



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| GXB L2 | | REFCLK5lp | | | | | T33 | | | | |
| GXB L2 | | REFCLK5ln | | | | | T34 | | | | |
| GXB L2 | | GXB TX L17n | | | | | C37 | | | | |
| GXB L2 | | GXB TX L17p | | | | | C36 | | | | |
| GXB L2 | | GXB RX L17n,GXB_REFCLK L17n | | | | | D39 | | | | |
| GXB L2 | | GXB RX L17p,GXB_REFCLK L17p | | | | | D38 | | | | |
| GXB L2 | | GXB TX L16n | | | | | E37 | | | | |
| GXB L2 | | GXB TX L16p | | | | | E36 | | | | |
| GXB L2 | | GXB RX L16n,GXB_REFCLK L16n | | | | | F39 | | | | |
| GXB L2 | | GXB RX L16p,GXB_REFCLK L16p | | | | | F38 | | | | |
| GXB L2 | | GXB TX L15n | | | | | G37 | | | | |
| GXB L2 | | GXB TX L15p | | | | | G36 | | | | |
| GXB L2 | | GXB RX L15n,GXB_REFCLK L15n | | | | | H39 | | | | |
| GXB L2 | | GXB RX L15p,GXB_REFCLK L15p | | | | | H38 | | | | |
| GXB L2 | | GXB TX L14n | | | | | J37 | | | | |
| GXB L2 | | GXB TX L14p | | | | | J36 | | | | |
| GXB L2 | | GXB RX L14n,GXB_REFCLK L14n | | | | | K39 | | | | |
| GXB L2 | | GXB RX L14p,GXB_REFCLK L14p | | | | | K38 | | | | |
| GXB L2 | | GXB TX L13n | | | | | L37 | | | | |
| GXB L2 | | GXB TX L13p | | | | | L36 | | | | |
| GXB L2 | | GXB RX L13n,GXB_REFCLK L13n | | | | | M39 | | | | |
| GXB L2 | | GXB RX L13p,GXB_REFCLK L13p | | | | | M38 | | | | |
| GXB L2 | | GXB TX L12n | | | | | N37 | | | | |
| GXB L2 | | GXB TX L12p | | | | | N36 | | | | |
| GXB L2 | | GXB RX L12n,GXB_REFCLK L12n | | | | | P39 | | | | |
| GXB L2 | | GXB RX L12p,GXB_REFCLK L12p | | | | | P38 | | | | |
| GXB L2 | | REFCLK4lp | | | | | V34 | | | | |
| GXB L2 | | REFCLK4ln | | | | | V35 | | | | |
| GXB L2 | | REFCLK3lp | | | | | Y33 | | | | |
| GXB L1 | | REFCLK3ln | | | | | Y34 | | | | |
| GXB L1 | | GXB TX L11n | | | | | R37 | | | | |
| GXB L1 | | GXB TX L11p | | | | | R36 | | | | |
| GXB L1 | | GXB RX L11n,GXB_REFCLK L11n | | | | | T39 | | | | |
| GXB L1 | | GXB RX L11p,GXB_REFCLK L11p | | | | | T38 | | | | |
| GXB L1 | | GXB TX L10n | | | | | U37 | | | | |
| GXB L1 | | GXB TX L10p | | | | | U36 | | | | |
| GXB L1 | | GXB RX L10n,GXB_REFCLK L10n | | | | | V39 | | | | |
| GXB L1 | | GXB RX L10p,GXB_REFCLK L10p | | | | | V38 | | | | |
| GXB L1 | | GXB TX L9n | | | | | W37 | | | | |
| GXB L1 | | GXB TX L9p | | | | | W36 | | | | |
| GXB L1 | | GXB RX L9n,GXB_REFCLK L9n | | | | | Y39 | | | | |
| GXB L1 | | GXB RX L9p,GXB_REFCLK L9p | | | | | Y38 | | | | |
| GXB L1 | | GXB TX L8n | | | | | AA37 | | | | |
| GXB L1 | | GXB TX L8p | | | | | AA36 | | | | |
| GXB L1 | | GXB RX L8n,GXB_REFCLK L8n | | | | | AB39 | | | | |
| GXB L1 | | GXB RX L8p,GXB_REFCLK L8p | | | | | AB38 | | | | |
| GXB L1 | | GXB TX L7n | | | | | AC37 | | | | |
| GXB L1 | | GXB TX L7p | | | | | AC36 | | | | |
| GXB L1 | | GXB RX L7n,GXB_REFCLK L7n | | | | | AD39 | | | | |
| GXB L1 | | GXB RX L7p,GXB_REFCLK L7p | | | | | AD38 | | | | |
| GXB L1 | | GXB TX L6n | | | | | AE37 | | | | |
| GXB L1 | | GXB TX L6p | | | | | AE36 | | | | |
| GXB L1 | | GXB RX L6n,GXB_REFCLK L6n | | | | | AF39 | | | | |
| GXB L1 | | GXB RX L6p,GXB_REFCLK L6p | | | | | AF38 | | | | |
| GXB L1 | | REFCLK2lp | | | | | AB34 | | | | |
| GXB L1 | | REFCLK2ln | | | | | AB35 | | | | |
| GXB L0 | | REFCLK1lp | | | | | AD33 | | | | |
| GXB L0 | | REFCLK1ln | | | | | AD34 | | | | |
| GXB L0 | | GXB TX L5n | | | | | AG37 | | | | |
| GXB L0 | | GXB TX L5p | | | | | AG36 | | | | |
| GXB L0 | | GXB RX L5n,GXB_REFCLK L5n | | | | | AH39 | | | | |
| GXB L0 | | GXB RX L5p,GXB_REFCLK L5p | | | | | AH38 | | | | |
| GXB L0 | | GXB TX L4n | | | | | AJ37 | | | | |
| GXB L0 | | GXB TX L4p | | | | | AJ36 | | | | |
| GXB L0 | | GXB RX L4n,GXB_REFCLK L4n | | | | | AK39 | | | | |
| GXB L0 | | GXB RX L4p,GXB_REFCLK L4p | | | | | AK38 | | | | |
| GXB L0 | | GXB TX L3n | | | | | AL37 | | | | |
| GXB L0 | | GXB TX L3p | | | | | AL36 | | | | |
| GXB L0 | | GXB RX L3n,GXB_REFCLK L3n | | | | | AM39 | | | | |
| GXB L0 | | GXB RX L3p,GXB_REFCLK L3p | | | | | AM38 | | | | |
| GXB L0 | | GXB TX L2n | | | | | AN37 | | | | |
| GXB L0 | | GXB TX L2p | | | | | AN36 | | | | |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 | |
|-------------|-----------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|------|
| GXB_L0 | | GXB_RX_L2n,GXB_REFCLK_L2n | | | | | AP39 | | | | | |
| GXB_L0 | | GXB_RX_L2p,GXB_REFCLK_L2p | | | | | AP38 | | | | | |
| GXB_L0 | | GXB_TX_L1n | | | | | AR37 | | | | | |
| GXB_L0 | | GXB_TX_L1p | | | | | AR36 | | | | | |
| GXB_L0 | | GXB_RX_L1n,GXB_REFCLK_L1n | | | | | AT39 | | | | | |
| GXB_L0 | | GXB_RX_L1p,GXB_REFCLK_L1p | | | | | AT38 | | | | | |
| GXB_L0 | | GXB_TX_L0n | | | | | AU37 | | | | | |
| GXB_L0 | | GXB_TX_L0p | | | | | AU36 | | | | | |
| GXB_L0 | | GXB_RX_L0n,GXB_REFCLK_L0n | | | | | AV39 | | | | | |
| GXB_L0 | | GXB_RX_L0p,GXB_REFCLK_L0p | | | | | AV38 | | | | | |
| GXB_L0 | | REFCLK0Lp | | | | | AF34 | | | | | |
| GXB_L0 | | REFCLK0Ln | | | | | AF35 | | | | | |
| 3A | | nCONFIG | | nCONFIG | | | AK35 | | | | | |
| 3A | | TRST | | TRST | | | AM35 | | | | | |
| 3A | | TMS | | TMS | | | AT35 | | | | | |
| 3A | | TCK | | TCK | | | AA31 | | | | | |
| 3A | | TDI | | TDI | | | AJ34 | | | | | |
| 3A | | TDO | | TDO | | | AH34 | | | | | |
| 3A | | nCSO | | nCSO | | | AD32 | | | | | |
| 3A | | AS_DATA3 | | AS_DATA3 | | | AG32 | | | | | |
| 3A | | AS_DATA2 | | AS_DATA2 | | | AC32 | | | | | |
| 3A | | AS_DATA1 | | AS_DATA1 | | | Y31 | | | | | |
| 3A | | AS_DATA0,ASDO | | AS_DATA0,ASDO | | | AB31 | | | | | |
| 3A | | DCLK | | DCLK | | | AC31 | | | | | |
| 3A | VREFB3AN0 | IO | | CLKUSR | DIFFIO_TX_B1n | DIFFOUT_B1n | AN34 | DQ1B | | DQ1B | | |
| 3A | VREFB3AN0 | IO | | CRC_ERROR | DIFFIO_TX_B1p | DIFFOUT_B1p | AN33 | DQ1B | | DQ1B | | |
| 3A | VREFB3AN0 | IO | RZQ_0 | | DIFFIO_RX_B2n | DIFFOUT_B2n | AR34 | DQS1B | | DQ1B | | |
| 3A | VREFB3AN0 | IO | | DEV_OE | DIFFIO_RX_B2p | DIFFOUT_B2p | AP34 | DQS1B | | DQ1B/CQn1B | | |
| 3A | VREFB3AN0 | IO | | DEV_CLRn | DIFFIO_TX_B3n | DIFFOUT_B3n | AM34 | DQ1B | | DQ1B | | |
| 3A | VREFB3AN0 | IO | | INIT_DONE | DIFFIO_TX_B3p | DIFFOUT_B3p | AL34 | DQ1B | | DQ1B | | |
| 3A | VREFB3AN0 | IO | | nCEO | DIFFIO_RX_B4n | DIFFOUT_B4n | AN32 | DQS2B | | DQSn1B/DQ1B | | |
| 3A | VREFB3AN0 | IO | | DATA0 | DIFFIO_RX_B4p | DIFFOUT_B4p | AP33 | DQS2B | | DQSn1B/CQ1B | | |
| 3A | VREFB3AN0 | IO | | DATA1 | DIFFIO_TX_B5n | DIFFOUT_B5n | AT33 | DQ2B | | DQ1B | | |
| 3A | VREFB3AN0 | IO | | DATA2 | DIFFIO_TX_B5p | DIFFOUT_B5p | AR33 | DQ2B | | DQ1B | | |
| 3A | VREFB3AN0 | IO | | DATA3 | DIFFIO_RX_B6n | DIFFOUT_B6n | AU34 | DQ2B | | DQ1B | | |
| 3A | VREFB3AN0 | IO | | DATA4 | DIFFIO_RX_B6p | DIFFOUT_B6p | AU33 | DQ2B | | DQ1B | | |
| 3A | VREFB3AN0 | IO | | DATA5 | DIFFIO_TX_B7n | DIFFOUT_B7n | AN31 | DQ3B | | DQ2B | | |
| 3A | VREFB3AN0 | IO | | DATA6 | DIFFIO_TX_B7p | DIFFOUT_B7p | AM31 | DQ3B | | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA7 | DIFFIO_RX_B8n | DIFFOUT_B8n | AU32 | DQS3B | | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA8 | DIFFIO_RX_B8p | DIFFOUT_B8p | AT32 | DQS3B | | DQ2B/CQn2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA9 | DIFFIO_TX_B9n | DIFFOUT_B9n | AR31 | DQ3B | | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA10 | DIFFIO_TX_B9p | DIFFOUT_B9p | AP31 | DQ3B | | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA11 | DIFFIO_RX_B10n | DIFFOUT_B10n | AW34 | DQS4B | | DQSn2B/DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA12 | DIFFIO_RX_B10p | DIFFOUT_B10p | AV34 | DQS4B | | DQS2B/CQ2B | DQ1B/CQn1B | |
| 3A | VREFB3AN0 | IO | | DATA13 | DIFFIO_TX_B11n | DIFFOUT_B11n | AW31 | DQ4B | | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA14 | DIFFIO_TX_B11p | DIFFOUT_B11p | AV31 | DQ4B | | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA15 | DIFFIO_RX_B12n | DIFFOUT_B12n | AW32 | DQ4B | | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA16 | DIFFIO_RX_B12p | DIFFOUT_B12p | AV32 | DQ4B | | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA17 | DIFFIO_TX_B13n | DIFFOUT_B13n | AJ33 | DQ5B | | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA18 | DIFFIO_TX_B13p | DIFFOUT_B13p | AH33 | DQ5B | | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA19 | DIFFIO_RX_B14n | DIFFOUT_B14n | AL33 | DQS5B | | DQ3B | DQSn1B/DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA20 | DIFFIO_RX_B14p | DIFFOUT_B14p | AK33 | DQS5B | | DQ3B/CQn3B | DQS1B/CQ1B | |
| 3A | VREFB3AN0 | IO | | DATA21 | DIFFIO_TX_B15n | DIFFOUT_B15n | AK32 | DQ5B | | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA22 | DIFFIO_TX_B15p | DIFFOUT_B15p | AJ32 | DQ5B | | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA23 | DIFFIO_RX_B16n | DIFFOUT_B16n | AH31 | DQS6B | | DQSn3B/DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA24 | DIFFIO_RX_B16p | DIFFOUT_B16p | AG31 | DQS6B | | DQS3B/CQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA25 | DIFFIO_TX_B17n | DIFFOUT_B17n | AF31 | DQ6B | | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA26 | DIFFIO_TX_B17p | DIFFOUT_B17p | AE31 | DQ6B | | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA27 | DIFFIO_RX_B18n | DIFFOUT_B18n | AJ30 | DQ6B | | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA28 | DIFFIO_RX_B18p | DIFFOUT_B18p | AH30 | DQ6B | | DQ3B | DQ1B | |
| 3B | VREFB3BN0 | IO | | DATA29 | DIFFIO_TX_B19n | DIFFOUT_B19n | AR30 | DQ7B | | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | DATA30 | DIFFIO_TX_B19p | DIFFOUT_B19p | AP30 | DQ7B | | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | DATA31 | DIFFIO_RX_B20n | DIFFOUT_B20n | AU30 | DQS7B | | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | PR_DONE | DIFFIO_RX_B20p | DIFFOUT_B20p | AT30 | DQS7B | | DQ4B/CQn4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | PR_REQUEST | DIFFIO_TX_B21n | DIFFOUT_B21n | AN30 | DQ7B | | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | PR_READY | DIFFIO_TX_B21p | DIFFOUT_B21p | AN29 | DQ7B | | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK0n | | DIFFIO_RX_B22n | DIFFOUT_B22n | AW29 | DQS8B | | DQSn4B/DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK0p | | DIFFIO_RX_B22p | DIFFOUT_B22p | AV29 | DQS8B | | DQS4B/CQ4B | DQ2B/CQn2B | DQ1B |
| 3B | VREFB3BN0 | IO | | PR_ERROR | DIFFIO_TX_B23n | DIFFOUT_B23n | AU29 | DQ8B | | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | CvP_CONFDONE | DIFFIO_TX_B23p | DIFFOUT_B23p | AT29 | DQ8B | | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK1n | | DIFFIO_RX_B24n | DIFFOUT_B24n | AW28 | DQ8B | | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK1p | | DIFFIO_RX_B24p | DIFFOUT_B24p | AV28 | DQ8B | | DQ4B | DQ2B | DQ1B |



Pin Information for the Stratix® V 5SGSD8 Device
Version 1.1
Note (1)

| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------|---|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 3B | VREFB3BN0 | IO | FPLL_BL_CLKOUT1,FPLL_BL_CLKOUTn | | DIFFIO_TX_B25n | DIFFOUT_B25n | AE30 | DQ9B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | FPLL_BL_CLKOUT0,FPLL_BL_CLKOUTp,FPLL_BL_FB0 | | DIFFIO_TX_B25p | DIFFOUT_B25p | AD30 | DQ9B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | FPLL_BL_CLKOUT3,FPLL_BL_FBn | | DIFFIO_RX_B26n | DIFFOUT_B26n | AC30 | DQSn9B | DQ5B | DQSn2B/DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | FPLL_BL_CLKOUT2,FPLL_BL_FBp,FPLL_BL_FB1 | | DIFFIO_RX_B26p | DIFFOUT_B26p | AB30 | DQSn9B | DQ5B/CQn5B | DQSn2B/CQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | nPERSTL0 | DIFFIO_TX_B27n | DIFFOUT_B27n | AC28 | DQ9B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | nPERSTL1 | DIFFIO_TX_B27p | DIFFOUT_B27p | AB28 | DQ9B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK2n | | DIFFIO_RX_B28n | DIFFOUT_B28n | AG30 | DQSn10B | DQSn5B/DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK2p | | DIFFIO_RX_B28p | DIFFOUT_B28p | AF29 | DQSn10B | DQSn5B/CQ5B | DQ2B | DQ1B/CQn1B |
| 3B | VREFB3BN0 | IO | | nPERSTR1 | DIFFIO_TX_B29n | DIFFOUT_B29n | AE29 | DQ10B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | nPERSTR0 | DIFFIO_TX_B29p | DIFFOUT_B29p | AF28 | DQ10B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK3n | | DIFFIO_RX_B30n | DIFFOUT_B30n | AH28 | DQ10B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK3p | | DIFFIO_RX_B30p | DIFFOUT_B30p | AG28 | DQ10B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B31n | DIFFOUT_B31n | AL30 | DQ11B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B31p | DIFFOUT_B31p | AK30 | DQ11B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B32n | DIFFOUT_B32n | AM29 | DQSn11B | DQ6B | DQ3B | DQSn1B/DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B32p | DIFFOUT_B32p | AL29 | DQSn11B | DQ6B/CQn6B | DQ3B | DQSn1B/CQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B33n | DIFFOUT_B33n | AJ29 | DQ11B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B33p | DIFFOUT_B33p | AK29 | DQ11B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B34n | DIFFOUT_B34n | AR28 | DQSn12B | DQSn6B/DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B34p | DIFFOUT_B34p | AP28 | DQSn12B | DQSn6B/CQ6B | DQ3B/CQn3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B35n | DIFFOUT_B35n | AL28 | DQ12B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B35p | DIFFOUT_B35p | AL27 | DQ12B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B36n | DIFFOUT_B36n | AN28 | DQ12B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B36p | DIFFOUT_B36p | AM28 | DQ12B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B37n | DIFFOUT_B37n | AA27 | DQ13B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B37p | DIFFOUT_B37p | AA26 | DQ13B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B38n | DIFFOUT_B38n | AA29 | DQSn13B | DQ7B | DQSn3B/DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B38p | DIFFOUT_B38p | AA28 | DQSn13B | DQ7B/CQn7B | DQSn3B/CQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B39n | DIFFOUT_B39n | AC27 | DQ13B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B39p | DIFFOUT_B39p | AB27 | DQ13B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B40n | DIFFOUT_B40n | AE27 | DQSn14B | DQSn7B/DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B40p | DIFFOUT_B40p | AD27 | DQSn14B | DQSn7B/CQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B41n | DIFFOUT_B41n | AH27 | DQ14B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B41p | DIFFOUT_B41p | AG27 | DQ14B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B42n | DIFFOUT_B42n | AK27 | DQ14B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B42p | DIFFOUT_B42p | AJ27 | DQ14B | DQ7B | DQ3B | DQ1B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B43n | DIFFOUT_B43n | AU27 | DQ15B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B43p | DIFFOUT_B43p | AT27 | DQ15B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B44n | DIFFOUT_B44n | AW26 | DQSn15B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B44p | DIFFOUT_B44p | AV26 | DQSn15B | DQ8B/CQn8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B45n | DIFFOUT_B45n | AU26 | DQ15B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B45p | DIFFOUT_B45p | AT26 | DQ15B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B46n | DIFFOUT_B46n | AR27 | DQSn16B | DQSn8B/DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B46p | DIFFOUT_B46p | AP27 | DQSn16B | DQSn8B/CQ8B | DQ4B/CQn4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B47n | DIFFOUT_B47n | AM26 | DQ16B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B47p | DIFFOUT_B47p | AL26 | DQ16B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B48n | DIFFOUT_B48n | AN27 | DQ16B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B48p | DIFFOUT_B48p | AN26 | DQ16B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B49n | DIFFOUT_B49n | AE26 | DQ17B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B49p | DIFFOUT_B49p | AD26 | DQ17B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B50n | DIFFOUT_B50n | AA25 | DQSn17B | DQ9B | DQSn4B/DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B50p | DIFFOUT_B50p | AB25 | DQSn17B | DQ9B/CQn9B | DQSn4B/CQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B51n | DIFFOUT_B51n | AC26 | DQ17B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B51p | DIFFOUT_B51p | AC25 | DQ17B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B52n | DIFFOUT_B52n | AK26 | DQSn18B | DQSn9B/DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B52p | DIFFOUT_B52p | AJ26 | DQSn18B | DQSn9B/CQ9B | DQ4B | DQ2B/CQn2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B53n | DIFFOUT_B53n | AG26 | DQ18B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B53p | DIFFOUT_B53p | AF26 | DQ18B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B54n | DIFFOUT_B54n | AH25 | DQ18B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B54p | DIFFOUT_B54p | AG25 | DQ18B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B55n | DIFFOUT_B55n | AW25 | DQ19B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B55p | DIFFOUT_B55p | AV25 | DQ19B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B56n | DIFFOUT_B56n | AU25 | DQSn19B | DQ10B | DQ5B | DQSn2B/DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B56p | DIFFOUT_B56p | AU24 | DQSn19B | DQ10B/CQn10B | DQ5B | DQSn2B/CQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B57n | DIFFOUT_B57n | AT24 | DQ19B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B57p | DIFFOUT_B57p | AR24 | DQ19B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B58n | DIFFOUT_B58n | AR25 | DQSn20B | DQSn10B/DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B58p | DIFFOUT_B58p | AP25 | DQSn20B | DQSn10B/CQ10B | DQ5B/CQn5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B59n | DIFFOUT_B59n | AN25 | DQ20B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B59p | DIFFOUT_B59p | AM25 | DQ20B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B60n | DIFFOUT_B60n | AP24 | DQ20B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B60p | DIFFOUT_B60p | AN24 | DQ20B | DQ10B | DQ5B | DQ2B |



