  |
| B8          | VREFB8N0    | IO                  | DIFFIO_T22p          |                        | D11  | B7_B8                            | D11  | B7_B8                            | A11  |                                  | DQS5T/CQ5T#, DPCLK10  | DQS5T/CQ5T#, DPCLK10    | DQS5T/CQ5T#, DPCLK10  | DQS5T/CQ5T#, DPCLK10    | DQS5T/CQ5T#, DPCLK10  | DQS5T/CQ5T#, DPCLK10    | DQS5T/CQ5T#, DPCLK10    |
| B8          | VREFB8N0    | IO                  | DIFFIO_T21n          |                        |      |                                  |      |                                  | F14  |                                  |                       |                         |                       |                         | DQ5T5                 | DQ3T5                   | DQ5T23                  |
| B8          | VREFB8N0    | IO                  | DIFFIO_T21p          |                        |      |                                  |      |                                  | G14  |                                  |                       |                         |                       |                         | DQ5T6                 | DQ3T6                   | DQ5T24                  |
| B8          | VREFB8N0    | IO                  | VREFB8N0             |                        | D9   |                                  | D9   |                                  | A14  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N0    | IO                  | DIFFIO_T20n          |                        |      |                                  |      |                                  | D14  |                                  |                       |                         |                       |                         | DQ5T7                 | DQ3T7                   | DQ5T25                  |
| B8          | VREFB8N0    | IO                  | DIFFIO_T20p          |                        |      |                                  |      |                                  | C13  |                                  |                       |                         |                       |                         | DQ5T8                 | DQ3T8                   | DQ5T26                  |
| B8          | VREFB8N0    | IO                  | DIFFIO_T19n          | DATA2                  | A9   |                                  | A9   |                                  | A9   |                                  | DQ3T3                 | DQ5T12                  | DQ3T3                 | DQ5T12                  | DM5T/BWS#5T           | DM3T0/BWS#3T0           | DM5T2/BWS#5T2           |
| B8          | VREFB8N0    | IO                  | DIFFIO_T19p          | DATA3                  | B9   |                                  | B9   |                                  | B9   |                                  | DQ3T4                 | DQ5T13                  | DQ3T4                 | DQ5T13                  |                       |                         |                         |
| B8          | VREFB8N0    | IO                  | DIFFIO_T18n          |                        | A8   |                                  | A8   |                                  | A8   |                                  | DQ3T5                 | DQ5T14                  | DQ3T5                 | DQ5T14                  |                       |                         |                         |
| B8          | VREFB8N0    | IO                  | DIFFIO_T18p          | DATA4                  | B8   |                                  | B8   |                                  | B8   |                                  | DQ3T6                 | DQ5T15                  | DQ3T6                 | DQ5T15                  |                       |                         |                         |
| B8          | VREFB8N0    | IO                  | DIFFIO_T17n          |                        | A7   |                                  | A7   |                                  | F12  |                                  | DQ3T7                 | DQ5T16                  | DQ3T7                 | DQ5T16                  |                       |                         |                         |
| B8          | VREFB8N0    | IO                  | DIFFIO_T17p          |                        | B7   |                                  | B7   |                                  | E12  |                                  | DQ3T8                 | DQ5T17                  | DQ3T8                 | DQ5T17                  |                       |                         |                         |
| B8          | VREFB8N1    | IO                  | DIFFIO_T16n          |                        | E10  |                                  | E10  |                                  | B11  |                                  |                       |                         |                       |                         | DQ3T0                 | DQ3T9                   | DQ5T27                  |
| B8          | VREFB8N1    | IO                  | DIFFIO_T16p          |                        |      |                                  |      |                                  | C11  |                                  |                       |                         |                       |                         | DQ3T1                 | DQ3T10                  | DQ5T28                  |
| B8          | VREFB8N1    | IO                  | DIFFIO_T15n          |                        | A6   |                                  | A6   |                                  | G13  |                                  | DQS3T/CQ3T#, DPCLK11  | DQS3T/CQ3T#, DPCLK11    | DQS3T/CQ3T#, DPCLK11  | DQS3T/CQ3T#, DPCLK11    | DQS3T/CQ3T#, DPCLK11  | DQS3T/CQ3T#, DPCLK11    | DQS3T/CQ3T#, DPCLK11    |
| B8          | VREFB8N1    | IO                  | DIFFIO_T15p          |                        | B6   |                                  | B6   |                                  | G12  |                                  | DM3T/BWS#3T           | DM5T1/BWS#5T1           | DM3T/BWS#3T           | DM5T1/BWS#5T1           |                       |                         |                         |
| B8          | VREFB8N1    | IO                  | DIFFIO_T14n          |                        | E9   |                                  | E9   |                                  | C12  |                                  |                       |                         |                       |                         | DQ3T2                 | DQ3T11                  | DQ5T29                  |
| B8          | VREFB8N1    | IO                  | DIFFIO_T14p          |                        | F9   |                                  | F9   |                                  | D12  |                                  |                       |                         |                       |                         | DQ3T3                 | DQ3T12                  | DQ5T30                  |
| B8          | VREFB8N1    | IO                  | DIFFIO_T13n          |                        |      |                                  |      |                                  | A6   |                                  |                       |                         |                       |                         | DQ3T4                 | DQ3T13                  | DQ5T31                  |
| B8          | VREFB8N1    | IO                  | DIFFIO_T13p          | DATA5                  | C9   |                                  | C9   |                                  | A7   |                                  |                       |                         |                       |                         | DQ3T5                 | DQ3T14                  | DQ5T32                  |
| B8          | VREFB8N1    | IO                  | VREFB8N1             |                        | D7   |                                  | D7   |                                  | G11  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N1    | IO                  | DIFFIO_T12n          |                        |      |                                  |      |                                  | C9   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N1    | IO                  | DIFFIO_T12p          |                        | E8   |                                  | E8   |                                  | D9   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N1    | IO                  | DIFFIO_T11n          |                        | G8   |                                  | G8   |                                  | D10  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N1    | IO                  | DIFFIO_T11p          |                        | G9   |                                  | G9   |                                  | D11  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N1    | IO                  | DIFFIO_T10n          | DATA6                  | A4   |                                  | A4   |                                  | A3   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N1    | IO                  | DIFFIO_T10p          | DATA7                  | A5   |                                  | A5   |                                  | A4   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N1    | IO                  | DIFFIO_T9n           |                        |      |                                  |      |                                  | F10  |                                  |                       |                         |                       |                         | DQ3T6                 | DQ3T15                  | DQ5T33                  |
| B8          | VREFB8N1    | IO                  | DIFFIO_T9p           |                        |      |                                  |      |                                  | G10  |                                  |                       |                         |                       |                         | DQ3T7                 | DQ3T16                  | DQ5T34                  |
| B8          | VREFB8N1    | IO                  | DIFFIO_T8n           |                        | C7   |                                  | C7   |                                  | C8   |                                  |                       |                         |                       |                         | DQ3T8                 | DQ3T17                  | DQ5T35                  |
| B8          | VREFB8N1    | IO                  | DIFFIO_T8p           |                        |      |                                  |      |                                  | D8   |                                  |                       |                         |                       |                         | DM3T/BWS#3T           | DM3T1/BWS#3T1           | DM5T3/BWS#5T3           |
| B8          | VREFB8N1    | IO                  | DIFFIO_T7n           |                        | A2   | B8_B1                            | A2   | B8_B1                            | F8   |                                  |                       |                         |                       |                         | DQ1T0                 |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T7p           |                        | A3   | B8_B1                            | A3   | B8_B1                            | G9   |                                  |                       |                         |                       |                         | DQ1T1                 |                         |                         |
| B8          | VREFB8N2    | IO                  |                      |                        |      |                                  |      |                                  | A5   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N2    | IO                  | VREFB8N2             |                        | E6   |                                  | E6   |                                  | E10  |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T6n           |                        | F8   |                                  | F8   |                                  | C4   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T6p           |                        |      |                                  |      |                                  | D4   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T5n           |                        |      |                                  |      |                                  | E7   |                                  |                       |                         |                       |                         | DQ1T2                 |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T5p           |                        |      |                                  |      |                                  | F7   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T4n           |                        |      |                                  |      |                                  | B7   |                                  |                       |                         |                       |                         | DQ1T3                 |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T4p           |                        |      |                                  |      |                                  | C7   |                                  |                       |                         |                       |                         | DQ1T4                 |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T3n           |                        | B3   | B8_B1                            | B3   | B8_B1                            | D7   |                                  |                       |                         |                       |                         | DQ1T5                 |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T3p           |                        | C4   |                                  | C4   |                                  | E8   |                                  | DQS1T/CQ1T#, CDPCLK7  | DQS1T/CQ1T#, CDPCLK7    | DQS1T/CQ1T#, CDPCLK7  | DQS1T/CQ1T#, CDPCLK7    | DQS1T/CQ1T#, CDPCLK7  | DQS1T/CQ1T#, CDPCLK7    | DQS1T/CQ1T#, CDPCLK7    |
| B8          | VREFB8N2    | IO                  | DIFFIO_T2n           |                        | D4   | B8_B1                            | D4   | B8_B1                            | B5   |                                  |                       |                         |                       |                         | DQ1T6                 |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T2p           |                        | D5   | B8_B1                            | D5   | B8_B1                            | C5   |                                  |                       |                         |                       |                         | DQ1T7                 |                         |                         |
| B8          | VREFB8N2    | IO                  |                      |                        | E7   |                                  | E7   |                                  | B4   |                                  |                       |                         |                       |                         | DM1T                  |                         |                         |
| B8          | VREFB8N2    | IO                  | PLL3_CLKOUTn         |                        | B5   |                                  | B5   |                                  | D6   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N2    | IO                  | PLL3_CLKOUTp         |                        | C5   |                                  | C5   |                                  | D5   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T1n           |                        |      |                                  |      |                                  | B2   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N2    | IO                  | DIFFIO_T1p           |                        |      |                                  |      |                                  | A2   |                                  |                       |                         |                       |                         |                       |                         |                         |
| B8          | VREFB8N2    | IO                  |                      |                        |      |                                  |      |                                  | E5   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | F10  |                                  | F10  |                                  | AA11 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | F13  |                                  | F13  |                                  | AA13 |                                  |                       |                         |                       |                         |                       |                         |                         |





| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
|             |             | GND                 |                      |                        | G6   | B1                               | G6   | B1                               | AA15 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | G11  |                                  | G11  |                                  | AA19 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | G12  |                                  | G12  |                                  | AA21 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | G16  |                                  | G16  |                                  | AB15 | B3_B4                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | G17  |                                  | G17  |                                  | AB21 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | H9   |                                  | H9   |                                  | G21  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | H10  |                                  | H10  |                                  | H10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | H13  |                                  | H13  |                                  | H12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | H14  |                                  | H14  |                                  | H14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | J8   |                                  | J8   |                                  | H16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | J15  |                                  | J15  |                                  | H18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | K6   |                                  | K6   |                                  | H20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | K8   |                                  | K8   |                                  | H8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | K10  |                                  | K10  |                                  | J11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | K11  |                                  | K11  |                                  | J13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | K12  |                                  | K12  |                                  | J15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | K13  |                                  | K13  |                                  | J17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | K15  |                                  | K15  |                                  | J19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | K17  |                                  | K17  |                                  | J21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | L7   |                                  | L7   |                                  | J9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | L10  |                                  | L10  |                                  | K10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | L11  |                                  | L11  |                                  | K12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | L12  |                                  | L12  |                                  | K14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | L13  |                                  | L13  |                                  | K16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | L16  |                                  | L16  |                                  | K18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | M7   |                                  | M7   |                                  | K20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | M10  |                                  | M10  |                                  | K8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | M11  |                                  | M11  |                                  | L11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | M12  |                                  | M12  |                                  | L13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | M13  |                                  | M13  |                                  | L15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | M16  |                                  | M16  |                                  | L17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | N6   |                                  | N6   |                                  | L19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | N8   |                                  | N8   |                                  | L21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | N10  |                                  | N10  |                                  | L7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | N11  |                                  | N11  |                                  | L9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | N12  |                                  | N12  |                                  | M10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | N13  |                                  | N13  |                                  | M12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | N15  |                                  | N15  |                                  | M14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | N17  |                                  | N17  |                                  | M16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | P8   |                                  | P8   |                                  | M18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | P15  |                                  | P15  |                                  | M20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | R7   |                                  | R7   |                                  | M22  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | R9   |                                  | R9   |                                  | M8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | R10  |                                  | R10  |                                  | N11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | R13  |                                  | R13  |                                  | N13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | R14  |                                  | R14  |                                  | N15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | R16  |                                  | R16  |                                  | N17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | T6   |                                  | T6   |                                  | N19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | T11  |                                  | T11  |                                  | N21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | T17  | B4_B5                            | T17  | B4_B5                            | N7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | U10  |                                  | U10  |                                  | N9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | U13  |                                  | U13  |                                  | P10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | A1   | B8_B1                            | A1   | B8_B1                            | P12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | C3   | B8_B1                            | C3   | B8_B1                            | P14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | G3   |                                  | G3   |                                  | P16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | K3   | B1                               | K3   | B1                               | P18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | N3   |                                  | N3   |                                  | P20  |                                  |                       |                         |                       |                         |                       |                         |                         |