Pin Information for the Stratix® V 5SGSD8 Device
Version 1.1
Note (1)

| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B61n | DIFFOUT_B61n | AC24 | DQ21B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B61p | DIFFOUT_B61p | AB24 | DQ21B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B62n | DIFFOUT_B62n | AF25 | DQSn21B | DQ11B | DQSn5B/DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B62p | DIFFOUT_B62p | AE25 | DQS21B | DQ11B/CQn11B | DQSSB/CQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B63n | DIFFOUT_B63n | AE24 | DQ21B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B63p | DIFFOUT_B63p | AD24 | DQ21B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B64n | DIFFOUT_B64n | AG24 | DQSn22B | DQSn11B/DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B64p | DIFFOUT_B64p | AH24 | DQS22B | DQS11B/CQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B65n | DIFFOUT_B65n | AK24 | DQ22B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B65p | DIFFOUT_B65p | AJ24 | DQ22B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B66n | DIFFOUT_B66n | AL24 | DQ22B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B66p | DIFFOUT_B66p | AL25 | DQ22B | DQ11B | DQ5B | DQ2B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B67n | DIFFOUT_B67n | AW23 | DQ23B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B67p | DIFFOUT_B67p | AV23 | DQ23B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B68n | DIFFOUT_B68n | AW22 | DQSn23B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B68p | DIFFOUT_B68p | AV22 | DQS23B | DQ12B/CQn12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B69n | DIFFOUT_B69n | AU23 | DQ23B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B69p | DIFFOUT_B69p | AT23 | DQ23B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B70n | DIFFOUT_B70n | AR22 | DQSn24B | DQSn12B/DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B70p | DIFFOUT_B70p | AP22 | DQS24B | DQS12B/CQ12B | DQ6B/CQn6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B71n | DIFFOUT_B71n | AN22 | DQ24B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B71p | DIFFOUT_B71p | AM22 | DQ24B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B72n | DIFFOUT_B72n | AN23 | DQ24B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B72p | DIFFOUT_B72p | AM23 | DQ24B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B73n | DIFFOUT_B73n | AE23 | DQ25B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B73p | DIFFOUT_B73p | AD23 | DQ25B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B74n | DIFFOUT_B74n | AG23 | DQSn25B | DQ13B | DQSn6B/DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B74p | DIFFOUT_B74p | AF23 | DQS25B | DQ13B/CQn13B | DQ6B/CQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B75n | DIFFOUT_B75n | AE22 | DQ25B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B75p | DIFFOUT_B75p | AD22 | DQ25B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | CLK4n | | DIFFIO_RX_B76n | DIFFOUT_B76n | AJ22 | DQSn26B | DQSn13B/DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | CLK4p | | DIFFIO_RX_B76p | DIFFOUT_B76p | AH22 | DQS26B | DQS13B/CQ13B | DQ6B | DQ3B/CQn3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B77n | DIFFOUT_B77n | AG22 | DQ26B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B77p | DIFFOUT_B77p | AF22 | DQ26B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | CLK5n | | DIFFIO_RX_B78n | DIFFOUT_B78n | AL23 | DQ26B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | CLK5p | | DIFFIO_RX_B78p | DIFFOUT_B78p | AK23 | DQ26B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B79n | DIFFOUT_B79n | AW20 | DQ27B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B79p | DIFFOUT_B79p | AV20 | DQ27B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B80n | DIFFOUT_B80n | AU21 | DQSn27B | DQ14B | DQ7B | DQ3B/DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B80p | DIFFOUT_B80p | AT21 | DQS27B | DQ14B/CQn14B | DQ7B | DQ3B/CQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B81n | DIFFOUT_B81n | AU20 | DQ27B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B81p | DIFFOUT_B81p | AT20 | DQ27B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B82n | DIFFOUT_B82n | AR21 | DQSn28B | DQSn14B/DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B82p | DIFFOUT_B82p | AR20 | DQS28B | DQS14B/CQ14B | DQ7B/CQn7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B83n | DIFFOUT_B83n | AM20 | DQ28B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B83p | DIFFOUT_B83p | AN20 | DQ28B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B84n | DIFFOUT_B84n | AP21 | DQ28B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B84p | DIFFOUT_B84p | AN21 | DQ28B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B85n | DIFFOUT_B85n | AD21 | DQ29B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B85p | DIFFOUT_B85p | AD20 | DQ29B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B86n | DIFFOUT_B86n | AG21 | DQSn29B | DQ15B | DQSn7B/DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B86p | DIFFOUT_B86p | AH21 | DQS29B | DQ15B/CQn15B | DQS7B/CQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B87n | DIFFOUT_B87n | AE21 | DQ29B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B87p | DIFFOUT_B87p | AE20 | DQ29B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B88n | DIFFOUT_B88n | AL22 | DQSn30B | DQSn15B/DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B88p | DIFFOUT_B88p | AK21 | DQS30B | DQS15B/CQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B89n | DIFFOUT_B89n | AJ21 | DQ30B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B89p | DIFFOUT_B89p | AJ20 | DQ30B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B90n | DIFFOUT_B90n | AL21 | DQ30B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B90p | DIFFOUT_B90p | AL20 | DQ30B | DQ15B | DQ7B | DQ3B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B127n | DIFFOUT_B127n | AH19 | DQ43B | DQ16B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B127p | DIFFOUT_B127p | AG19 | DQ43B | DQ16B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B128n | DIFFOUT_B128n | AK18 | DQSn43B | DQ16B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B128p | DIFFOUT_B128p | AJ19 | DQS43B | DQ16B/CQn16B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B129n | DIFFOUT_B129n | AJ18 | DQ43B | DQ16B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B129p | DIFFOUT_B129p | AH18 | DQ43B | DQ16B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B130n | DIFFOUT_B130n | AG18 | DQSn44B | DQSn16B/DQ16B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B130p | DIFFOUT_B130p | AF19 | DQS44B | DQS16B/CQ16B | DQ8B/CQn8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B131n | DIFFOUT_B131n | AE19 | DQ44B | DQ16B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B131p | DIFFOUT_B131p | AE18 | DQ44B | DQ16B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B132n | DIFFOUT_B132n | AD17 | DQ44B | DQ16B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B132p | DIFFOUT_B132p | AD18 | DQ44B | DQ16B | DQ8B | DQ4B |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------|---|------------------------|-------------------------|------------------------------|-------|------------|----------------|------------------|------------------|
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B133n | DIFFOUT_B133n | AM19 | DQ45B | DQ17B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B133p | DIFFOUT_B133p | AL18 | DQ45B | DQ17B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B134n | DIFFOUT_B134n | AN18 | DQSn45B | DQ17B | DQSn8B/DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B134p | DIFFOUT_B134p | AN19 | DQSn45B | DQ17B/CQn17B | DQSn8B/CQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B135n | DIFFOUT_B135n | AR18 | DQ45B | DQ17B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B135p | DIFFOUT_B135p | AP18 | DQ45B | DQ17B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B136n | DIFFOUT_B136n | AR19 | DQSn46B | DQSn17B/DQ17B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B136p | DIFFOUT_B136p | AP19 | DQSn46B | DQSn17B/CQ17B | DQ8B | DQ4B/CQn4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B137n | DIFFOUT_B137n | AU18 | DQ46B | DQ17B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B137p | DIFFOUT_B137p | AT18 | DQ46B | DQ17B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B138n | DIFFOUT_B138n | AW19 | DQ46B | DQ17B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B138p | DIFFOUT_B138p | AV19 | DQ46B | DQ17B | DQ8B | DQ4B |
| 4D | VREFB4DN0 | IO | FPLL_BC_CLKOUT1,FPLL_BC_CLKOUTn | | DIFFIO_TX_B139n | DIFFOUT_B139n | AJ17 | DQ47B | DQ18B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | FPLL_BC_CLKOUT0,FPLL_BC_CLKOUTp,FPLL_BC_FB0 | | DIFFIO_TX_B139p | DIFFOUT_B139p | AH16 | DQ47B | DQ18B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | FPLL_BC_CLKOUT3,FPLL_BC_FBn | | DIFFIO_RX_B140n | DIFFOUT_B140n | AL17 | DQSn47B | DQ18B | DQ9B | DQSn4B/DQ4B |
| 4D | VREFB4DN0 | IO | FPLL_BC_CLKOUT2,FPLL_BC_FBp,FPLL_BC_FB1 | | DIFFIO_RX_B140p | DIFFOUT_B140p | AK17 | DQSn47B | DQ18B/CQn18B | DQ9B | DQSn4B/CQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B141n | DIFFOUT_B141n | AM16 | DQ47B | DQ18B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B141p | DIFFOUT_B141p | AL16 | DQ47B | DQ18B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | CLK6n | | DIFFIO_RX_B142n | DIFFOUT_B142n | AG17 | DQSn48B | DQSn18B/DQ18B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | CLK6p | | DIFFIO_RX_B142p | DIFFOUT_B142p | AF17 | DQSn48B | DQSn18B/CQ18B | DQ9B/CQn9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B143n | DIFFOUT_B143n | AG16 | DQ48B | DQ18B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B143p | DIFFOUT_B143p | AF16 | DQ48B | DQ18B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | CLK7n | | DIFFIO_RX_B144n | DIFFOUT_B144n | AE16 | DQ48B | DQ18B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | CLK7p | | DIFFIO_RX_B144p | DIFFOUT_B144p | AE17 | DQ48B | DQ18B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B145n | DIFFOUT_B145n | AN17 | DQ49B | DQ19B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B145p | DIFFOUT_B145p | AM17 | DQ49B | DQ19B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B146n | DIFFOUT_B146n | AP16 | DQSn49B | DQ19B | DQSn9B/DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B146p | DIFFOUT_B146p | AN16 | DQSn49B | DQ19B/CQn19B | DQSn9B/CQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B147n | DIFFOUT_B147n | AT17 | DQ49B | DQ19B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B147p | DIFFOUT_B147p | AR17 | DQ49B | DQ19B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B148n | DIFFOUT_B148n | AU16 | DQSn50B | DQSn19B/DQ19B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B148p | DIFFOUT_B148p | AU17 | DQSn50B | DQSn19B/CQ19B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B149n | DIFFOUT_B149n | AW16 | DQ50B | DQ19B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_TX_B149p | DIFFOUT_B149p | AV16 | DQ50B | DQ19B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B150n | DIFFOUT_B150n | AW17 | DQ50B | DQ19B | DQ9B | DQ4B |
| 4D | VREFB4DN0 | IO | | | DIFFIO_RX_B150p | DIFFOUT_B150p | AV17 | DQ50B | DQ19B | DQ9B | DQ4B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B151n | DIFFOUT_B151n | AB15 | DQ51B | DQ20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B151p | DIFFOUT_B151p | AB16 | DQ51B | DQ20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B152n | DIFFOUT_B152n | AD16 | DQSn51B | DQ20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B152p | DIFFOUT_B152p | AC15 | DQSn51B | DQ20B/CQn20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B153n | DIFFOUT_B153n | AA15 | DQ51B | DQ20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B153p | DIFFOUT_B153p | AA14 | DQ51B | DQ20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B154n | DIFFOUT_B154n | AE15 | DQSn52B | DQSn20B/DQ20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B154p | DIFFOUT_B154p | AD15 | DQSn52B | DQSn20B/CQn20B | DQ10B/CQn10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B155n | DIFFOUT_B155n | AJ15 | DQ52B | DQ20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B155p | DIFFOUT_B155p | AH15 | DQ52B | DQ20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B156n | DIFFOUT_B156n | AG14 | DQ52B | DQ20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B156p | DIFFOUT_B156p | AG15 | DQ52B | DQ20B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B157n | DIFFOUT_B157n | AL15 | DQ53B | DQ21B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B157p | DIFFOUT_B157p | AK15 | DQ53B | DQ21B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B158n | DIFFOUT_B158n | AL14 | DQSn53B | DQ21B | DQSn10B/DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B158p | DIFFOUT_B158p | AK14 | DQSn53B | DQ21B/CQn21B | DQSn10B/CQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B159n | DIFFOUT_B159n | AN14 | DQ53B | DQ21B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B159p | DIFFOUT_B159p | AM14 | DQ53B | DQ21B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B160n | DIFFOUT_B160n | AP15 | DQSn54B | DQSn21B/DQ21B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B160p | DIFFOUT_B160p | AN15 | DQSn54B | DQSn21B/CQn21B | DQ10B | DQSn5B/CQn5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B161n | DIFFOUT_B161n | AR15 | DQ54B | DQ21B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B161p | DIFFOUT_B161p | AR14 | DQ54B | DQ21B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B162n | DIFFOUT_B162n | AU15 | DQ54B | DQ21B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B162p | DIFFOUT_B162p | AT15 | DQ54B | DQ21B | DQ10B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B163n | DIFFOUT_B163n | AC13 | DQ55B | DQ22B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B163p | DIFFOUT_B163p | AB13 | DQ55B | DQ22B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B164n | DIFFOUT_B164n | AD14 | DQSn55B | DQ22B | DQ11B | DQSn5B/DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B164p | DIFFOUT_B164p | AC14 | DQSn55B | DQ22B/CQn22B | DQ11B | DQSn5B/CQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B165n | DIFFOUT_B165n | AA13 | DQ55B | DQ22B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B165p | DIFFOUT_B165p | AA12 | DQ55B | DQ22B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B166n | DIFFOUT_B166n | AF14 | DQSn56B | DQSn22B/DQ22B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B166p | DIFFOUT_B166p | AE14 | DQSn56B | DQSn22B/CQn22B | DQ11B/CQn11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B167n | DIFFOUT_B167n | AJ13 | DQ56B | DQ22B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B167p | DIFFOUT_B167p | AH13 | DQ56B | DQ22B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B168n | DIFFOUT_B168n | AG13 | DQ56B | DQ22B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B168p | DIFFOUT_B168p | AF13 | DQ56B | DQ22B | DQ11B | DQ5B |



Pin Information for the Stratix® V 5SGSD8 Device
Version 1.1
Note (1)

| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------|---|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B169n | DIFFOUT_B169n | AM13 | DQ57B | DQ23B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B169p | DIFFOUT_B169p | AL13 | DQ57B | DQ23B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B170n | DIFFOUT_B170n | AP12 | DQSn57B | DQ23B | DQSn11B/DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B170p | DIFFOUT_B170p | AN12 | DQSn57B | DQ23B/CQn23B | DQSn11B/CQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B171n | DIFFOUT_B171n | AP13 | DQ57B | DQ23B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B171p | DIFFOUT_B171p | AN13 | DQ57B | DQ23B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B172n | DIFFOUT_B172n | AU14 | DQSn58B | DQSn23B/DQ23B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B172p | DIFFOUT_B172p | AT14 | DQSn58B | DQSn23B/CQ23B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B173n | DIFFOUT_B173n | AW14 | DQ58B | DQ23B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B173p | DIFFOUT_B173p | AV14 | DQ58B | DQ23B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B174n | DIFFOUT_B174n | AW13 | DQ58B | DQ23B | DQ11B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B174p | DIFFOUT_B174p | AV13 | DQ58B | DQ23B | DQ11B | DQ5B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B175n | DIFFOUT_B175n | AC12 | DQ59B | DQ24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B175p | DIFFOUT_B175p | AB12 | DQ59B | DQ24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B176n | DIFFOUT_B176n | AE12 | DQSn59B | DQ24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B176p | DIFFOUT_B176p | AD12 | DQSn59B | DQ24B/CQn24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B177n | DIFFOUT_B177n | AE11 | DQ59B | DQ24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B177p | DIFFOUT_B177p | AE10 | DQ59B | DQ24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B178n | DIFFOUT_B178n | AJ12 | DQSn60B | DQSn24B/DQ24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B178p | DIFFOUT_B178p | AH12 | DQSn60B | DQSn24B/CQ24B | DQ12B/CQn12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B179n | DIFFOUT_B179n | AF11 | DQ60B | DQ24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B179p | DIFFOUT_B179p | AG12 | DQ60B | DQ24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B180n | DIFFOUT_B180n | AK12 | DQ60B | DQ24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B180p | DIFFOUT_B180p | AL12 | DQ60B | DQ24B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B181n | DIFFOUT_B181n | AL11 | DQ61B | DQ25B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B181p | DIFFOUT_B181p | AK11 | DQ61B | DQ25B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B182n | DIFFOUT_B182n | AR12 | DQSn61B | DQ25B | DQSn12B/DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B182p | DIFFOUT_B182p | AR11 | DQSn61B | DQ25B/CQn25B | DQSn12B/CQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B183n | DIFFOUT_B183n | AN11 | DQ61B | DQ25B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B183p | DIFFOUT_B183p | AM11 | DQ61B | DQ25B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B184n | DIFFOUT_B184n | AU12 | DQSn62B | DQSn25B/DQ25B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B184p | DIFFOUT_B184p | AT12 | DQSn62B | DQSn25B/CQ25B | DQ12B | DQ6B/CQn6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B185n | DIFFOUT_B185n | AU11 | DQ62B | DQ25B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B185p | DIFFOUT_B185p | AT11 | DQ62B | DQ25B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B186n | DIFFOUT_B186n | AW11 | DQ62B | DQ25B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B186p | DIFFOUT_B186p | AV11 | DQ62B | DQ25B | DQ12B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B187n | DIFFOUT_B187n | AC9 | DQ63B | DQ26B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B187p | DIFFOUT_B187p | AB9 | DQ63B | DQ26B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B188n | DIFFOUT_B188n | AC10 | DQSn63B | DQ26B | DQ13B | DQSn6B/DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B188p | DIFFOUT_B188p | AB10 | DQSn63B | DQ26B/CQn26B | DQ13B | DQSn6B/CQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B189n | DIFFOUT_B189n | AE9 | DQ63B | DQ26B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B189p | DIFFOUT_B189p | AD9 | DQ63B | DQ26B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B190n | DIFFOUT_B190n | AG10 | DQSn64B | DQSn26B/DQ26B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B190p | DIFFOUT_B190p | AF10 | DQSn64B | DQSn26B/CQ26B | DQ13B/CQn13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B191n | DIFFOUT_B191n | AH9 | DQ64B | DQ26B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B191p | DIFFOUT_B191p | AG9 | DQ64B | DQ26B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B192n | DIFFOUT_B192n | AJ10 | DQ64B | DQ26B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B192p | DIFFOUT_B192p | AH10 | DQ64B | DQ26B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B193n | DIFFOUT_B193n | AM10 | DQ65B | DQ27B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B193p | DIFFOUT_B193p | AL10 | DQ65B | DQ27B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B194n | DIFFOUT_B194n | AP10 | DQSn65B | DQ27B | DQSn13B/DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B194p | DIFFOUT_B194p | AN10 | DQSn65B | DQ27B/CQn27B | DQSn13B/CQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B195n | DIFFOUT_B195n | AP9 | DQ65B | DQ27B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B195p | DIFFOUT_B195p | AN9 | DQ65B | DQ27B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B196n | DIFFOUT_B196n | AW10 | DQSn66B | DQSn27B/DQ27B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B196p | DIFFOUT_B196p | AV10 | DQSn66B | DQSn27B/CQ27B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B197n | DIFFOUT_B197n | AT9 | DQ66B | DQ27B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B197p | DIFFOUT_B197p | AR9 | DQ66B | DQ27B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B198n | DIFFOUT_B198n | AU10 | DQ66B | DQ27B | DQ13B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B198p | DIFFOUT_B198p | AU9 | DQ66B | DQ27B | DQ13B | DQ6B |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B199n | DIFFOUT_B199n | AW8 | DQ67B | DQ28B | DQ14B | DQ6B |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B199p | DIFFOUT_B199p | AV8 | DQ67B | DQ28B | DQ14B | DQ6B |
| 4A | VREFB4AN0 | IO | CLK11n | | DIFFIO_RX_B200n | DIFFOUT_B200n | AW7 | DQSn67B | DQ28B | DQ14B | DQ6B |
| 4A | VREFB4AN0 | IO | CLK11p | | DIFFIO_RX_B200p | DIFFOUT_B200p | AV7 | DQSn67B | DQ28B/CQn28B | DQ14B | DQ6B |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B201n | DIFFOUT_B201n | AU8 | DQ67B | DQ28B | DQ14B | DQ6B |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B201p | DIFFOUT_B201p | AU7 | DQ67B | DQ28B | DQ14B | DQ6B |
| 4A | VREFB4AN0 | IO | CLK10n | | DIFFIO_RX_B202n | DIFFOUT_B202n | AT8 | DQSn68B | DQSn28B/DQ28B | DQ14B | DQ6B |
| 4A | VREFB4AN0 | IO | CLK10p | | DIFFIO_RX_B202p | DIFFOUT_B202p | AR8 | DQSn68B | DQSn28B/CQ28B | DQ14B/CQn14B | DQ6B |
| 4A | VREFB4AN0 | IO | FPLL_BR_CLKOUT1,FPLL_BR_CLKOUTn | | DIFFIO_TX_B203n | DIFFOUT_B203n | AU6 | DQ68B | DQ28B | DQ14B | DQ6B |
| 4A | VREFB4AN0 | IO | FPLL_BR_CLKOUT0,FPLL_BR_CLKOUTp,FPLL_BR_FB0 | | DIFFIO_TX_B203p | DIFFOUT_B203p | AT6 | DQ68B | DQ28B | DQ14B | DQ6B |
| 4A | VREFB4AN0 | IO | FPLL_BR_CLKOUT3,FPLL_BR_FBn | | DIFFIO_RX_B204n | DIFFOUT_B204n | AR7 | DQ68B | DQ28B | DQ14B | DQ6B |
| 4A | VREFB4AN0 | IO | FPLL_BR_CLKOUT2,FPLL_BR_FBp,FPLL_BR_FB1 | | DIFFIO_RX_B204p | DIFFOUT_B204p | AP7 | DQ68B | DQ28B | DQ14B | DQ6B |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B205n | DIFFOUT_B205n | AR6 | DQ69B | DQ29B | DQ14B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B205p | DIFFOUT_B205p | AP6 | DQ69B | DQ29B | DQ14B | |
| 4A | VREFB4AN0 | IO | CLK9n | | DIFFIO_RX_B206n | DIFFOUT_B206n | AN7 | DQSn69B | DQ29B | DQSn14B/DQ14B | |
| 4A | VREFB4AN0 | IO | CLK9p | | DIFFIO_RX_B206p | DIFFOUT_B206p | AN6 | DQSn69B | DQ29B/CQn29B | DQSn14B/CQ14B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B207n | DIFFOUT_B207n | AM8 | DQ69B | DQ29B | DQ14B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B207p | DIFFOUT_B207p | AN8 | DQ69B | DQ29B | DQ14B | |
| 4A | VREFB4AN0 | IO | CLK8n | | DIFFIO_RX_B208n | DIFFOUT_B208n | AM7 | DQSn70B | DQSn29B/DQ29B | DQ14B | |
| 4A | VREFB4AN0 | IO | CLK8p | | DIFFIO_RX_B208p | DIFFOUT_B208p | AL7 | DQSn70B | DQSn29B/CQ29B | DQ14B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B209n | DIFFOUT_B209n | AJ7 | DQ70B | DQ29B | DQ14B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B209p | DIFFOUT_B209p | AJ6 | DQ70B | DQ29B | DQ14B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_RX_B210n | DIFFOUT_B210n | AL6 | DQ70B | DQ29B | DQ14B | |
| 4A | VREFB4AN0 | IO | RZQ_1 | | DIFFIO_RX_B210p | DIFFOUT_B210p | AK6 | DQ70B | DQ29B | DQ14B | |
| 4A | | GND | | | | | AT5 | | | | |
| 4A | | nCE | | nCE | | | AC8 | | | | |
| 4A | | nSTATUS | | nSTATUS | | | AM5 | | | | |
| 4A | | CONF_DONE | | CONF_DONE | | | AH6 | | | | |
| 4A | | nIO_PULLUP | | nIO_PULLUP | | | AK5 | | | | |
| 4A | | MSEL0 | | MSEL0 | | | AA9 | | | | |
| 4A | | MSEL1 | | MSEL1 | | | AA10 | | | | |
| 4A | | MSEL2 | | MSEL2 | | | AD8 | | | | |
| 4A | | MSEL3 | | MSEL3 | | | AG8 | | | | |
| 4A | | MSEL4 | | MSEL4 | | | AH7 | | | | |
| GXB_R0 | | REFCLK0Rn | | | | | AF5 | | | | |
| GXB_R0 | | REFCLK0Rp | | | | | AF6 | | | | |
| GXB_R0 | | GXB_RX_R0p,GXB_REFCLK_R0p | | | | | AV2 | | | | |
| GXB_R0 | | GXB_RX_R0n,GXB_REFCLK_R0n | | | | | AV1 | | | | |
| GXB_R0 | | GXB_TX_R0p | | | | | AU4 | | | | |
| GXB_R0 | | GXB_TX_R0n | | | | | AU3 | | | | |
| GXB_R0 | | GXB_RX_R1p,GXB_REFCLK_R1p | | | | | AT2 | | | | |
| GXB_R0 | | GXB_RX_R1n,GXB_REFCLK_R1n | | | | | AT1 | | | | |
| GXB_R0 | | GXB_TX_R1p | | | | | AR4 | | | | |
| GXB_R0 | | GXB_TX_R1n | | | | | AR3 | | | | |
| GXB_R0 | | GXB_RX_R2p,GXB_REFCLK_R2p | | | | | AP2 | | | | |
| GXB_R0 | | GXB_RX_R2n,GXB_REFCLK_R2n | | | | | AP1 | | | | |
| GXB_R0 | | GXB_TX_R2p | | | | | AN4 | | | | |
| GXB_R0 | | GXB_TX_R2n | | | | | AN3 | | | | |
| GXB_R0 | | GXB_RX_R3p,GXB_REFCLK_R3p | | | | | AM2 | | | | |
| GXB_R0 | | GXB_RX_R3n,GXB_REFCLK_R3n | | | | | AM1 | | | | |
| GXB_R0 | | GXB_TX_R3p | | | | | AL4 | | | | |
| GXB_R0 | | GXB_TX_R3n | | | | | AL3 | | | | |
| GXB_R0 | | GXB_RX_R4p,GXB_REFCLK_R4p | | | | | AK2 | | | | |
| GXB_R0 | | GXB_RX_R4n,GXB_REFCLK_R4n | | | | | AK1 | | | | |
| GXB_R0 | | GXB_TX_R4p | | | | | AJ4 | | | | |
| GXB_R0 | | GXB_TX_R4n | | | | | AJ3 | | | | |
| GXB_R0 | | GXB_RX_R5p,GXB_REFCLK_R5p | | | | | AH2 | | | | |
| GXB_R0 | | GXB_RX_R5n,GXB_REFCLK_R5n | | | | | AH1 | | | | |
| GXB_R0 | | GXB_TX_R5p | | | | | AG4 | | | | |
| GXB_R0 | | GXB_TX_R5n | | | | | AG3 | | | | |
| GXB_R0 | | REFCLK1Rn | | | | | AD6 | | | | |
| GXB_R0 | | REFCLK1Rp | | | | | AD7 | | | | |
| GXB_R1 | | REFCLK2Rn | | | | | AB5 | | | | |
| GXB_R1 | | REFCLK2Rp | | | | | AB6 | | | | |
| GXB_R1 | | GXB_RX_R6p,GXB_REFCLK_R6p | | | | | AF2 | | | | |
| GXB_R1 | | GXB_RX_R6n,GXB_REFCLK_R6n | | | | | AF1 | | | | |
| GXB_R1 | | GXB_TX_R6p | | | | | AE4 | | | | |
| GXB_R1 | | GXB_TX_R6n | | | | | AE3 | | | | |
| GXB_R1 | | GXB_RX_R7p,GXB_REFCLK_R7p | | | | | AD2 | | | | |
| GXB_R1 | | GXB_RX_R7n,GXB_REFCLK_R7n | | | | | AD1 | | | | |
| GXB_R1 | | GXB_TX_R7p | | | | | AC4 | | | | |
| GXB_R1 | | GXB_TX_R7n | | | | | AC3 | | | | |
| GXB_R1 | | GXB_RX_R8p,GXB_REFCLK_R8p | | | | | AB2 | | | | |
| GXB_R1 | | GXB_RX_R8n,GXB_REFCLK_R8n | | | | | AB1 | | | | |
| GXB_R1 | | GXB_TX_R8p | | | | | AA4 | | | | |
| GXB_R1 | | GXB_TX_R8n | | | | | AA3 | | | | |
| GXB_R1 | | GXB_RX_R9p,GXB_REFCLK_R9p | | | | | Y2 | | | | |
| GXB_R1 | | GXB_RX_R9n,GXB_REFCLK_R9n | | | | | Y1 | | | | |
| GXB_R1 | | GXB_TX_R9p | | | | | W4 | | | | |
| GXB_R1 | | GXB_TX_R9n | | | | | W3 | | | | |
| GXB_R1 | | GXB_RX_R10p,GXB_REFCLK_R10p | | | | | V2 | | | | |
| GXB_R1 | | GXB_RX_R10n,GXB_REFCLK_R10n | | | | | V1 | | | | |
| GXB_R1 | | GXB_TX_R10p | | | | | U4 | | | | |
| GXB_R1 | | GXB_TX_R10n | | | | | U3 | | | | |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------------|---|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| GXB_R1 | | GXB_RX_R11p,GXB_REFCLK_R11p | | | | | T2 | | | | |
| GXB_R1 | | GXB_RX_R11n,GXB_REFCLK_R11n | | | | | T1 | | | | |
| GXB_R1 | | GXB_TX_R11p | | | | | R4 | | | | |
| GXB_R1 | | GXB_TX_R11n | | | | | R3 | | | | |
| GXB_R1 | | REFCLK3Rn | | | | | Y6 | | | | |
| GXB_R1 | | REFCLK3Rp | | | | | Y7 | | | | |
| GXB_R2 | | REFCLK4Rn | | | | | V5 | | | | |
| GXB_R2 | | REFCLK4Rp | | | | | V6 | | | | |
| GXB_R2 | | GXB_RX_R12p,GXB_REFCLK_R12p | | | | | P2 | | | | |
| GXB_R2 | | GXB_RX_R12n,GXB_REFCLK_R12n | | | | | P1 | | | | |
| GXB_R2 | | GXB_TX_R12p | | | | | N4 | | | | |
| GXB_R2 | | GXB_TX_R12n | | | | | N3 | | | | |
| GXB_R2 | | GXB_RX_R13p,GXB_REFCLK_R13p | | | | | M2 | | | | |
| GXB_R2 | | GXB_RX_R13n,GXB_REFCLK_R13n | | | | | M1 | | | | |
| GXB_R2 | | GXB_TX_R13p | | | | | L4 | | | | |
| GXB_R2 | | GXB_TX_R13n | | | | | L3 | | | | |
| GXB_R2 | | GXB_RX_R14p,GXB_REFCLK_R14p | | | | | K2 | | | | |
| GXB_R2 | | GXB_RX_R14n,GXB_REFCLK_R14n | | | | | K1 | | | | |
| GXB_R2 | | GXB_TX_R14p | | | | | J4 | | | | |
| GXB_R2 | | GXB_TX_R14n | | | | | J3 | | | | |
| GXB_R2 | | GXB_RX_R15p,GXB_REFCLK_R15p | | | | | H2 | | | | |
| GXB_R2 | | GXB_RX_R15n,GXB_REFCLK_R15n | | | | | H1 | | | | |
| GXB_R2 | | GXB_TX_R15p | | | | | G4 | | | | |
| GXB_R2 | | GXB_TX_R15n | | | | | G3 | | | | |
| GXB_R2 | | GXB_RX_R16p,GXB_REFCLK_R16p | | | | | F2 | | | | |
| GXB_R2 | | GXB_RX_R16n,GXB_REFCLK_R16n | | | | | F1 | | | | |
| GXB_R2 | | GXB_TX_R16p | | | | | E4 | | | | |
| GXB_R2 | | GXB_TX_R16n | | | | | E3 | | | | |
| GXB_R2 | | GXB_RX_R17p,GXB_REFCLK_R17p | | | | | D2 | | | | |
| GXB_R2 | | GXB_RX_R17n,GXB_REFCLK_R17n | | | | | D1 | | | | |
| GXB_R2 | | GXB_TX_R17p | | | | | C4 | | | | |
| GXB_R2 | | GXB_TX_R17n | | | | | C3 | | | | |
| GXB_R2 | | REFCLK5Rn | | | | | T6 | | | | |
| GXB_R2 | | REFCLK5Rp | | | | | T7 | | | | |
| 7A | | GND | | | | | M5 | | | | |
| 7A | VREFB7A00 | IO | RZQ_4 | | DIFFIO_RX_T1p | DIFFOUT_T1p | J6 | DQ1T | DQ1T | DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_RX_T1n | DIFFOUT_T1n | H7 | DQ1T | DQ1T | DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_TX_T2p | DIFFOUT_T2p | J7 | DQ1T | DQ1T | DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_TX_T2n | DIFFOUT_T2n | K7 | DQ1T | DQ1T | DQ1T | |
| 7A | VREFB7A00 | IO | CLK12p | | DIFFIO_RX_T3p | DIFFOUT_T3p | G7 | DQS1T | DQS1T/CQ1T | DQ1T | |
| 7A | VREFB7A00 | IO | CLK12n | | DIFFIO_RX_T3n | DIFFOUT_T3n | G6 | DQSn1T | DQSn1T/DQ1T | DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_TX_T4p | DIFFOUT_T4p | M6 | DQ2T | DQ1T | DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_TX_T4n | DIFFOUT_T4n | N6 | DQ2T | DQ1T | DQ1T | |
| 7A | VREFB7A00 | IO | CLK13p | | DIFFIO_RX_T5p | DIFFOUT_T5p | L6 | DQS2T | DQ1T/CQn1T | DQS1T/CQ1T | |
| 7A | VREFB7A00 | IO | CLK13n | | DIFFIO_RX_T5n | DIFFOUT_T5n | K6 | DQSn2T | DQ1T | DQSn1T/DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_TX_T6p | DIFFOUT_T6p | P7 | DQ2T | DQ1T | DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_TX_T6n | DIFFOUT_T6n | N7 | DQ2T | DQ1T | DQ1T | |
| 7A | VREFB7A00 | IO | FPLL_TR_CLKOUT2,FPLL_TR_FBp,FPLL_TR_FB1 | | DIFFIO_RX_T7p | DIFFOUT_T7p | A3 | DQ3T | DQ2T | DQ1T | |
| 7A | VREFB7A00 | IO | FPLL_TR_CLKOUT3,FPLL_TR_FBn | | DIFFIO_RX_T7n | DIFFOUT_T7n | A4 | DQ3T | DQ2T | DQ1T | |
| 7A | VREFB7A00 | IO | FPLL_TR_CLKOUT0,FPLL_TR_CLKOUTp,FPLL_TR_FB0 | | DIFFIO_TX_T8p | DIFFOUT_T8p | A6 | DQ3T | DQ2T | DQ1T | |
| 7A | VREFB7A00 | IO | FPLL_TR_CLKOUT1,FPLL_TR_CLKOUTn | | DIFFIO_TX_T8n | DIFFOUT_T8n | A5 | DQ3T | DQ2T | DQ1T | |
| 7A | VREFB7A00 | IO | CLK14p | | DIFFIO_RX_T9p | DIFFOUT_T9p | B7 | DQS3T | DQS2T/CQ2T | DQ1T/CQn1T | |
| 7A | VREFB7A00 | IO | CLK14n | | DIFFIO_RX_T9n | DIFFOUT_T9n | A7 | DQSn3T | DQSn2T/DQ2T | DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_TX_T10p | DIFFOUT_T10p | E6 | DQ4T | DQ2T | DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_TX_T10n | DIFFOUT_T10n | D6 | DQ4T | DQ2T | DQ1T | |
| 7A | VREFB7A00 | IO | CLK15p | | DIFFIO_RX_T11p | DIFFOUT_T11p | D7 | DQS4T | DQ2T/CQn2T | DQ1T | |
| 7A | VREFB7A00 | IO | CLK15n | | DIFFIO_RX_T11n | DIFFOUT_T11n | C7 | DQSn4T | DQ2T | DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_TX_T12p | DIFFOUT_T12p | F6 | DQ4T | DQ2T | DQ1T | |
| 7A | VREFB7A00 | IO | | | DIFFIO_TX_T12n | DIFFOUT_T12n | E7 | DQ4T | DQ2T | DQ1T | |
| 7B | VREFB7B00 | IO | | | DIFFIO_RX_T13p | DIFFOUT_T13p | F8 | DQ5T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_RX_T13n | DIFFOUT_T13n | E8 | DQ5T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_TX_T14p | DIFFOUT_T14p | G9 | DQ5T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_TX_T14n | DIFFOUT_T14n | G8 | DQ5T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_RX_T15p | DIFFOUT_T15p | G10 | DQSn5T | DQS3T/CQ3T | DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_RX_T15n | DIFFOUT_T15n | F9 | DQSn5T | DQSn3T/DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_TX_T16p | DIFFOUT_T16p | A8 | DQ6T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_TX_T16n | DIFFOUT_T16n | B8 | DQ6T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_RX_T17p | DIFFOUT_T17p | C8 | DQSn6T | DQ3T/CQn3T | DQS2T/CQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_RX_T17n | DIFFOUT_T17n | C9 | DQSn6T | DQ3T | DQSn2T/DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_TX_T18p | DIFFOUT_T18p | E9 | DQ6T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_TX_T18n | DIFFOUT_T18n | D9 | DQ6T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B00 | IO | | | DIFFIO_RX_T19p | DIFFOUT_T19p | M8 | DQ7T | DQ4T | DQ2T | DQ1T |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T19n | DIFFOUT_T19n | L8 | DQ7T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T20p | DIFFOUT_T20p | K9 | DQ7T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T20n | DIFFOUT_T20n | J9 | DQ7T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T21p | DIFFOUT_T21p | M9 | DQS7T | DQS4T/CQ4T | DQ2T/CQn2T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T21n | DIFFOUT_T21n | L9 | DQSn7T | DQSn4T/DQ4T | DQ2T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T22p | DIFFOUT_T22p | N8 | DQ8T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T22n | DIFFOUT_T22n | N9 | DQ8T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T23p | DIFFOUT_T23p | T9 | DQS8T | DQ4T/CQn4T | DQ2T | DQS1T/CQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T23n | DIFFOUT_T23n | R9 | DQSn8T | DQ4T | DQ2T | DQSn1T/DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T24p | DIFFOUT_T24p | R8 | DQ8T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T24n | DIFFOUT_T24n | P8 | DQ8T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T25p | DIFFOUT_T25p | H11 | DQ9T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T25n | DIFFOUT_T25n | G11 | DQ9T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T26p | DIFFOUT_T26p | J10 | DQ9T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T26n | DIFFOUT_T26n | H10 | DQ9T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T27p | DIFFOUT_T27p | F11 | DQS9T | DQS5T/CQ5T | DQ3T | DQ1T/CQn1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T27n | DIFFOUT_T27n | E11 | DQSn9T | DQSn5T/DQ5T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T28p | DIFFOUT_T28p | D10 | DQ10T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T28n | DIFFOUT_T28n | C10 | DQ10T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T29p | DIFFOUT_T29p | B10 | DQS10T | DQ5T/CQn5T | DQS3T/CQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T29n | DIFFOUT_T29n | A10 | DQSn10T | DQ5T | DQSn3T/DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T30p | DIFFOUT_T30p | B11 | DQ10T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T30n | DIFFOUT_T30n | A11 | DQ10T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T31p | DIFFOUT_T31p | K10 | DQ11T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T31n | DIFFOUT_T31n | J11 | DQ11T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T32p | DIFFOUT_T32p | P10 | DQ11T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T32n | DIFFOUT_T32n | N10 | DQ11T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T33p | DIFFOUT_T33p | M11 | DQS11T | DQS6T/CQ6T | DQ3T/CQn3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T33n | DIFFOUT_T33n | L11 | DQSn11T | DQSn6T/DQ6T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T34p | DIFFOUT_T34p | T10 | DQ12T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T34n | DIFFOUT_T34n | R10 | DQ12T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T35p | DIFFOUT_T35p | R11 | DQS12T | DQ6T/CQn6T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_RX_T35n | DIFFOUT_T35n | P11 | DQSn12T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T36p | DIFFOUT_T36p | U10 | DQ12T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7BN0 | IO | | | DIFFIO_TX_T36n | DIFFOUT_T36n | U9 | DQ12T | DQ6T | DQ3T | DQ1T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T37p | DIFFOUT_T37p | B13 | DQ13T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T37n | DIFFOUT_T37n | A13 | DQ13T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T38p | DIFFOUT_T38p | D12 | DQ13T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T38n | DIFFOUT_T38n | C12 | DQ13T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T39p | DIFFOUT_T39p | D13 | DQS13T | DQS7T/CQ7T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T39n | DIFFOUT_T39n | C13 | DQSn13T | DQSn7T/DQ7T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T40p | DIFFOUT_T40p | G12 | DQ14T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T40n | DIFFOUT_T40n | G13 | DQ14T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T41p | DIFFOUT_T41p | F12 | DQS14T | DQ7T/CQn7T | DQS4T/CQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T41n | DIFFOUT_T41n | E12 | DQSn14T | DQ7T | DQSn4T/DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T42p | DIFFOUT_T42p | J13 | DQ14T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T42n | DIFFOUT_T42n | H13 | DQ14T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T43p | DIFFOUT_T43p | M12 | DQ15T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T43n | DIFFOUT_T43n | L12 | DQ15T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T44p | DIFFOUT_T44p | K12 | DQ15T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T44n | DIFFOUT_T44n | J12 | DQ15T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T45p | DIFFOUT_T45p | L13 | DQS15T | DQS8T/CQ8T | DQ4T/CQn4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T45n | DIFFOUT_T45n | K13 | DQSn15T | DQSn8T/DQ8T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T46p | DIFFOUT_T46p | N13 | DQ16T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T46n | DIFFOUT_T46n | N12 | DQ16T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T47p | DIFFOUT_T47p | U11 | DQS16T | DQ8T/CQn8T | DQ4T | DQS2T/CQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T47n | DIFFOUT_T47n | T12 | DQSn16T | DQ8T | DQ4T | DQSn2T/DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T48p | DIFFOUT_T48p | R12 | DQ16T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T48n | DIFFOUT_T48n | P13 | DQ16T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T49p | DIFFOUT_T49p | C14 | DQ17T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T49n | DIFFOUT_T49n | C15 | DQ17T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T50p | DIFFOUT_T50p | B14 | DQ17T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T50n | DIFFOUT_T50n | A14 | DQ17T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T51p | DIFFOUT_T51p | E15 | DQS17T | DQS9T/CQ9T | DQ5T | DQ2T/CQn2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T51n | DIFFOUT_T51n | D15 | DQSn17T | DQSn9T/DQ9T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T52p | DIFFOUT_T52p | F14 | DQ18T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T52n | DIFFOUT_T52n | E14 | DQ18T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T53p | DIFFOUT_T53p | G15 | DQS18T | DQ9T/CQn9T | DQS5T/CQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T53n | DIFFOUT_T53n | F15 | DQSn18T | DQ9T | DQSn5T/DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T54p | DIFFOUT_T54p | H14 | DQ18T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T54n | DIFFOUT_T54n | G14 | DQ18T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T55p | DIFFOUT_T55p | U13 | DQ19T | DQ10T | DQ5T | DQ2T |



Pin Information for the Stratix® V 5SGSD8 Device
Version 1.1
Note (1)

| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------|---|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T55n | DIFFOUT_T55n | U12 | DQ19T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T56p | DIFFOUT_T56p | T13 | DQ19T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T56n | DIFFOUT_T56n | U14 | DQ19T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T57p | DIFFOUT_T57p | R14 | DQS19T | DQS10T/CQ10T | DQ5T/CQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T57n | DIFFOUT_T57n | P14 | DQSn19T | DQSn10T/DQ10T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T58p | DIFFOUT_T58p | N14 | DQ20T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T58n | DIFFOUT_T58n | M14 | DQ20T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T59p | DIFFOUT_T59p | J14 | DQS20T | DQ10T/CQn10T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_RX_T59n | DIFFOUT_T59n | J15 | DQSn20T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T60p | DIFFOUT_T60p | L15 | DQ20T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7CN0 | IO | | | DIFFIO_TX_T60n | DIFFOUT_T60n | K15 | DQ20T | DQ10T | DQ5T | DQ2T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T61p | DIFFOUT_T61p | B17 | DQ21T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T61n | DIFFOUT_T61n | A17 | DQ21T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T62p | DIFFOUT_T62p | B16 | DQ21T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T62n | DIFFOUT_T62n | A16 | DQ21T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T63p | DIFFOUT_T63p | D16 | DQS21T | DQS11T/CQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T63n | DIFFOUT_T63n | C16 | DQSn21T | DQSn11T/DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T64p | DIFFOUT_T64p | F17 | DQ22T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T64n | DIFFOUT_T64n | E17 | DQ22T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T65p | DIFFOUT_T65p | H16 | DQS22T | DQ11T/CQn11T | DQ6T/CQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T65n | DIFFOUT_T65n | G16 | DQSn22T | DQSn11T | DQ6T/CQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T66p | DIFFOUT_T66p | H17 | DQ22T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T66n | DIFFOUT_T66n | G17 | DQ22T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | CLK19p | | DIFFIO_RX_T67p | DIFFOUT_T67p | U15 | DQ23T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | CLK19n | | DIFFIO_RX_T67n | DIFFOUT_T67n | T16 | DQ23T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T68p | DIFFOUT_T68p | T15 | DQ23T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T68n | DIFFOUT_T68n | R15 | DQ23T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | CLK18p | | DIFFIO_RX_T69p | DIFFOUT_T69p | P16 | DQS23T | DQS12T/CQ12T | DQ6T/CQn6T | DQ3T |
| 7D | VREFB7DN0 | IO | CLK18n | | DIFFIO_RX_T69n | DIFFOUT_T69n | N16 | DQSn23T | DQSn12T/DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T70p | DIFFOUT_T70p | N15 | DQ24T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T70n | DIFFOUT_T70n | M15 | DQ24T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | FPLL_TC_CLKOUT2,FPLL_TC_FbP,FPLL_TC_FB1 | | DIFFIO_RX_T71p | DIFFOUT_T71p | J16 | DQS24T | DQ12T/CQn12T | DQ6T | DQS3T/CQ3T |
| 7D | VREFB7DN0 | IO | FPLL_TC_CLKOUT3,FPLL_TC_FbN | | DIFFIO_RX_T71n | DIFFOUT_T71n | J17 | DQSn24T | DQ12T | DQ6T | DQSn3T/DQ3T |
| 7D | VREFB7DN0 | IO | FPLL_TC_CLKOUT0,FPLL_TC_CLKOUTp,FPLL_TC_FB0 | | DIFFIO_TX_T72p | DIFFOUT_T72p | L16 | DQ24T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | FPLL_TC_CLKOUT1,FPLL_TC_CLKOUTn | | DIFFIO_TX_T72n | DIFFOUT_T72n | K16 | DQ24T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T73p | DIFFOUT_T73p | B19 | DQ25T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T73n | DIFFOUT_T73n | A19 | DQ25T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T74p | DIFFOUT_T74p | D18 | DQ25T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T74n | DIFFOUT_T74n | C18 | DQ25T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T75p | DIFFOUT_T75p | D19 | DQS25T | DQS13T/CQ13T | DQ7T | DQ3T/CQn3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T75n | DIFFOUT_T75n | C19 | DQSn25T | DQSn13T/DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T76p | DIFFOUT_T76p | E18 | DQ26T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T76n | DIFFOUT_T76n | E19 | DQ26T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T77p | DIFFOUT_T77p | G18 | DQS26T | DQ13T/CQn13T | DQS7T/CQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T77n | DIFFOUT_T77n | F18 | DQSn26T | DQ13T | DQSn7T/DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T78p | DIFFOUT_T78p | H19 | DQ26T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T78n | DIFFOUT_T78n | G19 | DQ26T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T79p | DIFFOUT_T79p | N17 | DQ27T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T79n | DIFFOUT_T79n | M17 | DQ27T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T80p | DIFFOUT_T80p | R16 | DQ27T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T80n | DIFFOUT_T80n | P17 | DQ27T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T81p | DIFFOUT_T81p | N18 | DQS27T | DQS14T/CQ14T | DQ7T/CQn7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T81n | DIFFOUT_T81n | N19 | DQSn27T | DQSn14T/DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T82p | DIFFOUT_T82p | M18 | DQ28T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T82n | DIFFOUT_T82n | L18 | DQ28T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T83p | DIFFOUT_T83p | K18 | DQS28T | DQ14T/CQn14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T83n | DIFFOUT_T83n | J18 | DQSn28T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T84p | DIFFOUT_T84p | K19 | DQ28T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T84n | DIFFOUT_T84n | L19 | DQ28T | DQ14T | DQ7T | DQ3T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T121p | DIFFOUT_T121p | K21 | DQ41T | DQ15T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T121n | DIFFOUT_T121n | J21 | DQ41T | DQ15T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T122p | DIFFOUT_T122p | M20 | DQ41T | DQ15T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T122n | DIFFOUT_T122n | L20 | DQ41T | DQ15T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T123p | DIFFOUT_T123p | K22 | DQS41T | DQS15T/CQ15T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T123n | DIFFOUT_T123n | J22 | DQSn41T | DQSn15T/DQ15T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T124p | DIFFOUT_T124p | M21 | DQ42T | DQ15T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T124n | DIFFOUT_T124n | L21 | DQ42T | DQ15T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T125p | DIFFOUT_T125p | P22 | DQS42T | DQ15T/CQn15T | DQS8T/CQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T125n | DIFFOUT_T125n | N22 | DQSn42T | DQ15T | DQSn8T/DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T126p | DIFFOUT_T126p | N20 | DQ42T | DQ15T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T126n | DIFFOUT_T126n | N21 | DQ42T | DQ15T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T127p | DIFFOUT_T127p | F20 | DQ43T | DQ16T | DQ8T | DQ4T |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T127n | DIFFOUT T127n | E20 | DQ43T | DQ16T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T128p | DIFFOUT T128p | H20 | DQ43T | DQ16T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T128n | DIFFOUT T128n | G20 | DQ43T | DQ16T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T129p | DIFFOUT T129p | G21 | DQS43T | DQS16T/CQ16T | DQ8T/CQn8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T129n | DIFFOUT T129n | F21 | DQSn43T | DQSn16T/DQ16T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T130p | DIFFOUT T130p | C20 | DQ44T | DQ16T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T130n | DIFFOUT T130n | C21 | DQ44T | DQ16T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T131p | DIFFOUT T131p | E21 | DQS44T | DQ16T/CQn16T | DQ8T | DQS4T/CQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T131n | DIFFOUT T131n | D21 | DQSn44T | DQ16T | DQ8T | DQSn4T/DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T132p | DIFFOUT T132p | B20 | DQ44T | DQ16T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T132n | DIFFOUT T132n | A20 | DQ44T | DQ16T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | CLK17p | | DIFFIO_RX T133p | DIFFOUT T133p | M23 | DQ45T | DQ17T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | CLK17n | | DIFFIO_RX T133n | DIFFOUT T133n | L23 | DQ45T | DQ17T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T134p | DIFFOUT T134p | L24 | DQ45T | DQ17T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T134n | DIFFOUT T134n | K24 | DQ45T | DQ17T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | CLK16p | | DIFFIO_RX T135p | DIFFOUT T135p | J23 | DQS45T | DQS17T/CQ17T | DQ9T | DQ4T/CQn4T |
| 8D | VREFB8DN0 | IO | CLK16n | | DIFFIO_RX T135n | DIFFOUT T135n | J24 | DQSn45T | DQSn17T/DQ17T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T136p | DIFFOUT T136p | P23 | DQ46T | DQ17T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T136n | DIFFOUT T136n | N23 | DQ46T | DQ17T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T137p | DIFFOUT T137p | N24 | DQS46T | DQ17T/CQn17T | DQSn9T/CQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T137n | DIFFOUT T137n | M24 | DQSn46T | DQ17T | DQSn9T/DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T138p | DIFFOUT T138p | T24 | DQ46T | DQ17T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T138n | DIFFOUT T138n | R24 | DQ46T | DQ17T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T139p | DIFFOUT T139p | H23 | DQ47T | DQ18T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T139n | DIFFOUT T139n | G23 | DQ47T | DQ18T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T140p | DIFFOUT T140p | H22 | DQ47T | DQ18T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T140n | DIFFOUT T140n | G22 | DQ47T | DQ18T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T141p | DIFFOUT T141p | F23 | DQS47T | DQS18T/CQ18T | DQSn9T/CQn9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T141n | DIFFOUT T141n | E23 | DQSn47T | DQSn18T/DQ18T | DQ8T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T142p | DIFFOUT T142p | C22 | DQ48T | DQ18T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T142n | DIFFOUT T142n | D22 | DQ48T | DQ18T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T143p | DIFFOUT T143p | B22 | DQS48T | DQ18T/CQn18T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX T143n | DIFFOUT T143n | A22 | DQSn48T | DQ18T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T144p | DIFFOUT T144p | B23 | DQ48T | DQ18T | DQ9T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX T144n | DIFFOUT T144n | A23 | DQ48T | DQ18T | DQ9T | DQ4T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T145p | DIFFOUT T145p | P25 | DQ49T | DQ19T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T145n | DIFFOUT T145n | N25 | DQ49T | DQ19T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T146p | DIFFOUT T146p | U25 | DQ49T | DQ19T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T146n | DIFFOUT T146n | T25 | DQ49T | DQ19T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T147p | DIFFOUT T147p | R25 | DQS49T | DQS19T/CQ19T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T147n | DIFFOUT T147n | R26 | DQSn49T | DQSn19T/DQ19T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T148p | DIFFOUT T148p | P26 | DQ50T | DQ19T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T148n | DIFFOUT T148n | N26 | DQ50T | DQ19T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T149p | DIFFOUT T149p | M26 | DQS50T | DQ19T/CQn19T | DQS10T/CQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T149n | DIFFOUT T149n | L26 | DQSn50T | DQ19T | DQSn10T/DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T150p | DIFFOUT T150p | K25 | DQ50T | DQ19T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T150n | DIFFOUT T150n | J25 | DQ50T | DQ19T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T151p | DIFFOUT T151p | G24 | DQ51T | DQ20T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T151n | DIFFOUT T151n | F24 | DQ51T | DQ20T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T152p | DIFFOUT T152p | H25 | DQ51T | DQ20T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T152n | DIFFOUT T152n | G25 | DQ51T | DQ20T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T153p | DIFFOUT T153p | E24 | DQS51T | DQS20T/CQ20T | DQ10T/CQn10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T153n | DIFFOUT T153n | E25 | DQSn51T | DQSn20T/DQ20T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T154p | DIFFOUT T154p | D24 | DQ52T | DQ20T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T154n | DIFFOUT T154n | C24 | DQ52T | DQ20T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T155p | DIFFOUT T155p | D25 | DQS52T | DQ20T/CQn20T | DQ10T | DQS5T/CQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T155n | DIFFOUT T155n | C25 | DQSn52T | DQ20T | DQSn10T/DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T156p | DIFFOUT T156p | B25 | DQ52T | DQ20T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T156n | DIFFOUT T156n | A25 | DQ52T | DQ20T | DQ10T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T157p | DIFFOUT T157p | U26 | DQ53T | DQ21T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T157n | DIFFOUT T157n | U27 | DQ53T | DQ21T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T158p | DIFFOUT T158p | T27 | DQ53T | DQ21T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T158n | DIFFOUT T158n | R27 | DQ53T | DQ21T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T159p | DIFFOUT T159p | U28 | DQS53T | DQS21T/CQ21T | DQ11T | DQS5T/CQn5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T159n | DIFFOUT T159n | T28 | DQSn53T | DQSn21T/DQ21T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T160p | DIFFOUT T160p | N27 | DQ54T | DQ21T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T160n | DIFFOUT T160n | P28 | DQ54T | DQ21T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T161p | DIFFOUT T161p | K27 | DQS54T | DQ21T/CQn21T | DQS11T/CQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T161n | DIFFOUT T161n | J27 | DQSn54T | DQ21T | DQSn11T/DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T162p | DIFFOUT T162p | M27 | DQ54T | DQ21T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX T162n | DIFFOUT T162n | L27 | DQ54T | DQ21T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX T163p | DIFFOUT T163p | G26 | DQ55T | DQ22T | DQ11T | DQ5T |



Pin Information for the Stratix® V 5SGSD8 Device
Version 1.1
Note (1)

| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------|---|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T163n | DIFFOUT_T163n | F26 | DQ55T | DQ22T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T164p | DIFFOUT_T164p | J26 | DQ55T | DQ22T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T164n | DIFFOUT_T164n | H26 | DQ55T | DQ22T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T165p | DIFFOUT_T165p | G27 | DQS55T | DQS22T/CQ22T | DQ11T/CQn11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T165n | DIFFOUT_T165n | F27 | DQSn55T | DQSn22T/DQ22T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T166p | DIFFOUT_T166p | E27 | DQ56T | DQ22T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T166n | DIFFOUT_T166n | D27 | DQ56T | DQ22T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T167p | DIFFOUT_T167p | B26 | DQS56T | DQ22T/CQn22T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T167n | DIFFOUT_T167n | A26 | DQSn56T | DQ22T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T168p | DIFFOUT_T168p | C26 | DQ56T | DQ22T | DQ11T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T168n | DIFFOUT_T168n | C27 | DQ56T | DQ22T | DQ11T | DQ5T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T169p | DIFFOUT_T169p | V29 | DQ57T | DQ23T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T169n | DIFFOUT_T169n | U29 | DQ57T | DQ23T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T170p | DIFFOUT_T170p | R29 | DQ57T | DQ23T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T170n | DIFFOUT_T170n | P29 | DQ57T | DQ23T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T171p | DIFFOUT_T171p | U30 | DQS57T | DQS23T/CQ23T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T171n | DIFFOUT_T171n | T30 | DQSn57T | DQSn23T/DQ23T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T172p | DIFFOUT_T172p | N28 | DQ58T | DQ23T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T172n | DIFFOUT_T172n | M29 | DQ58T | DQ23T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T173p | DIFFOUT_T173p | J29 | DQS58T | DQ23T/CQn23T | DQS12T/CQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T173n | DIFFOUT_T173n | J28 | DQSn58T | DQ23T | DQSn12T/DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T174p | DIFFOUT_T174p | L28 | DQ58T | DQ23T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T174n | DIFFOUT_T174n | K28 | DQ58T | DQ23T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T175p | DIFFOUT_T175p | F29 | DQ59T | DQ24T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T175n | DIFFOUT_T175n | E28 | DQ59T | DQ24T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T176p | DIFFOUT_T176p | H28 | DQ59T | DQ24T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T176n | DIFFOUT_T176n | G28 | DQ59T | DQ24T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T177p | DIFFOUT_T177p | H29 | DQS59T | DQS24T/CQ24T | DQ12T/CQn12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T177n | DIFFOUT_T177n | G29 | DQSn59T | DQSn24T/DQ24T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T178p | DIFFOUT_T178p | D28 | DQ60T | DQ24T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T178n | DIFFOUT_T178n | C28 | DQ60T | DQ24T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T179p | DIFFOUT_T179p | B28 | DQS60T | DQ24T/CQn24T | DQ12T | DQS6T/CQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T179n | DIFFOUT_T179n | A28 | DQSn60T | DQ24T | DQ12T | DQSn6T/DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T180p | DIFFOUT_T180p | B29 | DQ60T | DQ24T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T180n | DIFFOUT_T180n | A29 | DQ60T | DQ24T | DQ12T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T181p | DIFFOUT_T181p | N30 | DQ61T | DQ25T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T181n | DIFFOUT_T181n | M30 | DQ61T | DQ25T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T182p | DIFFOUT_T182p | R30 | DQ61T | DQ25T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T182n | DIFFOUT_T182n | R31 | DQ61T | DQ25T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T183p | DIFFOUT_T183p | P31 | DQS61T | DQS25T/CQ25T | DQ13T | DQS6T/CQn6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T183n | DIFFOUT_T183n | N31 | DQSn61T | DQSn25T/DQ25T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T184p | DIFFOUT_T184p | L31 | DQ62T | DQ25T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T184n | DIFFOUT_T184n | L30 | DQ62T | DQ25T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T185p | DIFFOUT_T185p | K30 | DQS62T | DQ25T/CQn25T | DQS13T/CQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T185n | DIFFOUT_T185n | J30 | DQSn62T | DQ25T | DQSn13T/DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T186p | DIFFOUT_T186p | K31 | DQ62T | DQ25T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T186n | DIFFOUT_T186n | J31 | DQ62T | DQ25T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T187p | DIFFOUT_T187p | B31 | DQ63T | DQ26T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T187n | DIFFOUT_T187n | A31 | DQ63T | DQ26T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T188p | DIFFOUT_T188p | D30 | DQ63T | DQ26T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T188n | DIFFOUT_T188n | C30 | DQ63T | DQ26T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T189p | DIFFOUT_T189p | D31 | DQS63T | DQS26T/CQ26T | DQ13T/CQn13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T189n | DIFFOUT_T189n | C31 | DQSn63T | DQSn26T/DQ26T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T190p | DIFFOUT_T190p | G30 | DQ64T | DQ26T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T190n | DIFFOUT_T190n | F30 | DQ64T | DQ26T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T191p | DIFFOUT_T191p | E30 | DQS64T | DQ26T/CQn26T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T191n | DIFFOUT_T191n | E31 | DQSn64T | DQ26T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T192p | DIFFOUT_T192p | H31 | DQ64T | DQ26T | DQ13T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T192n | DIFFOUT_T192n | G31 | DQ64T | DQ26T | DQ13T | DQ6T |
| 8A | VREFB8AN0 | IO | CLK23p | | DIFFIO_RX_T193p | DIFFOUT_T193p | R32 | DQ65T | DQ27T | DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | CLK23n | | DIFFIO_RX_T193n | DIFFOUT_T193n | P32 | DQ65T | DQ27T | DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | | | DIFFIO_TX_T194p | DIFFOUT_T194p | U31 | DQ65T | DQ27T | DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | | | DIFFIO_TX_T194n | DIFFOUT_T194n | T31 | DQ65T | DQ27T | DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | CLK22p | | DIFFIO_RX_T195p | DIFFOUT_T195p | N32 | DQS65T | DQS27T/CQ27T | DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | CLK22n | | DIFFIO_RX_T195n | DIFFOUT_T195n | M32 | DQSn65T | DQSn27T/DQ27T | DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | | | DIFFIO_TX_T196p | DIFFOUT_T196p | N33 | DQ66T | DQ27T | DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | | | DIFFIO_TX_T196n | DIFFOUT_T196n | M33 | DQ66T | DQ27T | DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | FPLL_TL_CLKOUT2,FPLL_TL_FbP,FPLL_TL_FB1 | | DIFFIO_RX_T197p | DIFFOUT_T197p | L33 | DQS66T | DQ27T/CQn27T | DQS14T/CQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | FPLL_TL_CLKOUT3,FPLL_TL_FBn | | DIFFIO_RX_T197n | DIFFOUT_T197n | L34 | DQSn66T | DQ27T | DQSn14T/DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | FPLL_TL_CLKOUT0,FPLL_TL_CLKOUTp,FPLL_TL_FB0 | | DIFFIO_TX_T198p | DIFFOUT_T198p | P34 | DQ66T | DQ27T | DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | FPLL_TL_CLKOUT1,FPLL_TL_CLKOUTn | | DIFFIO_TX_T198n | DIFFOUT_T198n | N34 | DQ66T | DQ27T | DQ14T | DQ6T |
| 8A | VREFB8AN0 | IO | CLK21p | | DIFFIO_RX_T199p | DIFFOUT_T199p | D33 | DQ67T | DQ28T | DQ14T | DQ6T |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|----------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 8A | VREFB8A0 | IO | CLK21n | | DIFFIO_RX_T199n | DIFFOUT_T199n | C33 | DQ67T | DQ28T | DQ14T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T200p | DIFFOUT_T200p | B32 | DQ67T | DQ28T | DQ14T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T200n | DIFFOUT_T200n | A32 | DQ67T | DQ28T | DQ14T | |
| 8A | VREFB8A0 | IO | CLK20p | | DIFFIO_RX_T201p | DIFFOUT_T201p | E34 | DQS67T | DQS28T/CQ28T | DQ14T/CQn14T | |
| 8A | VREFB8A0 | IO | CLK20n | | DIFFIO_RX_T201n | DIFFOUT_T201n | D34 | DQS67T | DQS28T/DQ28T | DQ14T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T202p | DIFFOUT_T202p | A34 | DQ68T | DQ28T | DQ14T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T202n | DIFFOUT_T202n | A35 | DQ68T | DQ28T | DQ14T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T203p | DIFFOUT_T203p | C34 | DQS68T | DQ28T/CQn28T | DQ14T | |
| 8A | VREFB8A0 | IO | RZQ_5 | | DIFFIO_RX_T203n | DIFFOUT_T203n | B34 | DQS68T | DQ28T | DQ14T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T204p | DIFFOUT_T204p | A36 | DQ68T | DQ28T | DQ14T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T204n | DIFFOUT_T204n | A37 | DQ68T | DQ28T | DQ14T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T205p | DIFFOUT_T205p | E32 | DQ69T | DQ29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T205n | DIFFOUT_T205n | F32 | DQ69T | DQ29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T206p | DIFFOUT_T206p | G33 | DQ69T | DQ29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T206n | DIFFOUT_T206n | G32 | DQ69T | DQ29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T207p | DIFFOUT_T207p | F33 | DQS69T | DQS29T/CQ29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T207n | DIFFOUT_T207n | E33 | DQS69T | DQS29T/DQ29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T208p | DIFFOUT_T208p | K33 | DQ70T | DQ29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T208n | DIFFOUT_T208n | J33 | DQ70T | DQ29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T209p | DIFFOUT_T209p | H34 | DQS70T | DQ29T/CQn29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T209n | DIFFOUT_T209n | G34 | DQS70T | DQ29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T210p | DIFFOUT_T210p | K34 | DQ70T | DQ29T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T210n | DIFFOUT_T210n | J34 | DQ70T | DQ29T | | |
| | | GND | | | | | A38 | | | | |
| | | GND | | | | | AA34 | | | | |
| | | GND | | | | | AA38 | | | | |
| | | GND | | | | | AA39 | | | | |
| | | GND | | | | | AB36 | | | | |
| | | GND | | | | | AB37 | | | | |
| | | GND | | | | | AC33 | | | | |
| | | GND | | | | | AC35 | | | | |
| | | GND | | | | | AC38 | | | | |
| | | GND | | | | | AC39 | | | | |
| | | GND | | | | | AD36 | | | | |
| | | GND | | | | | AD37 | | | | |
| | | GND | | | | | AE34 | | | | |
| | | GND | | | | | AE38 | | | | |
| | | GND | | | | | AE39 | | | | |
| | | GND | | | | | AF36 | | | | |
| | | GND | | | | | AF37 | | | | |
| | | GND | | | | | AG33 | | | | |
| | | GND | | | | | AG35 | | | | |
| | | GND | | | | | AG38 | | | | |
| | | GND | | | | | AG39 | | | | |
| | | GND | | | | | AH36 | | | | |
| | | GND | | | | | AH37 | | | | |
| | | GND | | | | | AJ38 | | | | |
| | | GND | | | | | AJ39 | | | | |
| | | GND | | | | | AK36 | | | | |
| | | GND | | | | | AK37 | | | | |
| | | GND | | | | | AL38 | | | | |
| | | GND | | | | | AL39 | | | | |
| | | GND | | | | | AM36 | | | | |
| | | GND | | | | | AM37 | | | | |
| | | GND | | | | | AN38 | | | | |
| | | GND | | | | | AN39 | | | | |
| | | GND | | | | | AP36 | | | | |
| | | GND | | | | | AP37 | | | | |
| | | GND | | | | | AR38 | | | | |
| | | GND | | | | | AR39 | | | | |
| | | GND | | | | | AT36 | | | | |
| | | GND | | | | | AT37 | | | | |
| | | GND | | | | | AU38 | | | | |
| | | GND | | | | | AU39 | | | | |
| | | GND | | | | | AV36 | | | | |
| | | GND | | | | | AV37 | | | | |
| | | GND | | | | | AW37 | | | | |
| | | GND | | | | | AW38 | | | | |
| | | GND | | | | | B36 | | | | |
| | | GND | | | | | B37 | | | | |
| | | GND | | | | | B38 | | | | |
| | | GND | | | | | C38 | | | | |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | C39 | | | | |
| | | GND | | | | | D36 | | | | |
| | | GND | | | | | D37 | | | | |
| | | GND | | | | | E38 | | | | |
| | | GND | | | | | E39 | | | | |
| | | GND | | | | | F36 | | | | |
| | | GND | | | | | F37 | | | | |
| | | GND | | | | | G38 | | | | |
| | | GND | | | | | G39 | | | | |
| | | GND | | | | | H36 | | | | |
| | | GND | | | | | H37 | | | | |
| | | GND | | | | | J38 | | | | |
| | | GND | | | | | J39 | | | | |
| | | GND | | | | | K36 | | | | |
| | | GND | | | | | K37 | | | | |
| | | GND | | | | | L38 | | | | |
| | | GND | | | | | L39 | | | | |
| | | GND | | | | | M36 | | | | |
| | | GND | | | | | M37 | | | | |
| | | GND | | | | | N38 | | | | |
| | | GND | | | | | N39 | | | | |
| | | GND | | | | | P36 | | | | |
| | | GND | | | | | P37 | | | | |
| | | GND | | | | | R38 | | | | |
| | | GND | | | | | R39 | | | | |
| | | GND | | | | | T36 | | | | |
| | | GND | | | | | T37 | | | | |
| | | GND | | | | | U34 | | | | |
| | | GND | | | | | U38 | | | | |
| | | GND | | | | | U39 | | | | |
| | | GND | | | | | V36 | | | | |
| | | GND | | | | | V37 | | | | |
| | | GND | | | | | W33 | | | | |
| | | GND | | | | | W35 | | | | |
| | | GND | | | | | W38 | | | | |
| | | GND | | | | | W39 | | | | |
| | | GND | | | | | Y36 | | | | |
| | | GND | | | | | Y37 | | | | |
| | | GND | | | | | A2 | | | | |
| | | GND | | | | | AA1 | | | | |
| | | GND | | | | | AA2 | | | | |
| | | GND | | | | | AA6 | | | | |
| | | GND | | | | | AB3 | | | | |
| | | GND | | | | | AB4 | | | | |
| | | GND | | | | | AC1 | | | | |
| | | GND | | | | | AC2 | | | | |
| | | GND | | | | | AC5 | | | | |
| | | GND | | | | | AC7 | | | | |
| | | GND | | | | | AD3 | | | | |
| | | GND | | | | | AD4 | | | | |
| | | GND | | | | | AE1 | | | | |
| | | GND | | | | | AE2 | | | | |
| | | GND | | | | | AE6 | | | | |
| | | GND | | | | | AF3 | | | | |
| | | GND | | | | | AF4 | | | | |
| | | GND | | | | | AG1 | | | | |
| | | GND | | | | | AG2 | | | | |
| | | GND | | | | | AG5 | | | | |
| | | GND | | | | | AG7 | | | | |
| | | GND | | | | | AH3 | | | | |
| | | GND | | | | | AH4 | | | | |
| | | GND | | | | | AJ1 | | | | |
| | | GND | | | | | AJ2 | | | | |
| | | GND | | | | | AK3 | | | | |
| | | GND | | | | | AK4 | | | | |
| | | GND | | | | | AL1 | | | | |
| | | GND | | | | | AL2 | | | | |
| | | GND | | | | | AM3 | | | | |
| | | GND | | | | | AM4 | | | | |
| | | GND | | | | | AN1 | | | | |
| | | GND | | | | | AN2 | | | | |
| | | GND | | | | | AP3 | | | | |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | AP4 | | | | |
| | | GND | | | | | AR1 | | | | |
| | | GND | | | | | AR2 | | | | |
| | | GND | | | | | AT3 | | | | |
| | | GND | | | | | AT4 | | | | |
| | | GND | | | | | AU1 | | | | |
| | | GND | | | | | AU2 | | | | |
| | | GND | | | | | AV3 | | | | |
| | | GND | | | | | AV4 | | | | |
| | | GND | | | | | AW2 | | | | |
| | | GND | | | | | AW3 | | | | |
| | | GND | | | | | B2 | | | | |
| | | GND | | | | | B3 | | | | |
| | | GND | | | | | B4 | | | | |
| | | GND | | | | | C1 | | | | |
| | | GND | | | | | C2 | | | | |
| | | GND | | | | | D3 | | | | |
| | | GND | | | | | D4 | | | | |
| | | GND | | | | | E1 | | | | |
| | | GND | | | | | E2 | | | | |
| | | GND | | | | | F3 | | | | |
| | | GND | | | | | F4 | | | | |
| | | GND | | | | | G1 | | | | |
| | | GND | | | | | G2 | | | | |
| | | GND | | | | | H3 | | | | |
| | | GND | | | | | H4 | | | | |
| | | GND | | | | | J1 | | | | |
| | | GND | | | | | J2 | | | | |
| | | GND | | | | | K3 | | | | |
| | | GND | | | | | K4 | | | | |
| | | GND | | | | | L1 | | | | |
| | | GND | | | | | L2 | | | | |
| | | GND | | | | | M3 | | | | |
| | | GND | | | | | M4 | | | | |
| | | GND | | | | | N1 | | | | |
| | | GND | | | | | N2 | | | | |
| | | GND | | | | | P3 | | | | |
| | | GND | | | | | P4 | | | | |
| | | GND | | | | | R1 | | | | |
| | | GND | | | | | R2 | | | | |
| | | GND | | | | | T3 | | | | |
| | | GND | | | | | T4 | | | | |
| | | GND | | | | | U1 | | | | |
| | | GND | | | | | U2 | | | | |
| | | GND | | | | | U6 | | | | |
| | | GND | | | | | V3 | | | | |
| | | GND | | | | | V4 | | | | |
| | | GND | | | | | W1 | | | | |
| | | GND | | | | | W2 | | | | |
| | | GND | | | | | W5 | | | | |
| | | GND | | | | | W7 | | | | |
| | | GND | | | | | Y3 | | | | |
| | | GND | | | | | Y4 | | | | |
| | | GND | | | | | AA11 | | | | |
| | | GND | | | | | AA17 | | | | |
| | | GND | | | | | AA21 | | | | |
| | | GND | | | | | AA32 | | | | |
| | | GND | | | | | AA8 | | | | |
| | | GND | | | | | AB11 | | | | |
| | | GND | | | | | AB14 | | | | |
| | | GND | | | | | AB23 | | | | |
| | | GND | | | | | AB26 | | | | |
| | | GND | | | | | AB29 | | | | |
| | | GND | | | | | AB32 | | | | |
| | | GND | | | | | AB8 | | | | |
| | | GND | | | | | AC16 | | | | |
| | | GND | | | | | AC18 | | | | |
| | | GND | | | | | AC20 | | | | |
| | | GND | | | | | AC22 | | | | |
| | | GND | | | | | AD10 | | | | |
| | | GND | | | | | AD13 | | | | |
| | | GND | | | | | AD25 | | | | |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | AD28 | | | | |
| | | GND | | | | | AD31 | | | | |
| | | GND | | | | | AE32 | | | | |
| | | GND | | | | | AE8 | | | | |
| | | GND | | | | | AF12 | | | | |
| | | GND | | | | | AF15 | | | | |
| | | GND | | | | | AF18 | | | | |
| | | GND | | | | | AF21 | | | | |
| | | GND | | | | | AF24 | | | | |
| | | GND | | | | | AF27 | | | | |
| | | GND | | | | | AF30 | | | | |
| | | GND | | | | | AF32 | | | | |
| | | GND | | | | | AF8 | | | | |
| | | GND | | | | | AF9 | | | | |
| | | GND | | | | | AH11 | | | | |
| | | GND | | | | | AH14 | | | | |
| | | GND | | | | | AH17 | | | | |
| | | GND | | | | | AH20 | | | | |
| | | GND | | | | | AH23 | | | | |
| | | GND | | | | | AH26 | | | | |
| | | GND | | | | | AH29 | | | | |
| | | GND | | | | | AH32 | | | | |
| | | GND | | | | | AH35 | | | | |
| | | GND | | | | | AH5 | | | | |
| | | GND | | | | | AH8 | | | | |
| | | GND | | | | | AJ35 | | | | |
| | | GND | | | | | AJ5 | | | | |
| | | GND | | | | | AK10 | | | | |
| | | GND | | | | | AK13 | | | | |
| | | GND | | | | | AK16 | | | | |
| | | GND | | | | | AK19 | | | | |
| | | GND | | | | | AK22 | | | | |
| | | GND | | | | | AK25 | | | | |
| | | GND | | | | | AK28 | | | | |
| | | GND | | | | | AK31 | | | | |
| | | GND | | | | | AK34 | | | | |
| | | GND | | | | | AK7 | | | | |
| | | GND | | | | | AL35 | | | | |
| | | GND | | | | | AL5 | | | | |
| | | GND | | | | | AL9 | | | | |
| | | GND | | | | | AM12 | | | | |
| | | GND | | | | | AM15 | | | | |
| | | GND | | | | | AM18 | | | | |
| | | GND | | | | | AM21 | | | | |
| | | GND | | | | | AM24 | | | | |
| | | GND | | | | | AM27 | | | | |
| | | GND | | | | | AM30 | | | | |
| | | GND | | | | | AM33 | | | | |
| | | GND | | | | | AM6 | | | | |
| | | GND | | | | | AM9 | | | | |
| | | GND | | | | | AN35 | | | | |
| | | GND | | | | | AN5 | | | | |
| | | GND | | | | | AP11 | | | | |
| | | GND | | | | | AP14 | | | | |
| | | GND | | | | | AP17 | | | | |
| | | GND | | | | | AP20 | | | | |
| | | GND | | | | | AP23 | | | | |
| | | GND | | | | | AP26 | | | | |
| | | GND | | | | | AP29 | | | | |
| | | GND | | | | | AP32 | | | | |
| | | GND | | | | | AP35 | | | | |
| | | GND | | | | | AP5 | | | | |
| | | GND | | | | | AP8 | | | | |
| | | GND | | | | | AR35 | | | | |
| | | GND | | | | | AR5 | | | | |
| | | GND | | | | | AT10 | | | | |
| | | GND | | | | | AT13 | | | | |
| | | GND | | | | | AT16 | | | | |
| | | GND | | | | | AT19 | | | | |
| | | GND | | | | | AT22 | | | | |
| | | GND | | | | | AT25 | | | | |
| | | GND | | | | | AT28 | | | | |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | AT31 | | | | |
| | | GND | | | | | AT34 | | | | |
| | | GND | | | | | AT7 | | | | |
| | | GND | | | | | AU35 | | | | |
| | | GND | | | | | AU5 | | | | |
| | | GND | | | | | AV12 | | | | |
| | | GND | | | | | AV15 | | | | |
| | | GND | | | | | AV18 | | | | |
| | | GND | | | | | AV21 | | | | |
| | | GND | | | | | AV24 | | | | |
| | | GND | | | | | AV27 | | | | |
| | | GND | | | | | AV30 | | | | |
| | | GND | | | | | AV33 | | | | |
| | | GND | | | | | AV6 | | | | |
| | | GND | | | | | AV9 | | | | |
| | | GND | | | | | B12 | | | | |
| | | GND | | | | | B15 | | | | |
| | | GND | | | | | B18 | | | | |
| | | GND | | | | | B21 | | | | |
| | | GND | | | | | B24 | | | | |
| | | GND | | | | | B27 | | | | |
| | | GND | | | | | B30 | | | | |
| | | GND | | | | | B33 | | | | |
| | | GND | | | | | B35 | | | | |
| | | GND | | | | | B5 | | | | |
| | | GND | | | | | B6 | | | | |
| | | GND | | | | | B9 | | | | |
| | | GND | | | | | C35 | | | | |
| | | GND | | | | | C5 | | | | |
| | | GND | | | | | D11 | | | | |
| | | GND | | | | | D14 | | | | |
| | | GND | | | | | D17 | | | | |
| | | GND | | | | | D20 | | | | |
| | | GND | | | | | D23 | | | | |
| | | GND | | | | | D26 | | | | |
| | | GND | | | | | D29 | | | | |
| | | GND | | | | | D32 | | | | |
| | | GND | | | | | D35 | | | | |
| | | GND | | | | | D5 | | | | |
| | | GND | | | | | D8 | | | | |
| | | GND | | | | | E35 | | | | |
| | | GND | | | | | E5 | | | | |
| | | GND | | | | | F10 | | | | |
| | | GND | | | | | F13 | | | | |
| | | GND | | | | | F16 | | | | |
| | | GND | | | | | F19 | | | | |
| | | GND | | | | | F22 | | | | |
| | | GND | | | | | F25 | | | | |
| | | GND | | | | | F28 | | | | |
| | | GND | | | | | F31 | | | | |
| | | GND | | | | | F34 | | | | |
| | | GND | | | | | F35 | | | | |
| | | GND | | | | | F5 | | | | |
| | | GND | | | | | F7 | | | | |
| | | GND | | | | | G35 | | | | |
| | | GND | | | | | G5 | | | | |
| | | GND | | | | | H12 | | | | |
| | | GND | | | | | H15 | | | | |
| | | GND | | | | | H18 | | | | |
| | | GND | | | | | H21 | | | | |
| | | GND | | | | | H24 | | | | |
| | | GND | | | | | H27 | | | | |
| | | GND | | | | | H30 | | | | |
| | | GND | | | | | H33 | | | | |
| | | GND | | | | | H35 | | | | |
| | | GND | | | | | H5 | | | | |
| | | GND | | | | | H6 | | | | |
| | | GND | | | | | H9 | | | | |
| | | GND | | | | | J35 | | | | |
| | | GND | | | | | J5 | | | | |
| | | GND | | | | | K11 | | | | |
| | | GND | | | | | K14 | | | | |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | K17 | | | | |
| | | GND | | | | | K20 | | | | |
| | | GND | | | | | K23 | | | | |
| | | GND | | | | | K26 | | | | |
| | | GND | | | | | K29 | | | | |
| | | GND | | | | | K32 | | | | |
| | | GND | | | | | K35 | | | | |
| | | GND | | | | | K5 | | | | |
| | | GND | | | | | K8 | | | | |
| | | GND | | | | | L35 | | | | |
| | | GND | | | | | L5 | | | | |
| | | GND | | | | | M10 | | | | |
| | | GND | | | | | M13 | | | | |
| | | GND | | | | | M16 | | | | |
| | | GND | | | | | M19 | | | | |
| | | GND | | | | | M22 | | | | |
| | | GND | | | | | M25 | | | | |
| | | GND | | | | | M28 | | | | |
| | | GND | | | | | M31 | | | | |
| | | GND | | | | | M34 | | | | |
| | | GND | | | | | M35 | | | | |
| | | GND | | | | | M7 | | | | |
| | | GND | | | | | N35 | | | | |
| | | GND | | | | | N5 | | | | |
| | | GND | | | | | P12 | | | | |
| | | GND | | | | | P15 | | | | |
| | | GND | | | | | P18 | | | | |
| | | GND | | | | | P24 | | | | |
| | | GND | | | | | P27 | | | | |
| | | GND | | | | | P30 | | | | |
| | | GND | | | | | P33 | | | | |
| | | GND | | | | | P35 | | | | |
| | | GND | | | | | P6 | | | | |
| | | GND | | | | | P9 | | | | |
| | | GND | | | | | R18 | | | | |
| | | GND | | | | | R20 | | | | |
| | | GND | | | | | R22 | | | | |
| | | GND | | | | | R33 | | | | |
| | | GND | | | | | R34 | | | | |
| | | GND | | | | | R35 | | | | |
| | | GND | | | | | R5 | | | | |
| | | GND | | | | | T11 | | | | |
| | | GND | | | | | T14 | | | | |
| | | GND | | | | | T17 | | | | |
| | | GND | | | | | T21 | | | | |
| | | GND | | | | | T26 | | | | |
| | | GND | | | | | T29 | | | | |
| | | GND | | | | | T32 | | | | |
| | | GND | | | | | T8 | | | | |
| | | GND | | | | | U19 | | | | |
| | | GND | | | | | U23 | | | | |
| | | GND | | | | | U32 | | | | |
| | | GND | | | | | U8 | | | | |
| | | GND | | | | | V10 | | | | |
| | | GND | | | | | V11 | | | | |
| | | GND | | | | | V12 | | | | |
| | | GND | | | | | V13 | | | | |
| | | GND | | | | | V15 | | | | |
| | | GND | | | | | V20 | | | | |
| | | GND | | | | | V25 | | | | |
| | | GND | | | | | V28 | | | | |
| | | GND | | | | | V30 | | | | |
| | | GND | | | | | V31 | | | | |
| | | GND | | | | | V32 | | | | |
| | | GND | | | | | V8 | | | | |
| | | GND | | | | | V9 | | | | |
| | | GND | | | | | W10 | | | | |
| | | GND | | | | | W12 | | | | |
| | | GND | | | | | W17 | | | | |
| | | GND | | | | | W23 | | | | |
| | | GND | | | | | W28 | | | | |
| | | GND | | | | | W30 | | | | |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | W31 | | | | |
| | | GND | | | | | W32 | | | | |
| | | GND | | | | | W8 | | | | |
| | | GND | | | | | W9 | | | | |
| | | GND | | | | | Y10 | | | | |
| | | GND | | | | | Y12 | | | | |
| | | GND | | | | | Y15 | | | | |
| | | GND | | | | | Y25 | | | | |
| | | GND | | | | | Y27 | | | | |
| | | GND | | | | | Y28 | | | | |
| | | GND | | | | | Y30 | | | | |
| | | GND | | | | | Y32 | | | | |
| | | GND | | | | | Y8 | | | | |
| | | GND | | | | | Y9 | | | | |
| | | GND | | | | | AA20 | | | | |
| | | VCC | | | | | AC17 | | | | |
| | | VCC | | | | | AC19 | | | | |
| | | VCC | | | | | AC21 | | | | |
| | | VCC | | | | | AC23 | | | | |
| | | VCC | | | | | R17 | | | | |
| | | VCC | | | | | R19 | | | | |
| | | VCC | | | | | R21 | | | | |
| | | VCC | | | | | R23 | | | | |
| | | VCC | | | | | AA18 | | | | |
| | | VCC | | | | | AA19 | | | | |
| | | VCC | | | | | AA22 | | | | |
| | | VCC | | | | | AA23 | | | | |
| | | VCC | | | | | AB17 | | | | |
| | | VCC | | | | | AB18 | | | | |
| | | VCC | | | | | AB19 | | | | |
| | | VCC | | | | | AB20 | | | | |
| | | VCC | | | | | AB21 | | | | |
| | | VCC | | | | | AB22 | | | | |
| | | VCC | | | | | T18 | | | | |
| | | VCC | | | | | T19 | | | | |
| | | VCC | | | | | T20 | | | | |
| | | VCC | | | | | T22 | | | | |
| | | VCC | | | | | T23 | | | | |
| | | VCC | | | | | U17 | | | | |
| | | VCC | | | | | U18 | | | | |
| | | VCC | | | | | U20 | | | | |
| | | VCC | | | | | U21 | | | | |
| | | VCC | | | | | U22 | | | | |
| | | VCC | | | | | V17 | | | | |
| | | VCC | | | | | V18 | | | | |
| | | VCC | | | | | V19 | | | | |
| | | VCC | | | | | V21 | | | | |
| | | VCC | | | | | V22 | | | | |
| | | VCC | | | | | V23 | | | | |
| | | VCC | | | | | W18 | | | | |
| | | VCC | | | | | W19 | | | | |
| | | VCC | | | | | W20 | | | | |
| | | VCC | | | | | W21 | | | | |
| | | VCC | | | | | W22 | | | | |
| | | VCC | | | | | Y17 | | | | |
| | | VCC | | | | | Y18 | | | | |
| | | VCC | | | | | Y19 | | | | |
| | | VCC | | | | | Y22 | | | | |
| | | VCC | | | | | Y23 | | | | |
| | | VCC | | | | | Y21 | | | | |
| | | VCCPT | | | | | AD19 | | | | |
| | | VCCPT | | | | | AE13 | | | | |
| | | VCCPT | | | | | AE28 | | | | |
| | | VCCPT | | | | | P19 | | | | |
| | | VCCPT | | | | | R13 | | | | |
| | | VCCPT | | | | | R28 | | | | |
| | | DNU | | | | | AW35 | | | | |
| | | DNU | | | | | AV35 | | | | |
| | | DNU | | | | | AA30 | | | | |
| | | DNU | | | | | AL19 | | | | |
| | | DNU | | | | | AV5 | | | | |
| | | DNU | | | | | AW5 | | | | |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | DNU | | | | | R7 | | | | |
| | | DNU | | | | | J19 | | | | |
| | | DNU | | | | | Y20 | | | | |
| | | VCCPGM | | | | | AL31 | | | | |
| | | VCCPGM | | | | | AJ9 | | | | |
| | | TEMPDIODEn | | | | | P5 | | | | |
| | | TEMPDIODEp | | | | | R6 | | | | |
| | | VCCBAT | | | | | AK9 | | | | |
| | | VCCIO3A | | | | | AU31 | | | | |
| | | VCCIO3A | | | | | AW33 | | | | |
| | | VCCIO3B | | | | | AU28 | | | | |
| | | VCCIO3B | | | | | AW30 | | | | |
| | | VCCIO3C | | | | | AW24 | | | | |
| | | VCCIO3C | | | | | AW27 | | | | |
| | | VCCIO3D | | | | | AU22 | | | | |
| | | VCCIO3D | | | | | AW21 | | | | |
| | | VCCIO4A | | | | | AW6 | | | | |
| | | VCCIO4B | | | | | AW12 | | | | |
| | | VCCIO4B | | | | | AW9 | | | | |
| | | VCCIO4C | | | | | AU13 | | | | |
| | | VCCIO4C | | | | | AW15 | | | | |
| | | VCCIO4D | | | | | AU19 | | | | |
| | | VCCIO4D | | | | | AW18 | | | | |
| | | VCCIO7A | | | | | C6 | | | | |
| | | VCCIO7B | | | | | A9 | | | | |
| | | VCCIO7B | | | | | C11 | | | | |
| | | VCCIO7C | | | | | A12 | | | | |
| | | VCCIO7C | | | | | A15 | | | | |
| | | VCCIO7D | | | | | A18 | | | | |
| | | VCCIO7D | | | | | C17 | | | | |
| | | VCCIO8A | | | | | A33 | | | | |
| | | VCCIO8A | | | | | C32 | | | | |
| | | VCCIO8B | | | | | A30 | | | | |
| | | VCCIO8B | | | | | C29 | | | | |
| | | VCCIO8C | | | | | A24 | | | | |
| | | VCCIO8C | | | | | A27 | | | | |
| | | VCCIO8D | | | | | A21 | | | | |
| | | VCCIO8D | | | | | C23 | | | | |
| | | VCCPD3AB | | | | | AR29 | | | | |
| | | VCCPD3AB | | | | | AR32 | | | | |
| | | VCCPD3CD | | | | | AR23 | | | | |
| | | VCCPD3CD | | | | | AR26 | | | | |
| | | VCCPD4 | | | | | AR10 | | | | |
| | | VCCPD4 | | | | | AR13 | | | | |
| | | VCCPD4 | | | | | AR16 | | | | |
| | | VCCPD7 | | | | | E10 | | | | |
| | | VCCPD7 | | | | | E13 | | | | |
| | | VCCPD7 | | | | | E16 | | | | |
| | | VCCPD8 | | | | | E22 | | | | |
| | | VCCPD8 | | | | | E26 | | | | |
| | | VCCPD8 | | | | | E29 | | | | |
| 3A | VREFB3AN0 | VREFB3AN0 | VREFB3AN0 | | | | AJ31 | | | | |
| 3B | VREFB3BN0 | VREFB3BN0 | VREFB3BN0 | | | | AJ28 | | | | |
| 3C | VREFB3CN0 | VREFB3CN0 | VREFB3CN0 | | | | AJ25 | | | | |
| 3D | VREFB3DN0 | VREFB3DN0 | VREFB3DN0 | | | | AJ23 | | | | |
| 4A | VREFB4AN0 | VREFB4AN0 | VREFB4AN0 | | | | AJ8 | | | | |
| 4B | VREFB4BN0 | VREFB4BN0 | VREFB4BN0 | | | | AJ11 | | | | |
| 4C | VREFB4CN0 | VREFB4CN0 | VREFB4CN0 | | | | AJ14 | | | | |
| 4D | VREFB4DN0 | VREFB4DN0 | VREFB4DN0 | | | | AJ16 | | | | |
| 7A | VREFB7AN0 | VREFB7AN0 | VREFB7AN0 | | | | L7 | | | | |
| 7B | VREFB7BN0 | VREFB7BN0 | VREFB7BN0 | | | | L10 | | | | |
| 7C | VREFB7CN0 | VREFB7CN0 | VREFB7CN0 | | | | L14 | | | | |
| 7D | VREFB7DN0 | VREFB7DN0 | VREFB7DN0 | | | | L17 | | | | |
| 8A | VREFB8AN0 | VREFB8AN0 | VREFB8AN0 | | | | L32 | | | | |
| 8B | VREFB8BN0 | VREFB8BN0 | VREFB8BN0 | | | | L29 | | | | |
| 8C | VREFB8CN0 | VREFB8CN0 | VREFB8CN0 | | | | L25 | | | | |
| 8D | VREFB8DN0 | VREFB8DN0 | VREFB8DN0 | | | | L22 | | | | |
| | | VCCH_GXBL0 | | | | | AE35 | | | | |
| | | VCCH_GXBL1 | | | | | AA35 | | | | |
| | | VCCH_GXBL2 | | | | | U35 | | | | |
| | | VCCH_GXBR0 | | | | | AE5 | | | | |
| | | VCCH_GXBR1 | | | | | AA5 | | | | |



| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | VCOH_GXBR2 | | | | | U5 | | | | |
| | | VCCR_GXBL0 | | | | | AG34 | | | | |
| | | VCCR_GXBL1 | | | | | AC34 | | | | |
| | | VCCR_GXBL2 | | | | | W34 | | | | |
| | | VCCR_GXBR0 | | | | | AG6 | | | | |
| | | VCCR_GXBR1 | | | | | AC6 | | | | |
| | | VCCR_GXBR2 | | | | | W6 | | | | |
| | | VCCT_GXBL0 | | | | | AE33 | | | | |
| | | VCCT_GXBL0 | | | | | AF33 | | | | |
| | | VCCT_GXBL1 | | | | | AA33 | | | | |
| | | VCCT_GXBL1 | | | | | AB33 | | | | |
| | | VCCT_GXBL2 | | | | | U33 | | | | |
| | | VCCT_GXBL2 | | | | | V33 | | | | |
| | | VCCT_GXBR0 | | | | | AE7 | | | | |
| | | VCCT_GXBR0 | | | | | AF7 | | | | |
| | | VCCT_GXBR1 | | | | | AA7 | | | | |
| | | VCCT_GXBR1 | | | | | AB7 | | | | |
| | | VCCT_GXBR2 | | | | | U7 | | | | |
| | | VCCT_GXBR2 | | | | | V7 | | | | |
| | | VCCHIP_L | | | | | AA24 | | | | |
| | | VCCHIP_L | | | | | U24 | | | | |
| | | VCCHIP_L | | | | | V24 | | | | |
| | | VCCHIP_L | | | | | W24 | | | | |
| | | VCCHIP_L | | | | | W25 | | | | |
| | | VCCHIP_L | | | | | Y24 | | | | |
| | | VCCHIP_R | | | | | AA16 | | | | |
| | | VCCHIP_R | | | | | U16 | | | | |
| | | VCCHIP_R | | | | | V16 | | | | |
| | | VCCHIP_R | | | | | W15 | | | | |
| | | VCCHIP_R | | | | | W16 | | | | |
| | | VCCHIP_R | | | | | Y16 | | | | |
| | | RREF_BL | | | | | AW36 | | | | |
| | | RREF_BR | | | | | AW4 | | | | |
| | | RREF_TL | | | | | B39 | | | | |
| | | RREF_TR | | | | | B1 | | | | |
| | | VCCA_FPLL | | | | | AL32 | | | | |
| | | VCCA_FPLL | | | | | AG20 | | | | |
| | | VCCA_FPLL | | | | | AK8 | | | | |
| | | VCCA_FPLL | | | | | J8 | | | | |
| | | VCCA_FPLL | | | | | P20 | | | | |
| | | VCCA_FPLL | | | | | J32 | | | | |
| | | VCCA_FPLL | | | | | AD29 | | | | |
| | | VCCA_FPLL | | | | | W29 | | | | |
| | | VCCA_FPLL | | | | | AD11 | | | | |
| | | VCCA_FPLL | | | | | W11 | | | | |
| | | VCCA_GXBL0 | | | | | AD35 | | | | |
| | | VCCA_GXBL1 | | | | | Y35 | | | | |
| | | VCCA_GXBL2 | | | | | T35 | | | | |
| | | VCCA_GXBR0 | | | | | AD5 | | | | |
| | | VCCA_GXBR1 | | | | | Y5 | | | | |
| | | VCCA_GXBR2 | | | | | T5 | | | | |
| | | VCCHSSI_L | | | | | V26 | | | | |
| | | VCCHSSI_L | | | | | V27 | | | | |
| | | VCCHSSI_L | | | | | W26 | | | | |
| | | VCCHSSI_L | | | | | W27 | | | | |
| | | VCCHSSI_L | | | | | Y26 | | | | |
| | | VCCHSSI_R | | | | | V14 | | | | |
| | | VCCHSSI_R | | | | | W13 | | | | |
| | | VCCHSSI_R | | | | | W14 | | | | |
| | | VCCHSSI_R | | | | | Y13 | | | | |
| | | VCCHSSI_R | | | | | Y14 | | | | |
| | | VCCD_FPLL | | | | | AM32 | | | | |



Pin Information for the Stratix® V 5SGSD8 Device
Version 1.1
Note (1)

| Bank Number | VREF | Pin Name/Function (2) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1517 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | VCCD_FPLL | | | | | AF20 | | | | |
| | | VCCD_FPLL | | | | | AL8 | | | | |
| | | VCCD_FPLL | | | | | H8 | | | | |
| | | VCCD_FPLL | | | | | P21 | | | | |
| | | VCCD_FPLL | | | | | H32 | | | | |
| | | VCCD_FPLL | | | | | AC29 | | | | |
| | | VCCD_FPLL | | | | | Y29 | | | | |
| | | VCCD_FPLL | | | | | AC11 | | | | |
| | | VCCD_FPLL | | | | | Y11 | | | | |
| | | VCC_AUX | | | | | AG11 | | | | |
| | | VCC_AUX | | | | | AG29 | | | | |
| | | VCC_AUX | | | | | AK20 | | | | |
| | | VCC_AUX | | | | | J20 | | | | |
| | | VCC_AUX | | | | | N11 | | | | |
| | | VCC_AUX | | | | | N29 | | | | |

Notes:
(1) For more information about pin definition and pin connection guidelines, refer to the [Stratix V Device Family Pin Connection Guidelines](#).
(2) The GXB_REFCLK pin is not supported in the current Quartus II software version, but will be supported in the future Quartus II software release version.



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| GXB L3 | | REFCLK7Lp | | | | | T38 | | | | |
| GXB L3 | | REFCLK7Ln | | | | | T39 | | | | |
| GXB L3 | | GXB_TX_L23n | | | | | D40 | | | | |
| GXB L3 | | GXB_TX_L23p | | | | | D39 | | | | |
| GXB L3 | | GXB_RX_L23n,GXB_REFCLK_L23n | | | | | C42 | | | | |
| GXB L3 | | GXB_RX_L23p,GXB_REFCLK_L23p | | | | | C41 | | | | |
| GXB L3 | | GXB_TX_L22n | | | | | F40 | | | | |
| GXB L3 | | GXB_TX_L22p | | | | | F39 | | | | |
| GXB L3 | | GXB_RX_L22n,GXB_REFCLK_L22n | | | | | B44 | | | | |
| GXB L3 | | GXB_RX_L22p,GXB_REFCLK_L22p | | | | | B43 | | | | |
| GXB L3 | | GXB_TX_L21n | | | | | E42 | | | | |
| GXB L3 | | GXB_TX_L21p | | | | | E41 | | | | |
| GXB L3 | | GXB_RX_L21n,GXB_REFCLK_L21n | | | | | D44 | | | | |
| GXB L3 | | GXB_RX_L21p,GXB_REFCLK_L21p | | | | | D43 | | | | |
| GXB L3 | | GXB_TX_L20n | | | | | G42 | | | | |
| GXB L3 | | GXB_TX_L20p | | | | | G41 | | | | |
| GXB L3 | | GXB_RX_L20n,GXB_REFCLK_L20n | | | | | F44 | | | | |
| GXB L3 | | GXB_RX_L20p,GXB_REFCLK_L20p | | | | | F43 | | | | |
| GXB L3 | | GXB_TX_L19n | | | | | H40 | | | | |
| GXB L3 | | GXB_TX_L19p | | | | | H39 | | | | |
| GXB L3 | | GXB_RX_L19n,GXB_REFCLK_L19n | | | | | H44 | | | | |
| GXB L3 | | GXB_RX_L19p,GXB_REFCLK_L19p | | | | | H43 | | | | |
| GXB L3 | | GXB_TX_L18n | | | | | K40 | | | | |
| GXB L3 | | GXB_TX_L18p | | | | | K39 | | | | |
| GXB L3 | | GXB_RX_L18n,GXB_REFCLK_L18n | | | | | K44 | | | | |
| GXB L3 | | GXB_RX_L18p,GXB_REFCLK_L18p | | | | | K43 | | | | |
| GXB L3 | | REFCLK6Lp | | | | | V39 | | | | |
| GXB L3 | | REFCLK6Ln | | | | | V40 | | | | |
| GXB L2 | | REFCLK5Lp | | | | | Y38 | | | | |
| GXB L2 | | REFCLK5Ln | | | | | Y39 | | | | |
| GXB L2 | | GXB_TX_L17n | | | | | J42 | | | | |
| GXB L2 | | GXB_TX_L17p | | | | | J41 | | | | |
| GXB L2 | | GXB_RX_L17n,GXB_REFCLK_L17n | | | | | M44 | | | | |
| GXB L2 | | GXB_RX_L17p,GXB_REFCLK_L17p | | | | | M43 | | | | |
| GXB L2 | | GXB_TX_L16n | | | | | L42 | | | | |
| GXB L2 | | GXB_TX_L16p | | | | | L41 | | | | |
| GXB L2 | | GXB_RX_L16n,GXB_REFCLK_L16n | | | | | P44 | | | | |
| GXB L2 | | GXB_RX_L16p,GXB_REFCLK_L16p | | | | | P43 | | | | |
| GXB L2 | | GXB_TX_L15n | | | | | N42 | | | | |
| GXB L2 | | GXB_TX_L15p | | | | | N41 | | | | |
| GXB L2 | | GXB_RX_L15n,GXB_REFCLK_L15n | | | | | T44 | | | | |
| GXB L2 | | GXB_RX_L15p,GXB_REFCLK_L15p | | | | | T43 | | | | |
| GXB L2 | | GXB_TX_L14n | | | | | R42 | | | | |
| GXB L2 | | GXB_TX_L14p | | | | | R41 | | | | |
| GXB L2 | | GXB_RX_L14n,GXB_REFCLK_L14n | | | | | V44 | | | | |
| GXB L2 | | GXB_RX_L14p,GXB_REFCLK_L14p | | | | | V43 | | | | |
| GXB L2 | | GXB_TX_L13n | | | | | U42 | | | | |
| GXB L2 | | GXB_TX_L13p | | | | | U41 | | | | |
| GXB L2 | | GXB_RX_L13n,GXB_REFCLK_L13n | | | | | Y44 | | | | |
| GXB L2 | | GXB_RX_L13p,GXB_REFCLK_L13p | | | | | Y43 | | | | |
| GXB L2 | | GXB_TX_L12n | | | | | W42 | | | | |
| GXB L2 | | GXB_TX_L12p | | | | | W41 | | | | |
| GXB L2 | | GXB_RX_L12n,GXB_REFCLK_L12n | | | | | AB44 | | | | |
| GXB L2 | | GXB_RX_L12p,GXB_REFCLK_L12p | | | | | AB43 | | | | |
| GXB L2 | | REFCLK4Lp | | | | | AB39 | | | | |
| GXB L2 | | REFCLK4Ln | | | | | AB40 | | | | |
| GXB L1 | | REFCLK3Lp | | | | | AD39 | | | | |
| GXB L1 | | REFCLK3Ln | | | | | AD40 | | | | |
| GXB L1 | | GXB_TX_L11n | | | | | AA42 | | | | |
| GXB L1 | | GXB_TX_L11p | | | | | AA41 | | | | |
| GXB L1 | | GXB_RX_L11n,GXB_REFCLK_L11n | | | | | AD44 | | | | |
| GXB L1 | | GXB_RX_L11p,GXB_REFCLK_L11p | | | | | AD43 | | | | |
| GXB L1 | | GXB_TX_L10n | | | | | AC42 | | | | |
| GXB L1 | | GXB_TX_L10p | | | | | AC41 | | | | |
| GXB L1 | | GXB_RX_L10n,GXB_REFCLK_L10n | | | | | AF44 | | | | |
| GXB L1 | | GXB_RX_L10p,GXB_REFCLK_L10p | | | | | AF43 | | | | |
| GXB L1 | | GXB_TX_L9n | | | | | AE42 | | | | |
| GXB L1 | | GXB_TX_L9p | | | | | AE41 | | | | |
| GXB L1 | | GXB_RX_L9n,GXB_REFCLK_L9n | | | | | AH44 | | | | |
| GXB L1 | | GXB_RX_L9p,GXB_REFCLK_L9p | | | | | AH43 | | | | |
| GXB L1 | | GXB_TX_L8n | | | | | AG42 | | | | |
| GXB L1 | | GXB_TX_L8p | | | | | AG41 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|----------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| GXB L1 | | GXB_RX_L8n,GXB_REFCLK_L8n | | | | | AK44 | | | | |
| GXB L1 | | GXB_RX_L8p,GXB_REFCLK_L8p | | | | | AK43 | | | | |
| GXB L1 | | GXB_TX_L7n | | | | | AJ42 | | | | |
| GXB L1 | | GXB_TX_L7p | | | | | AJ41 | | | | |
| GXB L1 | | GXB_RX_L7n,GXB_REFCLK_L7n | | | | | AM44 | | | | |
| GXB L1 | | GXB_RX_L7p,GXB_REFCLK_L7p | | | | | AM43 | | | | |
| GXB L1 | | GXB_TX_L6n | | | | | AL42 | | | | |
| GXB L1 | | GXB_TX_L6p | | | | | AL41 | | | | |
| GXB L1 | | GXB_RX_L6n,GXB_REFCLK_L6n | | | | | AP44 | | | | |
| GXB L1 | | GXB_RX_L6p,GXB_REFCLK_L6p | | | | | AP43 | | | | |
| GXB L1 | | REFCLK2Lp | | | | | AF38 | | | | |
| GXB L1 | | REFCLK2Ln | | | | | AF39 | | | | |
| GXB L0 | | REFCLK1Lp | | | | | AH39 | | | | |
| GXB L0 | | REFCLK1Ln | | | | | AH40 | | | | |
| GXB L0 | | GXB_TX_L5n | | | | | AN42 | | | | |
| GXB L0 | | GXB_TX_L5p | | | | | AN41 | | | | |
| GXB L0 | | GXB_RX_L5n,GXB_REFCLK_L5n | | | | | AT44 | | | | |
| GXB L0 | | GXB_RX_L5p,GXB_REFCLK_L5p | | | | | AT43 | | | | |
| GXB L0 | | GXB_TX_L4n | | | | | AR42 | | | | |
| GXB L0 | | GXB_TX_L4p | | | | | AR41 | | | | |
| GXB L0 | | GXB_RX_L4n,GXB_REFCLK_L4n | | | | | AV44 | | | | |
| GXB L0 | | GXB_RX_L4p,GXB_REFCLK_L4p | | | | | AV43 | | | | |
| GXB L0 | | GXB_TX_L3n | | | | | AU42 | | | | |
| GXB L0 | | GXB_TX_L3p | | | | | AU41 | | | | |
| GXB L0 | | GXB_RX_L3n,GXB_REFCLK_L3n | | | | | AY44 | | | | |
| GXB L0 | | GXB_RX_L3p,GXB_REFCLK_L3p | | | | | AY43 | | | | |
| GXB L0 | | GXB_TX_L2n | | | | | AT40 | | | | |
| GXB L0 | | GXB_TX_L2p | | | | | AT39 | | | | |
| GXB L0 | | GXB_RX_L2n,GXB_REFCLK_L2n | | | | | AW42 | | | | |
| GXB L0 | | GXB_RX_L2p,GXB_REFCLK_L2p | | | | | AW41 | | | | |
| GXB L0 | | GXB_TX_L1n | | | | | AV40 | | | | |
| GXB L0 | | GXB_TX_L1p | | | | | AV39 | | | | |
| GXB L0 | | GXB_RX_L1n,GXB_REFCLK_L1n | | | | | BA42 | | | | |
| GXB L0 | | GXB_RX_L1p,GXB_REFCLK_L1p | | | | | BA41 | | | | |
| GXB L0 | | GXB_TX_L0n | | | | | AY40 | | | | |
| GXB L0 | | GXB_TX_L0p | | | | | AY39 | | | | |
| GXB L0 | | GXB_RX_L0n,GXB_REFCLK_L0n | | | | | BB44 | | | | |
| GXB L0 | | GXB_RX_L0p,GXB_REFCLK_L0p | | | | | BB43 | | | | |
| GXB L0 | | REFCLK0Lp | | | | | AK38 | | | | |
| GXB L0 | | REFCLK0Ln | | | | | AK39 | | | | |
| 3A | | nCONFIG | | nCONFIG | | | AM38 | | | | |
| 3A | | TRST | | TRST | | | AG37 | | | | |
| 3A | | TMS | | TMS | | | AL37 | | | | |
| 3A | | TCK | | TCK | | | AL34 | | | | |
| 3A | | TDI | | TDI | | | AM37 | | | | |
| 3A | | TDO | | TDO | | | AL36 | | | | |
| 3A | | nCS0 | | nCS0 | | | AG35 | | | | |
| 3A | | AS_DATA3 | | AS_DATA3 | | | AK36 | | | | |
| 3A | | AS_DATA2 | | AS_DATA2 | | | AJ35 | | | | |
| 3A | | AS_DATA1 | | AS_DATA1 | | | AJ36 | | | | |
| 3A | | AS_DATA0,ASDO | | AS_DATA0,ASDO | | | AH36 | | | | |
| 3A | | DCLK | | DCLK | | | AG36 | | | | |
| 3A | VREFB3A0 | IO | | CLKUSR | DIFFIO_TX_B1n | DIFFOUT_B1n | AW37 | DQ1B | | DQ1B | |
| 3A | VREFB3A0 | IO | | CRC_ERROR | DIFFIO_TX_B1p | DIFFOUT_B1p | AV37 | DQ1B | | DQ1B | |
| 3A | VREFB3A0 | IO | RZQ_0 | | DIFFIO_RX_B2n | DIFFOUT_B2n | BA36 | DQS1B | | DQ1B | |
| 3A | VREFB3A0 | IO | | DEV_OE | DIFFIO_RX_B2p | DIFFOUT_B2p | AY37 | DQS1B | | DQ1B/CQn1B | |
| 3A | VREFB3A0 | IO | | DEV_CLRn | DIFFIO_TX_B3n | DIFFOUT_B3n | BC37 | DQ1B | | DQ1B | |
| 3A | VREFB3A0 | IO | | INIT_DONE | DIFFIO_TX_B3p | DIFFOUT_B3p | BB36 | DQ1B | | DQ1B | |
| 3A | VREFB3A0 | IO | | nCEO | DIFFIO_RX_B4n | DIFFOUT_B4n | BB39 | DQS2B | | DQS1B/DQ1B | |
| 3A | VREFB3A0 | IO | | DATA0 | DIFFIO_RX_B4p | DIFFOUT_B4p | BB38 | DQS2B | | DQS1B/CQ1B | |
| 3A | VREFB3A0 | IO | | DATA1 | DIFFIO_TX_B5n | DIFFOUT_B5n | BD38 | DQ2B | | DQ1B | |
| 3A | VREFB3A0 | IO | | DATA2 | DIFFIO_TX_B5p | DIFFOUT_B5p | BC39 | DQ2B | | DQ1B | |
| 3A | VREFB3A0 | IO | | DATA3 | DIFFIO_RX_B6n | DIFFOUT_B6n | BD37 | DQ2B | | DQ1B | |
| 3A | VREFB3A0 | IO | | DATA4 | DIFFIO_RX_B6p | DIFFOUT_B6p | BC38 | DQ2B | | DQ1B | |
| 3A | VREFB3A0 | IO | | DATA5 | DIFFIO_TX_B7n | DIFFOUT_B7n | AR37 | DQ3B | | DQ2B | DQ1B |
| 3A | VREFB3A0 | IO | | DATA6 | DIFFIO_TX_B7p | DIFFOUT_B7p | AP37 | DQ3B | | DQ2B | DQ1B |
| 3A | VREFB3A0 | IO | | DATA7 | DIFFIO_RX_B8n | DIFFOUT_B8n | AN39 | DQS3B | | DQ2B | DQ1B |
| 3A | VREFB3A0 | IO | | DATA8 | DIFFIO_RX_B8p | DIFFOUT_B8p | AP39 | DQS3B | | DQ2B/CQn2B | DQ1B |
| 3A | VREFB3A0 | IO | | DATA9 | DIFFIO_TX_B9n | DIFFOUT_B9n | AN38 | DQ3B | | DQ2B | DQ1B |
| 3A | VREFB3A0 | IO | | DATA10 | DIFFIO_TX_B9p | DIFFOUT_B9p | AN37 | DQ3B | | DQ2B | DQ1B |
| 3A | VREFB3A0 | IO | | DATA11 | DIFFIO_RX_B10n | DIFFOUT_B10n | AR36 | DQS4B | | DQS2B/DQ2B | DQ1B |
| 3A | VREFB3A0 | IO | | DATA12 | DIFFIO_RX_B10p | DIFFOUT_B10p | AR35 | DQS4B | | DQS2B/CQ2B | DQ1B/CQn1B |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|---------------------------|---|------------------------|-------------------------|------------------------------|--------------|------------|---------------|------------------|------------------|
| 3A | VREFB3AN0 | IO | | DATA13 | DIFFIO_TX_B11n | DIFFOUT_B11n | AT36 | DQ4B | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA14 | DIFFIO_TX_B11p | DIFFOUT_B11p | AT35 | DQ4B | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA15 | DIFFIO_RX_B12n | DIFFOUT_B12n | AU37 | DQ4B | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA16 | DIFFIO_RX_B12p | DIFFOUT_B12p | AU36 | DQ4B | DQ2B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA17 | DIFFIO_TX_B13n | DIFFOUT_B13n | AP34 | DQ5B | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA18 | DIFFIO_TX_B13p | DIFFOUT_B13p | AN34 | DQ5B | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA19 | DIFFIO_RX_B14n | DIFFOUT_B14n | AP36 | DQS5B | DQ3B | DQSn1B/DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA20 | DIFFIO_RX_B14p | DIFFOUT_B14p | AN36 | DQS5B | DQ3B/CQn3B | DQSn1B/CQ1B | |
| 3A | VREFB3AN0 | IO | | DATA21 | DIFFIO_TX_B15n | DIFFOUT_B15n | AL35 | DQ5B | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA22 | DIFFIO_TX_B15p | DIFFOUT_B15p | AK35 | DQ5B | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA23 | DIFFIO_RX_B16n | DIFFOUT_B16n | AG34 | DQSn6B | DQSn3B/DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA24 | DIFFIO_RX_B16p | DIFFOUT_B16p | AF35 | DQS6B | DQSn3B/CQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA25 | DIFFIO_TX_B17n | DIFFOUT_B17n | AJ34 | DQ6B | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA26 | DIFFIO_TX_B17p | DIFFOUT_B17p | AH34 | DQ6B | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA27 | DIFFIO_RX_B18n | DIFFOUT_B18n | AE36 | DQ6B | DQ3B | DQ1B | |
| 3A | VREFB3AN0 | IO | | DATA28 | DIFFIO_RX_B18p | DIFFOUT_B18p | AE35 | DQ6B | DQ3B | DQ1B | |
| 3B | VREFB3BN0 | IO | | DATA29 | DIFFIO_TX_B19n | DIFFOUT_B19n | AR33 | DQ7B | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | DATA30 | DIFFIO_TX_B19p | DIFFOUT_B19p | AR34 | DQ7B | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | DATA31 | DIFFIO_RX_B20n | DIFFOUT_B20n | AU35 | DQSn7B | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | PR_DONE | DIFFIO_RX_B20p | DIFFOUT_B20p | AL34 | DQS7B | DQ4B/CQn4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | PR_REQUEST | DIFFIO_TX_B21n | DIFFOUT_B21n | AW36 | DQ7B | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | PR_READY | DIFFIO_TX_B21p | DIFFOUT_B21p | AV35 | DQ7B | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK0n | | DIFFIO_RX_B22n | DIFFOUT_B22n | AY36 | DQSn8B | DQSn4B/DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK0p | | DIFFIO_RX_B22p | DIFFOUT_B22p | AW35 | DQS8B | DQS4B/CQ4B | DQ2B/CQn2B | DQ1B |
| 3B | VREFB3BN0 | IO | | | PR_ERROR | DIFFIO_TX_B23n | DIFFOUT_B23n | BC35 | DQ8B | DQ4B | DQ2B |
| 3B | VREFB3BN0 | IO | | CvP_CONFDONE | DIFFIO_TX_B23p | DIFFOUT_B23p | BB35 | DQ8B | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK1n | | DIFFIO_RX_B24n | DIFFOUT_B24n | BA34 | DQ8B | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK1p | | DIFFIO_RX_B24p | DIFFOUT_B24p | AY34 | DQ8B | DQ4B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | FPLL_BL_CLKOUT1,FPLL_BL_CLKOUTn | | DIFFIO_TX_B25n | DIFFOUT_B25n | AW33 | DQ9B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | FPLL_BL_CLKOUT0,FPLL_BL_CLKOUTp,FPLL_BL_FB0 | | DIFFIO_TX_B25p | DIFFOUT_B25p | AV34 | DQ9B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | FPLL_BL_CLKOUT3,FPLL_BL_FBn | | DIFFIO_RX_B26n | DIFFOUT_B26n | AR32 | DQSn9B | DQ5B | DQSn2B/DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | FPLL_BL_CLKOUT2,FPLL_BL_FBp,FPLL_BL_FB1 | | DIFFIO_RX_B26p | DIFFOUT_B26p | AR31 | DQS9B | DQ5B/CQn5B | DQS2B/CQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | nPERSTL0 | DIFFIO_TX_B27n | DIFFOUT_B27n | AU33 | DQ9B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | nPERSTL1 | DIFFIO_TX_B27p | DIFFOUT_B27p | AT33 | DQ9B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK2n | | DIFFIO_RX_B28n | DIFFOUT_B28n | BA33 | DQSn10B | DQSn5B/DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK2p | | DIFFIO_RX_B28p | DIFFOUT_B28p | AY33 | DQSn10B | DQSn5B/CQ5B | DQ2B | DQ1B/CQn1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B29n | DIFFOUT_B29n | BD35 | DQ10B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | nPERSTR1 | DIFFIO_TX_B29p | DIFFOUT_B29p | BD34 | DQ10B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | nPERSTR0 | DIFFIO_TX_B29p | DIFFOUT_B29p | BD34 | DQ10B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK3n | | DIFFIO_RX_B30n | DIFFOUT_B30n | BC34 | DQ10B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | CLK3p | | DIFFIO_RX_B30p | DIFFOUT_B30p | BB33 | DQ10B | DQ5B | DQ2B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B31n | DIFFOUT_B31n | AN33 | DQ11B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B31p | DIFFOUT_B31p | AP33 | DQ11B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B32n | DIFFOUT_B32n | AJ33 | DQSn11B | DQ6B | DQ3B | DQSn1B/DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B32p | DIFFOUT_B32p | AK33 | DQS11B | DQ6B/CQn6B | DQ3B | DQSn1B/CQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B33n | DIFFOUT_B33n | AG33 | DQ11B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B33p | DIFFOUT_B33p | AH33 | DQ11B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B34n | DIFFOUT_B34n | AM32 | DQSn12B | DQSn6B/DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B34p | DIFFOUT_B34p | AM31 | DQS12B | DQS6B/CQ6B | DQ3B/CQn3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B35n | DIFFOUT_B35n | AK32 | DQ12B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B35p | DIFFOUT_B35p | AJ32 | DQ12B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B36n | DIFFOUT_B36n | AP31 | DQ12B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B36p | DIFFOUT_B36p | AN31 | DQ12B | DQ6B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B37n | DIFFOUT_B37n | AF34 | DQ13B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B37p | DIFFOUT_B37p | AE34 | DQ13B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B38n | DIFFOUT_B38n | AG32 | DQSn13B | DQ7B | DQSn3B/DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B38p | DIFFOUT_B38p | AF32 | DQS13B | DQ7B/CQn7B | DQSn3B/CQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B39n | DIFFOUT_B39n | AE33 | DQ13B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B39p | DIFFOUT_B39p | AD33 | DQ13B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B40n | DIFFOUT_B40n | AE32 | DQSn14B | DQSn7B/DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B40p | DIFFOUT_B40p | AD32 | DQS14B | DQS7B/CQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B41n | DIFFOUT_B41n | AE30 | DQ14B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_TX_B41p | DIFFOUT_B41p | AE29 | DQ14B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B42n | DIFFOUT_B42n | AF31 | DQ14B | DQ7B | DQ3B | DQ1B |
| 3B | VREFB3BN0 | IO | | | DIFFIO_RX_B42p | DIFFOUT_B42p | AE31 | DQ14B | DQ7B | DQ3B | DQ1B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B43n | DIFFOUT_B43n | AP30 | DQ15B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B43p | DIFFOUT_B43p | AN30 | DQ15B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B44n | DIFFOUT_B44n | AU32 | DQSn15B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B44p | DIFFOUT_B44p | AT32 | DQS15B | DQ8B/CQn8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B45n | DIFFOUT_B45n | AT30 | DQ15B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B45p | DIFFOUT_B45p | AR30 | DQ15B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B46n | DIFFOUT_B46n | AL31 | DQSn16B | DQSn8B/DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B46p | DIFFOUT_B46p | AL30 | DQS16B | DQS8B/CQ8B | DQ4B/CQn4B | DQ2B |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B47n | DIFFOUT_B47n | AJ31 | DQ16B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B47p | DIFFOUT_B47p | AH31 | DQ16B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B48n | DIFFOUT_B48n | AJ30 | DQ16B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B48p | DIFFOUT_B48p | AH30 | DQ16B | DQ8B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B49n | DIFFOUT_B49n | AV31 | DQ17B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B49p | DIFFOUT_B49p | AU31 | DQ17B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B50n | DIFFOUT_B50n | AU30 | DQSn17B | DQ9B | DQSn4B/DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B50p | DIFFOUT_B50p | AT29 | DQS17B | DQ9B/CQn9B | DQSn4B/DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B51n | DIFFOUT_B51n | AW32 | DQ17B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B51p | DIFFOUT_B51p | AV32 | DQ17B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B52n | DIFFOUT_B52n | AL29 | DQSn18B | DQSn9B/DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B52p | DIFFOUT_B52p | AK30 | DQS18B | DQSn9B/CQ9B | DQ4B | DQ2B/CQn2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B53n | DIFFOUT_B53n | AN28 | DQ18B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B53p | DIFFOUT_B53p | AM29 | DQ18B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B54n | DIFFOUT_B54n | AR29 | DQ18B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B54p | DIFFOUT_B54p | AP28 | DQ18B | DQ9B | DQ4B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B55n | DIFFOUT_B55n | AY31 | DQ19B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B55p | DIFFOUT_B55p | AW30 | DQ19B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B56n | DIFFOUT_B56n | BB32 | DQSn19B | DQ10B | DQ5B | DQSn2B/DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B56p | DIFFOUT_B56p | BA31 | DQS19B | DQ10B/CQn10B | DQ5B | DQSn2B/CQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B57n | DIFFOUT_B57n | BD32 | DQ19B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B57p | DIFFOUT_B57p | BC32 | DQ19B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B58n | DIFFOUT_B58n | BA29 | DQSn20B | DQSn10B/DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B58p | DIFFOUT_B58p | AY30 | DQS20B | DQSn10B/CQ10B | DQ5B/CQn5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B59n | DIFFOUT_B59n | BD31 | DQ20B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B59p | DIFFOUT_B59p | BC31 | DQ20B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B60n | DIFFOUT_B60n | BB30 | DQ20B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B60p | DIFFOUT_B60p | BA30 | DQ20B | DQ10B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B61n | DIFFOUT_B61n | AG30 | DQ21B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B61p | DIFFOUT_B61p | AG29 | DQ21B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B62n | DIFFOUT_B62n | AK29 | DQSn21B | DQ11B | DQSn5B/DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B62p | DIFFOUT_B62p | AJ29 | DQS21B | DQ11B/CQn11B | DQSn5B/CQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B63n | DIFFOUT_B63n | AF29 | DQ21B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B63p | DIFFOUT_B63p | AF28 | DQ21B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B64n | DIFFOUT_B64n | AE28 | DQSn22B | DQSn11B/DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B64p | DIFFOUT_B64p | AE27 | DQS22B | DQSn11B/CQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B65n | DIFFOUT_B65n | AG26 | DQ22B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_TX_B65p | DIFFOUT_B65p | AG25 | DQ22B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B66n | DIFFOUT_B66n | AG28 | DQ22B | DQ11B | DQ5B | DQ2B |