Pin Information for the Cyclone® III LS EP3CLS70 Device  
Version 1.1  
Notes (1),(2)

| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
|             |             | GND                 |                      |                        | T3   |                                  | T3   |                                  | P8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | Y3   | B2_B3                            | Y3   | B2_B3                            | R11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | AB1  | B2_B3                            | AB1  | B2_B3                            | R13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | A22  | B6_B7                            | A22  | B6_B7                            | R15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | AB22 | B4_B5                            | AB22 | B4_B5                            | R17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | C6   |                                  | C6   |                                  | R19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | Y6   |                                  | Y6   |                                  | R21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | Y8   |                                  | Y8   |                                  | R5   | B1_B2                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | Y10  |                                  | Y10  |                                  | R6   | B1_B2                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | Y13  |                                  | Y13  |                                  | R7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | Y17  |                                  | Y17  |                                  | R9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | C17  |                                  | C17  |                                  | T10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | Y15  |                                  | Y15  |                                  | T12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | Y20  | B4_B5                            | Y20  | B4_B5                            | T14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | T20  |                                  | T20  |                                  | T16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | N20  |                                  | N20  |                                  | T18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | K20  |                                  | K20  |                                  | T20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | G20  |                                  | G20  |                                  | T22  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | C20  | B6_B7                            | C20  | B6_B7                            | T8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | C15  |                                  | C15  |                                  | U11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | C13  |                                  | C13  |                                  | U13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | C10  |                                  | C10  |                                  | U15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        | C8   |                                  | C8   |                                  | U17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | U19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | U21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | U7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | U9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | V10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | V12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | V14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | V16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | V18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | V20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | V22  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | V8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | W11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | W13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | W15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | W17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | W19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | W21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | W9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | Y10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | Y12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | Y14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | Y16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | Y18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | Y20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | Y22  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | Y8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | R2   | B1_B2                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | B1   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | F2   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | H4   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | L2   | B1                               |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | N4   | B1                               |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | V2   |                                  |                       |                         |                       |                         |                       |                         |                         |



Pin Information for the Cyclone® III LS EP3CLS70 Device  
Version 1.1  
Notes (1),(2)

| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
|             |             | GND                 |                      |                        |      |                                  |      |                                  | Y4   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AC2  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AG1  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AG3  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AD5  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AG7  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AD8  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AG10 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AD11 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AD13 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AG14 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AE15 | B3_B4                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AG17 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AG19 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AD18 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AD20 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AD23 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AG23 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AG26 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AG28 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | AC27 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | Y25  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | V27  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | T25  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | N25  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | L27  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | H25  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | F27  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | B28  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | B17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | B20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | B23  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | B26  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | E15  | B7_B8                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | E18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | E20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | E23  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | B3   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | B6   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | B10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | B14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | E6   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | E9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | E11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GND                 |                      |                        |      |                                  |      |                                  | E13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GNDA1               |                      |                        | U5   | B2_B3                            | U5   | B2_B3                            | AB7  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GNDA2               |                      |                        | F18  | B6_B7                            | F18  | B6_B7                            | H22  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | GNDA3               |                      |                        | F5   | B8_B1                            | F5   | B8_B1                            | G7   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | GNDA4               |                      |                        | U18  | B4_B5                            | U18  | B4_B5                            | AB22 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | F7   | B8_B1                            | F7   | B8_B1                            | AA10 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | F16  |                                  | F16  |                                  | AA12 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | G10  |                                  | G10  |                                  | AA14 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | G13  |                                  | G13  |                                  | AA16 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | G14  |                                  | G14  |                                  | AA18 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | G15  |                                  | G15  |                                  | AA20 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | H8   |                                  | H8   |                                  | H11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | H11  |                                  | H11  |                                  | H13  |                                  |                       |                         |                       |                         |                       |                         |                         |



| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
|             |             | VCCINT              |                      |                        | H12  |                                  | H12  |                                  | H15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | H15  |                                  | H15  |                                  | H17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | J7   |                                  | J7   |                                  | H19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | J9   |                                  | J9   |                                  | H21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | J10  |                                  | J10  |                                  | H9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | J11  |                                  | J11  |                                  | J10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | J12  |                                  | J12  |                                  | J12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | J13  |                                  | J13  |                                  | J14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | J14  |                                  | J14  |                                  | J16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | J16  |                                  | J16  |                                  | J18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | K7   |                                  | K7   |                                  | J20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | K9   |                                  | K9   |                                  | J22  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | K14  |                                  | K14  |                                  | J8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | K16  |                                  | K16  |                                  | K11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | L8   |                                  | L8   |                                  | K13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | L9   |                                  | L9   |                                  | K15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | L14  |                                  | L14  |                                  | K17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | L15  |                                  | L15  |                                  | K19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | M8   |                                  | M8   |                                  | K21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | M9   |                                  | M9   |                                  | K7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | M14  |                                  | M14  |                                  | K9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | M15  |                                  | M15  |                                  | L10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | M17  |                                  | M17  |                                  | L12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | N7   |                                  | N7   |                                  | L14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | N9   |                                  | N9   |                                  | L16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | N14  |                                  | N14  |                                  | L18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | N16  |                                  | N16  |                                  | L20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | P6   |                                  | P6   |                                  | L22  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | P7   |                                  | P7   |                                  | L8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | P9   |                                  | P9   |                                  | M11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | P10  |                                  | P10  |                                  | M13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | P11  |                                  | P11  |                                  | M15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | P12  |                                  | P12  |                                  | M17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | P13  |                                  | P13  |                                  | M19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | P14  |                                  | P14  |                                  | M21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | P16  |                                  | P16  |                                  | M7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | R6   |                                  | R6   |                                  | M9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | R8   |                                  | R8   |                                  | N10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | R11  |                                  | R11  |                                  | N12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | R12  |                                  | R12  |                                  | N14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | R15  |                                  | R15  |                                  | N16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | T7   |                                  | T7   |                                  | N18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | T8   |                                  | T8   |                                  | N20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | T10  |                                  | T10  |                                  | N8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | U7   |                                  | U7   |                                  | P11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        | U16  |                                  | U16  |                                  | P13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | P15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | P17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | P19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | P21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | P7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | P9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | R10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | R12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | R14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | R16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | R18  |                                  |                       |                         |                       |                         |                       |                         |                         |