| 3C | VREFB3CN0 | IO | | | DIFFIO_RX_B66p | DIFFOUT_B66p | AG27 | DQ22B | DQ11B | DQ5B | DQ2B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B67n | DIFFOUT_B67n | AM28 | DQ23B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B67p | DIFFOUT_B67p | AL28 | DQ23B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B68n | DIFFOUT_B68n | AP27 | DQSn23B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B68p | DIFFOUT_B68p | AN27 | DQS23B | DQ12B/CQn12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B69n | DIFFOUT_B69n | AL27 | DQ23B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B69p | DIFFOUT_B69p | AK27 | DQ23B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B70n | DIFFOUT_B70n | AR28 | DQSn24B | DQSn12B/DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B70p | DIFFOUT_B70p | AR27 | DQS24B | DQSn12B/CQ12B | DQ6B/CQn6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B71n | DIFFOUT_B71n | AV28 | DQ24B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B71p | DIFFOUT_B71p | AU28 | DQ24B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B72n | DIFFOUT_B72n | AV29 | DQ24B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B72p | DIFFOUT_B72p | AU29 | DQ24B | DQ12B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B73n | DIFFOUT_B73n | AW29 | DQ25B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B73p | DIFFOUT_B73p | AY28 | DQ25B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B74n | DIFFOUT_B74n | BD29 | DQSn25B | DQ13B | DQSn6B/DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B74p | DIFFOUT_B74p | BC29 | DQS25B | DQ13B/CQn13B | DQSn6B/CQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B75n | DIFFOUT_B75n | BB29 | DQ25B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B75p | DIFFOUT_B75p | BA28 | DQ25B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | CLK4n | | DIFFIO_RX_B76n | DIFFOUT_B76n | BD28 | DQSn26B | DQSn13B/DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | CLK4p | | DIFFIO_RX_B76p | DIFFOUT_B76p | BC28 | DQS26B | DQSn13B/CQ13B | DQ6B | DQ3B/CQn3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B77n | DIFFOUT_B77n | AY27 | DQ26B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B77p | DIFFOUT_B77p | AW27 | DQ26B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | CLK5n | DIFFIO_RX_B78n | DIFFOUT_B78n | BB27 | DQ26B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | CLK5p | DIFFIO_RX_B78p | DIFFOUT_B78p | BA27 | DQ26B | DQ13B | DQ6B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B79n | DIFFOUT_B79n | AJ28 | DQ27B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B79p | DIFFOUT_B79p | AH28 | DQ27B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B80n | DIFFOUT_B80n | AJ27 | DQSn27B | DQ14B | DQ7B | DQSn3B/DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B80p | DIFFOUT_B80p | AH27 | DQS27B | DQ14B/CQn14B | DQ7B | DQSn3B/CQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B81n | DIFFOUT_B81n | AL26 | DQ27B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B81p | DIFFOUT_B81p | AK26 | DQ27B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B82n | DIFFOUT_B82n | AJ26 | DQSn28B | DQSn14B/DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B82p | DIFFOUT_B82p | AJ25 | DQS28B | DQSn14B/CQ14B | DQ7B/CQn7B | DQ3B |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B83n | DIFFOUT_B83n | AH23 | DQ28B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B83p | DIFFOUT_B83p | AH24 | DQ28B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B84n | DIFFOUT_B84n | AK24 | DQ28B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B84p | DIFFOUT_B84p | AJ24 | DQ28B | DQ14B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B85n | DIFFOUT_B85n | AN25 | DQ29B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B85p | DIFFOUT_B85p | AM26 | DQ29B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B86n | DIFFOUT_B86n | AR26 | DQSn29B | DQ15B | DQSn7B/DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B86p | DIFFOUT_B86p | AP25 | DQS29B | DQ15B/CQn15B | DQSn7B/CQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B87n | DIFFOUT_B87n | AM25 | DQ29B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B87p | DIFFOUT_B87p | AL25 | DQ29B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B88n | DIFFOUT_B88n | AU26 | DQSn30B | DQSn15B/DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B88p | DIFFOUT_B88p | AT26 | DQS30B | DQS15B/CQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B89n | DIFFOUT_B89n | AU27 | DQ30B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_TX_B89p | DIFFOUT_B89p | AT27 | DQ30B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B90n | DIFFOUT_B90n | AW26 | DQ30B | DQ15B | DQ7B | DQ3B |
| 3D | VREFB3DN0 | IO | | | DIFFIO_RX_B90p | DIFFOUT_B90p | AV26 | DQ30B | DQ15B | DQ7B | DQ3B |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B91n | DIFFOUT_B91n | AU25 | DQ31B | DQ16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B91p | DIFFOUT_B91p | AU24 | DQ31B | DQ16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B92n | DIFFOUT_B92n | AR25 | DQSn31B | DQ16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B92p | DIFFOUT_B92p | AP24 | DQS31B | DQ16B/CQn16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B93n | DIFFOUT_B93n | AW24 | DQ31B | DQ16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B93p | DIFFOUT_B93p | AV25 | DQ31B | DQ16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B94n | DIFFOUT_B94n | BB26 | DQSn32B | DQSn16B/DQ16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B94p | DIFFOUT_B94p | BA25 | DQS32B | DQS16B/CQ16B | DQ8B/CQn8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B95n | DIFFOUT_B95n | BD26 | DQ32B | DQ16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B95p | DIFFOUT_B95p | BC26 | DQ32B | DQ16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B96n | DIFFOUT_B96n | BA24 | DQ32B | DQ16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B96p | DIFFOUT_B96p | AY25 | DQ32B | DQ16B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B97n | DIFFOUT_B97n | AK23 | DQ33B | DQ17B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B97p | DIFFOUT_B97p | AJ23 | DQ33B | DQ17B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B98n | DIFFOUT_B98n | AJ22 | DQSn33B | DQ17B | DQSn8B/DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B98p | DIFFOUT_B98p | AH22 | DQS33B | DQ17B/CQn17B | DQSn8B/CQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B99n | DIFFOUT_B99n | AL21 | DQ33B | DQ17B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B99p | DIFFOUT_B99p | AK21 | DQ33B | DQ17B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B100n | DIFFOUT_B100n | AT23 | DQSn34B | DQSn17B/DQ17B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B100p | DIFFOUT_B100p | AR23 | DQS34B | DQS17B/CQ17B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B101n | DIFFOUT_B101n | AL24 | DQ34B | DQ17B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B101p | DIFFOUT_B101p | AL23 | DQ34B | DQ17B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B102n | DIFFOUT_B102n | AN23 | DQ34B | DQ17B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B102p | DIFFOUT_B102p | AM23 | DQ34B | DQ17B | DQ8B | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B103n | DIFFOUT_B103n | AV23 | DQ35B | DQ18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B103p | DIFFOUT_B103p | AU23 | DQ35B | DQ18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B104n | DIFFOUT_B104n | AT24 | DQSn35B | DQ18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B104p | DIFFOUT_B104p | AR24 | DQS35B | DQ18B/CQn18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B105n | DIFFOUT_B105n | AY24 | DQ35B | DQ18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B105p | DIFFOUT_B105p | AW23 | DQ35B | DQ18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B106n | DIFFOUT_B106n | BD25 | DQSn36B | DQSn18B/DQ18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B106p | DIFFOUT_B106p | BC25 | DQS36B | DQS18B/CQ18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B107n | DIFFOUT_B107n | BB24 | DQ36B | DQ18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_TX_B107p | DIFFOUT_B107p | BB23 | DQ36B | DQ18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B108n | DIFFOUT_B108n | BD23 | DQ36B | DQ18B | | |
| 3E | VREFB3EN0 | IO | | | DIFFIO_RX_B108p | DIFFOUT_B108p | BC23 | DQ36B | DQ18B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_TX_B109n | DIFFOUT_B109n | AN22 | DQ37B | DQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_TX_B109p | DIFFOUT_B109p | AM22 | DQ37B | DQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_RX_B110n | DIFFOUT_B110n | AJ21 | DQSn37B | DQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_RX_B110p | DIFFOUT_B110p | AK20 | DQS37B | DQ19B/CQn19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_TX_B111n | DIFFOUT_B111n | AM20 | DQ37B | DQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_TX_B111p | DIFFOUT_B111p | AL20 | DQ37B | DQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_RX_B112n | DIFFOUT_B112n | AH21 | DQSn38B | DQSn19B/DQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_RX_B112p | DIFFOUT_B112p | AG21 | DQS38B | DQS19B/CQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_TX_B113n | DIFFOUT_B113n | AJ20 | DQ38B | DQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_TX_B113p | DIFFOUT_B113p | AJ19 | DQ38B | DQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_RX_B114n | DIFFOUT_B114n | AG20 | DQ38B | DQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_RX_B114p | DIFFOUT_B114p | AG19 | DQ38B | DQ19B | | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_TX_B115n | DIFFOUT_B115n | AR21 | DQ39B | DQ20B | DQ9B | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_TX_B115p | DIFFOUT_B115p | AP21 | DQ39B | DQ20B | DQ9B | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_RX_B116n | DIFFOUT_B116n | AT21 | DQSn39B | DQ20B | DQ9B | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_RX_B116p | DIFFOUT_B116p | AR22 | DQS39B | DQ20B/CQn20B | DQ9B | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_TX_B117n | DIFFOUT_B117n | AU22 | DQ39B | DQ20B | DQ9B | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_TX_B117p | DIFFOUT_B117p | AU21 | DQ39B | DQ20B | DQ9B | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_RX_B118n | DIFFOUT_B118n | AW22 | DQSn40B | DQSn20B/DQ20B | DQ9B | |
| 4E | VREFB4EN0 | IO | | | DIFFIO_RX_B118p | DIFFOUT_B118p | AV22 | DQS40B | DQS20B/CQn20B | DQ9B/CQn9B | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|----------|---------------------------|---|------------------------|-------------------------|------------------------------|-------|------------|----------------|------------------|------------------|
| 4E | VREFB4E0 | IO | | | DIFFIO_TX_B119n | DIFFOUT_B119n | BA21 | DQ40B | DQ20B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_TX_B119p | DIFFOUT_B119p | AY21 | DQ40B | DQ20B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_RX_B120n | DIFFOUT_B120n | BA22 | DQ40B | DQ20B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_RX_B120p | DIFFOUT_B120p | AY22 | DQ40B | DQ20B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_TX_B121n | DIFFOUT_B121n | AV20 | DQ41B | DQ21B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_TX_B121p | DIFFOUT_B121p | AU20 | DQ41B | DQ21B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_RX_B122n | DIFFOUT_B122n | AT20 | DQSn41B | DQ21B | DQSn9B/DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_RX_B122p | DIFFOUT_B122p | AR20 | DQSn41B | DQ21B/CQn21B | DQSn9B/CQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_TX_B123n | DIFFOUT_B123n | AW21 | DQ41B | DQ21B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_TX_B123p | DIFFOUT_B123p | AW20 | DQ41B | DQ21B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_RX_B124n | DIFFOUT_B124n | BD22 | DQSn42B | DQSn21B/DQ21B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_RX_B124p | DIFFOUT_B124p | BC22 | DQSn42B | DQSn21B/CQ21B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_TX_B125n | DIFFOUT_B125n | BD20 | DQ42B | DQ21B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_TX_B125p | DIFFOUT_B125p | BC20 | DQ42B | DQ21B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_RX_B126n | DIFFOUT_B126n | BB21 | DQ42B | DQ21B | DQ9B | |
| 4E | VREFB4E0 | IO | | | DIFFIO_RX_B126p | DIFFOUT_B126p | BB20 | DQ42B | DQ21B | DQ9B | |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B127n | DIFFOUT_B127n | AL19 | DQ43B | DQ22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B127p | DIFFOUT_B127p | AL18 | DQ43B | DQ22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B128n | DIFFOUT_B128n | AN20 | DQSn43B | DQ22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B128p | DIFFOUT_B128p | AM19 | DQSn43B | DQ22B/CQn22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B129n | DIFFOUT_B129n | AP19 | DQ43B | DQ22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B129p | DIFFOUT_B129p | AN19 | DQ43B | DQ22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B130n | DIFFOUT_B130n | AR19 | DQSn44B | DQSn22B/DQ22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B130p | DIFFOUT_B130p | AP18 | DQSn44B | DQSn22B/CQ22B | DQ10B/CQn10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B131n | DIFFOUT_B131n | AW19 | DQ44B | DQ22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B131p | DIFFOUT_B131p | AV19 | DQ44B | DQ22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B132n | DIFFOUT_B132n | AU19 | DQ44B | DQ22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B132p | DIFFOUT_B132p | AU18 | DQ44B | DQ22B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B133n | DIFFOUT_B133n | AG18 | DQ45B | DQ23B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B133p | DIFFOUT_B133p | AG17 | DQ45B | DQ23B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B134n | DIFFOUT_B134n | AJ16 | DQSn45B | DQ23B | DQSn10B/DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B134p | DIFFOUT_B134p | AJ15 | DQSn45B | DQ23B/CQn23B | DQSn10B/CQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B135n | DIFFOUT_B135n | AK17 | DQ45B | DQ23B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B135p | DIFFOUT_B135p | AJ17 | DQ45B | DQ23B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B136n | DIFFOUT_B136n | AH19 | DQSn46B | DQSn23B/DQ23B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B136p | DIFFOUT_B136p | AH18 | DQSn46B | DQSn23B/CQ23B | DQ10B | DQ4B/CQn4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B137n | DIFFOUT_B137n | AM17 | DQ46B | DQ23B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B137p | DIFFOUT_B137p | AL17 | DQ46B | DQ23B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B138n | DIFFOUT_B138n | AK18 | DQ46B | DQ23B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B138p | DIFFOUT_B138p | AJ18 | DQ46B | DQ23B | DQ10B | DQ4B |
| 4D | VREFB4D0 | IO | FPLL_BC_CLKOUT1,FPLL_BC_CLKOUTn | | DIFFIO_TX_B139n | DIFFOUT_B139n | BA19 | DQ47B | DQ24B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | FPLL_BC_CLKOUT0,FPLL_BC_CLKOUTp,FPLL_BC_FB0 | | DIFFIO_TX_B139p | DIFFOUT_B139p | AY19 | DQ47B | DQ24B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | FPLL_BC_CLKOUT3,FPLL_BC_FBn | | DIFFIO_RX_B140n | DIFFOUT_B140n | BD19 | DQSn47B | DQ24B | DQ11B | DQSn4B/DQ4B |
| 4D | VREFB4D0 | IO | FPLL_BC_CLKOUT2,FPLL_BC_FBp,FPLL_BC_FB1 | | DIFFIO_RX_B140p | DIFFOUT_B140p | BC19 | DQSn47B | DQ24B/CQn24B | DQ11B | DQSn4B/CQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B141n | DIFFOUT_B141n | BD17 | DQ47B | DQ24B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B141p | DIFFOUT_B141p | BC17 | DQ47B | DQ24B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | CLK6n | | DIFFIO_RX_B142n | DIFFOUT_B142n | BA18 | DQSn48B | DQSn24B/DQ24B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | CLK6p | | DIFFIO_RX_B142p | DIFFOUT_B142p | AY18 | DQSn48B | DQSn24B/CQ24B | DQ11B/CQn11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B143n | DIFFOUT_B143n | BA16 | DQ48B | DQ24B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B143p | DIFFOUT_B143p | AY16 | DQ48B | DQ24B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | CLK7n | | DIFFIO_RX_B144n | DIFFOUT_B144n | BB17 | DQ48B | DQ24B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | CLK7p | | DIFFIO_RX_B144p | DIFFOUT_B144p | BB18 | DQ48B | DQ24B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B145n | DIFFOUT_B145n | AV17 | DQ49B | DQ25B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B145p | DIFFOUT_B145p | AU17 | DQ49B | DQ25B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B146n | DIFFOUT_B146n | AW17 | DQSn49B | DQ25B | DQSn11B/DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B146p | DIFFOUT_B146p | AW16 | DQSn49B | DQ25B/CQn25B | DQSn11B/CQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B147n | DIFFOUT_B147n | AV16 | DQ49B | DQ25B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B147p | DIFFOUT_B147p | AU16 | DQ49B | DQ25B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B148n | DIFFOUT_B148n | AP16 | DQSn50B | DQSn25B/DQ25B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B148p | DIFFOUT_B148p | AN17 | DQSn50B | DQSn25B/CQ25B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B149n | DIFFOUT_B149n | AT17 | DQ50B | DQ25B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_TX_B149p | DIFFOUT_B149p | AR17 | DQ50B | DQ25B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B150n | DIFFOUT_B150n | AT18 | DQ50B | DQ25B | DQ11B | DQ4B |
| 4D | VREFB4D0 | IO | | | DIFFIO_RX_B150p | DIFFOUT_B150p | AR18 | DQ50B | DQ25B | DQ11B | DQ4B |
| 4C | VREFB4C0 | IO | | | DIFFIO_TX_B151n | DIFFOUT_B151n | AE16 | DQ51B | DQ26B | DQ12B | DQ5B |
| 4C | VREFB4C0 | IO | | | DIFFIO_TX_B151p | DIFFOUT_B151p | AE15 | DQ51B | DQ26B | DQ12B | DQ5B |
| 4C | VREFB4C0 | IO | | | DIFFIO_RX_B152n | DIFFOUT_B152n | AE18 | DQSn51B | DQ26B | DQ12B | DQ5B |
| 4C | VREFB4C0 | IO | | | DIFFIO_RX_B152p | DIFFOUT_B152p | AE17 | DQSn51B | DQ26B/CQn26B | DQ12B | DQ5B |
| 4C | VREFB4C0 | IO | | | DIFFIO_TX_B153n | DIFFOUT_B153n | AG15 | DQ51B | DQ26B | DQ12B | DQ5B |