Pin Information for the Cyclone® III LS EP3CLS70 Device  
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| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | R20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | R22  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | R8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | T11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | T13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | T15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | T17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | T19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | T21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | T7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | T9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | U10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | U12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | U14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | U16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | U18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | U20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | U22  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | U6   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | U8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | V11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | V13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | V15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | V17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | V19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | V21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | V7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | V9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | W10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | W12  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | W14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | W16  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | W18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | W20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | W22  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | W8   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | Y11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | Y13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | Y15  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | Y17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | Y19  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | Y21  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | Y7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCINT              |                      |                        |      |                                  |      |                                  | Y9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO1              |                      |                        | D3   | B8_B1                            | D3   | B8_B1                            | C2   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO1              |                      |                        | G4   | B1                               | G4   | B1                               | F3   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO1              |                      |                        | L3   | B1_B2                            | L3   | B1_B2                            | H5   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO1              |                      |                        |      |                                  |      |                                  | L3   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO1              |                      |                        |      |                                  |      |                                  | N5   | B1                               |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO2              |                      |                        | N4   |                                  | N4   |                                  | AC3  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO2              |                      |                        | T4   |                                  | T4   |                                  | AF2  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO2              |                      |                        | W3   | B2_B3                            | W3   | B2_B3                            | R3   | B1_B2                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO2              |                      |                        |      |                                  |      |                                  | V3   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO2              |                      |                        |      |                                  |      |                                  | Y5   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO3              |                      |                        | AA4  |                                  | AA4  |                                  | AC11 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO3              |                      |                        | W10  |                                  | W10  |                                  | AC13 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO3              |                      |                        | W6   |                                  | W6   |                                  | AC5  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |



Pin Information for the Cyclone® III LS EP3CLS70 Device  
Version 1.1  
Notes (1),(2)

| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
|             |             | VCCIO3              |                      |                        | W8   |                                  | W8   |                                  | AC8  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO3              |                      |                        |      |                                  |      |                                  | AF10 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO3              |                      |                        |      |                                  |      |                                  | AF14 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO3              |                      |                        |      |                                  |      |                                  | AF3  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO3              |                      |                        |      |                                  |      |                                  | AF7  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO4              |                      |                        | W17  |                                  | W17  |                                  | AC18 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO4              |                      |                        | AA19 |                                  | AA19 |                                  | AC20 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO4              |                      |                        | W13  |                                  | W13  |                                  | AC23 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO4              |                      |                        | W15  |                                  | W15  |                                  | AD15 | B3_B4                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO4              |                      |                        |      |                                  |      |                                  | AF17 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO4              |                      |                        |      |                                  |      |                                  | AF19 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO4              |                      |                        |      |                                  |      |                                  | AF23 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO4              |                      |                        |      |                                  |      |                                  | AF26 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO5              |                      |                        | N19  |                                  | N19  |                                  | AC26 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO5              |                      |                        | T19  |                                  | T19  |                                  | AG27 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO5              |                      |                        | W20  | B4_B5                            | W20  | B4_B5                            | T24  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO5              |                      |                        |      |                                  |      |                                  | V26  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO5              |                      |                        |      |                                  |      |                                  | Y24  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO6              |                      |                        | D20  | B6_B7                            | D20  | B6_B7                            | C27  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO6              |                      |                        | G19  |                                  | G19  |                                  | F26  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO6              |                      |                        | L20  | B5_B6                            | L20  | B5_B6                            | H24  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO6              |                      |                        |      |                                  |      |                                  | L26  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO6              |                      |                        |      |                                  |      |                                  | N24  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO7              |                      |                        | B19  |                                  | B19  |                                  | C17  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO7              |                      |                        | D17  |                                  | D17  |                                  | C20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO7              |                      |                        | D13  |                                  | D13  |                                  | C23  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO7              |                      |                        | D15  |                                  | D15  |                                  | C26  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO7              |                      |                        |      |                                  |      |                                  | F15  | B7_B8                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO7              |                      |                        |      |                                  |      |                                  | F18  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO7              |                      |                        |      |                                  |      |                                  | F20  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO7              |                      |                        |      |                                  |      |                                  | F23  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO8              |                      |                        | B4   |                                  | B4   |                                  | C10  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO8              |                      |                        | D10  |                                  | D10  |                                  | C14  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO8              |                      |                        | D6   |                                  | D6   |                                  | C3   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO8              |                      |                        | D8   |                                  | D8   |                                  | C6   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO8              |                      |                        |      |                                  |      |                                  | F11  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO8              |                      |                        |      |                                  |      |                                  | F13  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO8              |                      |                        |      |                                  |      |                                  | F6   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCIO8              |                      |                        |      |                                  |      |                                  | F9   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCA1               |                      |                        | U6   | B2_B3                            | U6   | B2_B3                            | AA7  | B2_B3                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCA2               |                      |                        | G18  |                                  | G18  |                                  | H23  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCA3               |                      |                        | F6   | B8_B1                            | F6   | B8_B1                            | H7   |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCA4               |                      |                        | U17  | B4_B5                            | U17  | B4_B5                            | AA22 |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCD_PLL1           |                      |                        | V5   | B2_B3                            | V5   | B2_B3                            | AB8  |                                  |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCD_PLL2           |                      |                        | F17  | B6_B7                            | F17  | B6_B7                            | G22  | B6_B7                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCD_PLL3           |                      |                        | E5   | B8_B1                            | E5   | B8_B1                            | G8   | B8_B1                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCD_PLL4           |                      |                        | V18  | B4_B5                            | V18  | B4_B5                            | AB23 | B4_B5                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | VCCBAT              |                      |                        | V6   |                                  | V6   |                                  | AC7  |                                  |                       |                         |                       |                         |                       |                         |                         |



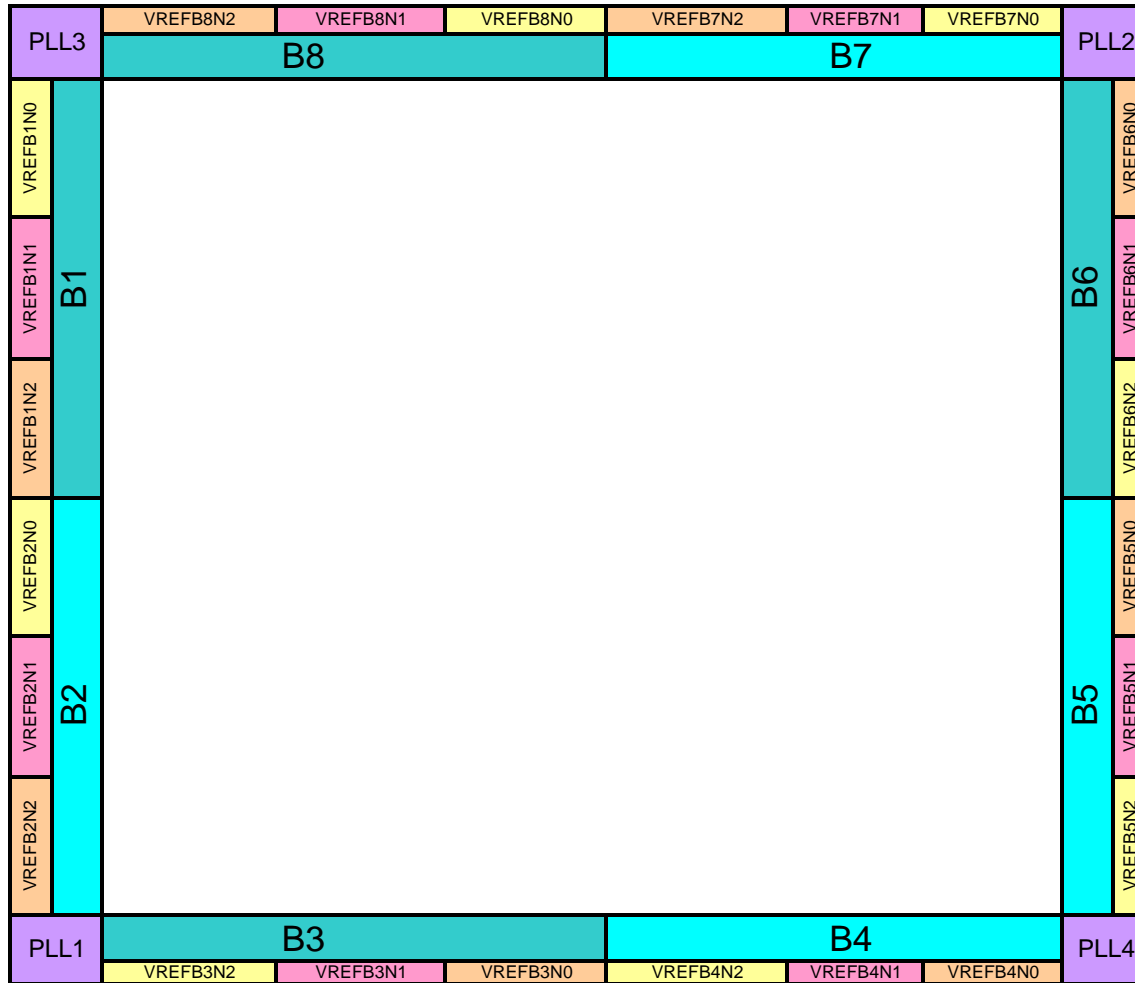
| Bank Number | VREFB Group | Pin Name / Function | Optional Function(s) | Configuration Function | F484 | Pin Used for Bank Isolation F484 | U484 | Pin Used for Bank Isolation U484 | F780 | Pin Used for Bank Isolation F780 | DQS for x8/x9 in F484 | DQS for x16/x18 in F484 | DQS for x8/x9 in U484 | DQS for x16/x18 in U484 | DQS for x8/x9 in F780 | DQS for x16/x18 in F780 | DQS for x32/x36 in F780 |
|-------------|-------------|---------------------|----------------------|------------------------|------|----------------------------------|------|----------------------------------|------|----------------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-----------------------|-------------------------|-------------------------|
|             |             | NC                  |                      |                        |      |                                  |      |                                  | R1   | B1_B2                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | NC                  |                      |                        |      |                                  |      |                                  | R4   | B1_B2                            |                       |                         |                       |                         |                       |                         |                         |
|             |             | NC                  |                      |                        |      |                                  |      |                                  | G15  | B7_B8                            |                       |                         |                       |                         |                       |                         |                         |

**Notes:**

- (1) If the p pin or n pin of the particular differential pair is not available for that package, this means that the particular differential pair is not supported.
- (2) For DQS pins that do not have associated DQ pins, the particular DQS is not supported.

Notes for isolation columns

| Note  | Details   |
|-------|---|
| B1    | Pins used for setting up the security boundary for TD1, TDO and UDATA0                |
| B1_B2 | Physical Pins that used to turn on the security boundary between Bank B1 and Bank B2. |
| B2_B3 | Physical Pins that used to turn on the security boundary between Bank B2 and Bank B3. |
| B3_B4 | Physical Pins that used to turn on the security boundary between Bank B3 and Bank B4. |
| B4_B5 | Physical Pins that used to turn on the security boundary between Bank B4 and Bank B5. |
| B5_B6 | Physical Pins that used to turn on the security boundary between Bank B5 and Bank B6. |
| B6_B7 | Physical Pins that used to turn on the security boundary between Bank B6 and Bank B7. |
| B7_B8 | Physical Pins that used to turn on the security boundary between Bank B7 and Bank B8. |
| B8_B1 | Physical Pins that used to turn on the security boundary between Bank B8 and Bank B1. |



**Notes:**

1. This is a top view of the silicon die.
2. This is only a pictorial representation to provide an idea of placement on the device.  
Refer to the pin list and the Quartus® II software for exact locations.





Pin Information for the Cyclone® III LS EP3CLS70 Device  
Version 1.1

| Version Number | Date       | Changes Made                   |
|----------------|------------|--------------------------------|
| 1.0            | 12/21/2009 | Initial release.               |
| 1.1            | 10/10/2013 | Removed Pin Definitions table. |
|                |            |                                |
|                |            |                                |
|                |            |                                |
|                |            |                                |
|                |            |                                |
|                |            |                                |