| 4C | VREFB4C0 | IO | | | DIFFIO_TX_B153p | DIFFOUT_B153p | AF16 | DQ51B | DQ26B | DQ12B | DQ5B |
| 4C | VREFB4C0 | IO | | | DIFFIO_RX_B154n | DIFFOUT_B154n | AF17 | DQSn52B | DQSn26B/DQ26B | DQ12B | DQ5B |
| 4C | VREFB4C0 | IO | | | DIFFIO_RX_B154p | DIFFOUT_B154p | AG16 | DQSn52B | DQSn26B/CQn26B | DQ12B/CQn12B | DQ5B |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B155n | DIFFOUT_B155n | AK15 | DQ52B | DQ26B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B155p | DIFFOUT_B155p | AJ14 | DQ52B | DQ26B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B156n | DIFFOUT_B156n | AH15 | DQ52B | DQ26B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B156p | DIFFOUT_B156p | AG14 | DQ52B | DQ26B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B157n | DIFFOUT_B157n | BD16 | DQ53B | DQ27B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B157p | DIFFOUT_B157p | BC16 | DQ53B | DQ27B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B158n | DIFFOUT_B158n | BA15 | DQ53B | DQ27B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B158p | DIFFOUT_B158p | AY15 | DQ53B | DQ27B/CQn27B | DQ12B/CQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B159n | DIFFOUT_B159n | BB15 | DQ53B | DQ27B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B159p | DIFFOUT_B159p | BB14 | DQ53B | DQ27B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B160n | DIFFOUT_B160n | BD14 | DQ54B | DQ27B/DQ27B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B160p | DIFFOUT_B160p | BC14 | DQ54B | DQ27B/CQ27B | DQ12B | DQ5B/CQn5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B161n | DIFFOUT_B161n | BA13 | DQ54B | DQ27B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B161p | DIFFOUT_B161p | AY13 | DQ54B | DQ27B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B162n | DIFFOUT_B162n | BD13 | DQ54B | DQ27B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B162p | DIFFOUT_B162p | BC13 | DQ54B | DQ27B | DQ12B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B163n | DIFFOUT_B163n | AV14 | DQ55B | DQ28B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B163p | DIFFOUT_B163p | AU14 | DQ55B | DQ28B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B164n | DIFFOUT_B164n | AU15 | DQ55B | DQ28B | DQ13B | DQ5B/DO5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B164p | DIFFOUT_B164p | AT15 | DQ55B | DQ28B/CQn28B | DQ13B | DQ5B/CO5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B165n | DIFFOUT_B165n | AW14 | DQ55B | DQ28B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B165p | DIFFOUT_B165p | AW13 | DQ55B | DQ28B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B166n | DIFFOUT_B166n | AR16 | DQ55B | DQ28B/DQ28B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B166p | DIFFOUT_B166p | AP15 | DQ55B | DQ28B/CQ28B | DQ13B/CQn13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B167n | DIFFOUT_B167n | AM16 | DQ56B | DQ28B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B167p | DIFFOUT_B167p | AN15 | DQ56B | DQ28B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B168n | DIFFOUT_B168n | AL16 | DQ56B | DQ28B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B168p | DIFFOUT_B168p | AL15 | DQ56B | DQ28B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B169n | DIFFOUT_B169n | AR14 | DQ57B | DQ29B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B169p | DIFFOUT_B169p | AR15 | DQ57B | DQ29B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B170n | DIFFOUT_B170n | AV13 | DQ57B | DQ29B | DQ13B/DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B170p | DIFFOUT_B170p | AU12 | DQ57B | DQ29B/CQn29B | DQ13B/CQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B171n | DIFFOUT_B171n | AU13 | DQ57B | DQ29B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B171p | DIFFOUT_B171p | AT14 | DQ57B | DQ29B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B172n | DIFFOUT_B172n | AJ13 | DQ58B | DQ29B/DQ29B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B172p | DIFFOUT_B172p | AH13 | DQ58B | DQ29B/CQ29B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B173n | DIFFOUT_B173n | AL14 | DQ58B | DQ29B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_TX_B173p | DIFFOUT_B173p | AK14 | DQ58B | DQ29B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B174n | DIFFOUT_B174n | AN14 | DQ58B | DQ29B | DQ13B | DQ5B |
| 4C | VREFB4CN0 | IO | | | DIFFIO_RX_B174p | DIFFOUT_B174p | AM14 | DQ58B | DQ29B | DQ13B | DQ5B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B175n | DIFFOUT_B175n | AE12 | DQ59B | DQ30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B175p | DIFFOUT_B175p | AE11 | DQ59B | DQ30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B176n | DIFFOUT_B176n | AE14 | DQ59B | DQ30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B176p | DIFFOUT_B176p | AD14 | DQ59B | DQ30B/CQn30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B177n | DIFFOUT_B177n | AF14 | DQ59B | DQ30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B177p | DIFFOUT_B177p | AE13 | DQ59B | DQ30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B178n | DIFFOUT_B178n | AG13 | DQ60B | DQ30B/DQ30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B178p | DIFFOUT_B178p | AF13 | DQ60B | DQ30B/CQ30B | DQ14B/CQn14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B179n | DIFFOUT_B179n | AE10 | DQ60B | DQ30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B179p | DIFFOUT_B179p | AE9 | DQ60B | DQ30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B180n | DIFFOUT_B180n | AF11 | DQ60B | DQ30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B180p | DIFFOUT_B180p | AF10 | DQ60B | DQ30B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B181n | DIFFOUT_B181n | BB12 | DQ61B | DQ31B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B181p | DIFFOUT_B181p | BA12 | DQ61B | DQ31B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B182n | DIFFOUT_B182n | BD11 | DQ61B | DQ31B | DQ14B/DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B182p | DIFFOUT_B182p | BC11 | DQ61B | DQ31B/CQn31B | DQ14B/CQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B183n | DIFFOUT_B183n | AY12 | DQ61B | DQ31B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B183p | DIFFOUT_B183p | AW11 | DQ61B | DQ31B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B184n | DIFFOUT_B184n | BD10 | DQ62B | DQ31B/DQ31B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B184p | DIFFOUT_B184p | BC10 | DQ62B | DQ31B/CQ31B | DQ14B | DQ6B/CQn6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B185n | DIFFOUT_B185n | AY10 | DQ62B | DQ31B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B185p | DIFFOUT_B185p | AW10 | DQ62B | DQ31B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B186n | DIFFOUT_B186n | BB11 | DQ62B | DQ31B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B186p | DIFFOUT_B186p | BA10 | DQ62B | DQ31B | DQ14B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B187n | DIFFOUT_B187n | AJ11 | DQ63B | DQ32B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B187p | DIFFOUT_B187p | AJ10 | DQ63B | DQ32B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B188n | DIFFOUT_B188n | AG11 | DQ63B | DQ32B | DQ15B | DQ6B/DO6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B188p | DIFFOUT_B188p | AG10 | DQ63B | DQ32B/CQn32B | DQ15B | DQ6B/CO6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B189n | DIFFOUT_B189n | AH10 | DQ63B | DQ32B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B189p | DIFFOUT_B189p | AG9 | DQ63B | DQ32B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B190n | DIFFOUT_B190n | AH12 | DQ64B | DQ32B/DQ32B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B190p | DIFFOUT_B190p | AG12 | DQ64B | DQ32B/CQ32B | DQ15B/CQn15B | DQ6B |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|---------------------------|---|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B191n | DIFFOUT_B191n | AL12 | DQ64B | DQ32B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B191p | DIFFOUT_B191p | AL11 | DQ64B | DQ32B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B192n | DIFFOUT_B192n | AK12 | DQ64B | DQ32B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B192p | DIFFOUT_B192p | AJ12 | DQ64B | DQ32B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B193n | DIFFOUT_B193n | AN12 | DQ65B | DQ33B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B193p | DIFFOUT_B193p | AM13 | DQ65B | DQ33B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B194n | DIFFOUT_B194n | AP13 | DQSn65B | DQ33B | DQSn15B/DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B194p | DIFFOUT_B194p | AP12 | DQSn65B | DQ33B/CQn33B | DQSn15B/CQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B195n | DIFFOUT_B195n | AR13 | DQ65B | DQ33B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B195p | DIFFOUT_B195p | AR12 | DQ65B | DQ33B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B196n | DIFFOUT_B196n | AV11 | DQSn66B | DQSn33B/DQ33B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B196p | DIFFOUT_B196p | AU10 | DQSn66B | DQSn33B/CQ33B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B197n | DIFFOUT_B197n | AV10 | DQ66B | DQ33B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_TX_B197p | DIFFOUT_B197p | AU9 | DQ66B | DQ33B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B198n | DIFFOUT_B198n | AU11 | DQ66B | DQ33B | DQ15B | DQ6B |
| 4B | VREFB4BN0 | IO | | | DIFFIO_RX_B198p | DIFFOUT_B198p | AT12 | DQ66B | DQ33B | DQ15B | DQ6B |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B199n | DIFFOUT_B199n | BD7 | DQ67B | DQ34B | DQ16B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B199p | DIFFOUT_B199p | BC7 | DQ67B | DQ34B | DQ16B | |
| 4A | VREFB4AN0 | IO | CLK11n | | DIFFIO_RX_B200n | DIFFOUT_B200n | BD8 | DQSn67B | DQ34B | DQ16B | |
| 4A | VREFB4AN0 | IO | CLK11p | | DIFFIO_RX_B200p | DIFFOUT_B200p | BC8 | DQSn67B | DQ34B/CQn34B | DQ16B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B201n | DIFFOUT_B201n | BB9 | DQ67B | DQ34B | DQ16B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B201p | DIFFOUT_B201p | BB8 | DQ67B | DQ34B | DQ16B | |
| 4A | VREFB4AN0 | IO | CLK10n | | DIFFIO_RX_B202n | DIFFOUT_B202n | BA9 | DQSn68B | DQSn34B/DQ34B | DQ16B | |
| 4A | VREFB4AN0 | IO | CLK10p | | DIFFIO_RX_B202p | DIFFOUT_B202p | AY9 | DQSn68B | DQSn34B/CQ34B | DQ16B/CQn16B | |
| 4A | VREFB4AN0 | IO | FPLL_BR_CLKOUT1,FPLL_BR_CLKOUTn | | DIFFIO_TX_B203n | DIFFOUT_B203n | AW9 | DQ68B | DQ34B | DQ16B | |
| 4A | VREFB4AN0 | IO | FPLL_BR_CLKOUT0,FPLL_BR_CLKOUTp,FPLL_BR_FB0 | | DIFFIO_TX_B203p | DIFFOUT_B203p | AV8 | DQ68B | DQ34B | DQ16B | |
| 4A | VREFB4AN0 | IO | FPLL_BR_CLKOUT3,FPLL_BR_FBn | | DIFFIO_RX_B204n | DIFFOUT_B204n | AL8 | DQ68B | DQ34B | DQ16B | |
| 4A | VREFB4AN0 | IO | FPLL_BR_CLKOUT2,FPLL_BR_FBp,FPLL_BR_FB1 | | DIFFIO_RX_B204p | DIFFOUT_B204p | AT9 | DQ68B | DQ34B | DQ16B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B205n | DIFFOUT_B205n | AL9 | DQ69B | DQ35B | DQ16B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B205p | DIFFOUT_B205p | AK9 | DQ69B | DQ35B | DQ16B | |
| 4A | VREFB4AN0 | IO | CLK9n | | DIFFIO_RX_B206n | DIFFOUT_B206n | AT11 | DQSn69B | DQ35B | DQSn16B/DQ16B | |
| 4A | VREFB4AN0 | IO | CLK9p | | DIFFIO_RX_B206p | DIFFOUT_B206p | AR11 | DQSn69B | DQ35B/CQn35B | DQSn16B/CQ16B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B207n | DIFFOUT_B207n | AN11 | DQ69B | DQ35B | DQ16B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B207p | DIFFOUT_B207p | AM11 | DQ69B | DQ35B | DQ16B | |
| 4A | VREFB4AN0 | IO | CLK8n | | DIFFIO_RX_B208n | DIFFOUT_B208n | AR10 | DQSn70B | DQSn35B/DQ35B | DQ16B | |
| 4A | VREFB4AN0 | IO | CLK8p | | DIFFIO_RX_B208p | DIFFOUT_B208p | AP10 | DQSn70B | DQSn35B/CQ35B | DQ16B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B209n | DIFFOUT_B209n | AR9 | DQ70B | DQ35B | DQ16B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_TX_B209p | DIFFOUT_B209p | AP9 | DQ70B | DQ35B | DQ16B | |
| 4A | VREFB4AN0 | IO | | | DIFFIO_RX_B210n | DIFFOUT_B210n | AT8 | DQ70B | DQ35B | DQ16B | |
| 4A | VREFB4AN0 | IO | RZQ_1 | | DIFFIO_RX_B210p | DIFFOUT_B210p | AR8 | DQ70B | DQ35B | DQ16B | |
| 4A | | GND | | | | | AN6 | | | | |
| 4A | | nCE | | nCE | | | AP6 | | | | |
| 4A | | nSTATUS | | nSTATUS | | | AL8 | | | | |
| 4A | | CONF_DONE | | CONF_DONE | | | AH9 | | | | |
| 4A | | nIO_PULLUP | | nIO_PULLUP | | | AN7 | | | | |
| 4A | | MSEL0 | | MSEL0 | | | AM5 | | | | |
| 4A | | MSEL1 | | MSEL1 | | | AM8 | | | | |
| 4A | | MSEL2 | | MSEL2 | | | AM7 | | | | |
| 4A | | MSEL3 | | MSEL3 | | | AJ9 | | | | |
| 4A | | MSEL4 | | MSEL4 | | | AN8 | | | | |
| GXB_R0 | | REFCLK0Rn | | | | | AK6 | | | | |
| GXB_R0 | | REFCLK0Rp | | | | | AK7 | | | | |
| GXB_R0 | | GXB_RX_R0p,GXB_REFCLK_R0p | | | | | BB2 | | | | |
| GXB_R0 | | GXB_RX_R0n,GXB_REFCLK_R0n | | | | | BB1 | | | | |
| GXB_R0 | | GXB_TX_R0p | | | | | AY6 | | | | |
| GXB_R0 | | GXB_TX_R0n | | | | | AY5 | | | | |
| GXB_R0 | | GXB_RX_R1p,GXB_REFCLK_R1p | | | | | BA4 | | | | |
| GXB_R0 | | GXB_RX_R1n,GXB_REFCLK_R1n | | | | | BA3 | | | | |
| GXB_R0 | | GXB_TX_R1p | | | | | AV6 | | | | |
| GXB_R0 | | GXB_TX_R1n | | | | | AV5 | | | | |
| GXB_R0 | | GXB_RX_R2p,GXB_REFCLK_R2p | | | | | AW4 | | | | |
| GXB_R0 | | GXB_RX_R2n,GXB_REFCLK_R2n | | | | | AW3 | | | | |
| GXB_R0 | | GXB_TX_R2p | | | | | AT6 | | | | |
| GXB_R0 | | GXB_TX_R2n | | | | | AT5 | | | | |
| GXB_R0 | | GXB_RX_R3p,GXB_REFCLK_R3p | | | | | AY2 | | | | |
| GXB_R0 | | GXB_RX_R3n,GXB_REFCLK_R3n | | | | | AY1 | | | | |
| GXB_R0 | | GXB_TX_R3p | | | | | AU4 | | | | |
| GXB_R0 | | GXB_TX_R3n | | | | | AU3 | | | | |
| GXB_R0 | | GXB_RX_R4p,GXB_REFCLK_R4p | | | | | AV2 | | | | |
| GXB_R0 | | GXB_RX_R4n,GXB_REFCLK_R4n | | | | | AV1 | | | | |
| GXB_R0 | | GXB_TX_R4p | | | | | AR4 | | | | |
| GXB_R0 | | GXB_TX_R4n | | | | | AR3 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|-----------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| GXB_R0 | | GXB_RX_R5p,GXB_REFCLK_R5p | | | | | AT2 | | | | |
| GXB_R0 | | GXB_RX_R5n,GXB_REFCLK_R5n | | | | | AT1 | | | | |
| GXB_R0 | | GXB_TX_R5p | | | | | AN4 | | | | |
| GXB_R0 | | GXB_TX_R5n | | | | | AN3 | | | | |
| GXB_R0 | | REFCLK1Rn | | | | | AH5 | | | | |
| GXB_R0 | | REFCLK1Rp | | | | | AH6 | | | | |
| GXB_R1 | | REFCLK2Rn | | | | | AF6 | | | | |
| GXB_R1 | | REFCLK2Rp | | | | | AF7 | | | | |
| GXB_R1 | | GXB_RX_R6p,GXB_REFCLK_R6p | | | | | AP2 | | | | |
| GXB_R1 | | GXB_RX_R6n,GXB_REFCLK_R6n | | | | | AP1 | | | | |
| GXB_R1 | | GXB_TX_R6p | | | | | AL4 | | | | |
| GXB_R1 | | GXB_TX_R6n | | | | | AL3 | | | | |
| GXB_R1 | | GXB_RX_R7p,GXB_REFCLK_R7p | | | | | AM2 | | | | |
| GXB_R1 | | GXB_RX_R7n,GXB_REFCLK_R7n | | | | | AM1 | | | | |
| GXB_R1 | | GXB_TX_R7p | | | | | AJ4 | | | | |
| GXB_R1 | | GXB_TX_R7n | | | | | AJ3 | | | | |
| GXB_R1 | | GXB_RX_R8p,GXB_REFCLK_R8p | | | | | AK2 | | | | |
| GXB_R1 | | GXB_RX_R8n,GXB_REFCLK_R8n | | | | | AK1 | | | | |
| GXB_R1 | | GXB_TX_R8p | | | | | AG4 | | | | |
| GXB_R1 | | GXB_TX_R8n | | | | | AG3 | | | | |
| GXB_R1 | | GXB_RX_R9p,GXB_REFCLK_R9p | | | | | AH2 | | | | |
| GXB_R1 | | GXB_RX_R9n,GXB_REFCLK_R9n | | | | | AH1 | | | | |
| GXB_R1 | | GXB_TX_R9p | | | | | AE4 | | | | |
| GXB_R1 | | GXB_TX_R9n | | | | | AE3 | | | | |
| GXB_R1 | | GXB_RX_R10p,GXB_REFCLK_R10p | | | | | AF2 | | | | |
| GXB_R1 | | GXB_RX_R10n,GXB_REFCLK_R10n | | | | | AF1 | | | | |
| GXB_R1 | | GXB_TX_R10p | | | | | AC4 | | | | |
| GXB_R1 | | GXB_TX_R10n | | | | | AC3 | | | | |
| GXB_R1 | | GXB_RX_R11p,GXB_REFCLK_R11p | | | | | AD2 | | | | |
| GXB_R1 | | GXB_RX_R11n,GXB_REFCLK_R11n | | | | | AD1 | | | | |
| GXB_R1 | | GXB_TX_R11p | | | | | AA4 | | | | |
| GXB_R1 | | GXB_TX_R11n | | | | | AA3 | | | | |
| GXB_R1 | | REFCLK3Rn | | | | | AD5 | | | | |
| GXB_R1 | | REFCLK3Rp | | | | | AD6 | | | | |
| GXB_R2 | | REFCLK4Rn | | | | | AB5 | | | | |
| GXB_R2 | | REFCLK4Rp | | | | | AB6 | | | | |
| GXB_R2 | | GXB_RX_R12p,GXB_REFCLK_R12p | | | | | AB2 | | | | |
| GXB_R2 | | GXB_RX_R12n,GXB_REFCLK_R12n | | | | | AB1 | | | | |
| GXB_R2 | | GXB_TX_R12p | | | | | W4 | | | | |
| GXB_R2 | | GXB_TX_R12n | | | | | W3 | | | | |
| GXB_R2 | | GXB_RX_R13p,GXB_REFCLK_R13p | | | | | Y2 | | | | |
| GXB_R2 | | GXB_RX_R13n,GXB_REFCLK_R13n | | | | | Y1 | | | | |
| GXB_R2 | | GXB_TX_R13p | | | | | U4 | | | | |
| GXB_R2 | | GXB_TX_R13n | | | | | U3 | | | | |
| GXB_R2 | | GXB_RX_R14p,GXB_REFCLK_R14p | | | | | V2 | | | | |
| GXB_R2 | | GXB_RX_R14n,GXB_REFCLK_R14n | | | | | V1 | | | | |
| GXB_R2 | | GXB_TX_R14p | | | | | R4 | | | | |
| GXB_R2 | | GXB_TX_R14n | | | | | R3 | | | | |
| GXB_R2 | | GXB_RX_R15p,GXB_REFCLK_R15p | | | | | T2 | | | | |
| GXB_R2 | | GXB_RX_R15n,GXB_REFCLK_R15n | | | | | T1 | | | | |
| GXB_R2 | | GXB_TX_R15p | | | | | N4 | | | | |
| GXB_R2 | | GXB_TX_R15n | | | | | N3 | | | | |
| GXB_R2 | | GXB_RX_R16p,GXB_REFCLK_R16p | | | | | P2 | | | | |
| GXB_R2 | | GXB_RX_R16n,GXB_REFCLK_R16n | | | | | P1 | | | | |
| GXB_R2 | | GXB_TX_R16p | | | | | L4 | | | | |
| GXB_R2 | | GXB_TX_R16n | | | | | L3 | | | | |
| GXB_R2 | | GXB_RX_R17p,GXB_REFCLK_R17p | | | | | M2 | | | | |
| GXB_R2 | | GXB_RX_R17n,GXB_REFCLK_R17n | | | | | M1 | | | | |
| GXB_R2 | | GXB_TX_R17p | | | | | J4 | | | | |
| GXB_R2 | | GXB_TX_R17n | | | | | J3 | | | | |
| GXB_R2 | | REFCLK5Rn | | | | | Y6 | | | | |
| GXB_R2 | | REFCLK5Rp | | | | | Y7 | | | | |
| GXB_R3 | | REFCLK6Rn | | | | | V5 | | | | |
| GXB_R3 | | REFCLK6Rp | | | | | V6 | | | | |
| GXB_R3 | | GXB_RX_R18p,GXB_REFCLK_R18p | | | | | K2 | | | | |
| GXB_R3 | | GXB_RX_R18n,GXB_REFCLK_R18n | | | | | K1 | | | | |
| GXB_R3 | | GXB_TX_R18p | | | | | K6 | | | | |
| GXB_R3 | | GXB_TX_R18n | | | | | K5 | | | | |
| GXB_R3 | | GXB_RX_R19p,GXB_REFCLK_R19p | | | | | H2 | | | | |
| GXB_R3 | | GXB_RX_R19n,GXB_REFCLK_R19n | | | | | H1 | | | | |
| GXB_R3 | | GXB_TX_R19p | | | | | H6 | | | | |
| GXB_R3 | | GXB_TX_R19n | | | | | H5 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|----------|-----------------------------|---|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| GXB_R3 | | GXB_RX_R20p,GXB_REFCLK_R20p | | | | | F2 | | | | |
| GXB_R3 | | GXB_RX_R20n,GXB_REFCLK_R20n | | | | | F1 | | | | |
| GXB_R3 | | GXB_TX_R20p | | | | | G4 | | | | |
| GXB_R3 | | GXB_TX_R20n | | | | | G3 | | | | |
| GXB_R3 | | GXB_RX_R21p,GXB_REFCLK_R21p | | | | | D2 | | | | |
| GXB_R3 | | GXB_RX_R21n,GXB_REFCLK_R21n | | | | | D1 | | | | |
| GXB_R3 | | GXB_TX_R21p | | | | | E4 | | | | |
| GXB_R3 | | GXB_TX_R21n | | | | | E3 | | | | |
| GXB_R3 | | GXB_RX_R22p,GXB_REFCLK_R22p | | | | | B2 | | | | |
| GXB_R3 | | GXB_RX_R22n,GXB_REFCLK_R22n | | | | | B1 | | | | |
| GXB_R3 | | GXB_TX_R22p | | | | | F6 | | | | |
| GXB_R3 | | GXB_TX_R22n | | | | | F5 | | | | |
| GXB_R3 | | GXB_RX_R23p,GXB_REFCLK_R23p | | | | | C4 | | | | |
| GXB_R3 | | GXB_RX_R23n,GXB_REFCLK_R23n | | | | | C3 | | | | |
| GXB_R3 | | GXB_TX_R23p | | | | | D6 | | | | |
| GXB_R3 | | GXB_TX_R23n | | | | | D5 | | | | |
| GXB_R3 | | REFCLK7Rn | | | | | T6 | | | | |
| GXB_R3 | | REFCLK7Rp | | | | | T7 | | | | |
| 7A | | GND | | | | | M7 | | | | |
| 7A | VREFB7A0 | IO | RZQ_4 | | DIFFIO_RX_T1p | DIFFOUT_T1p | H9 | DQ1T | DQ1T | DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_RX_T1n | DIFFOUT_T1n | H8 | DQ1T | DQ1T | DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_TX_T2p | DIFFOUT_T2p | K8 | DQ1T | DQ1T | DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_TX_T2n | DIFFOUT_T2n | J9 | DQ1T | DQ1T | DQ1T | |
| 7A | VREFB7A0 | IO | CLK12p | | DIFFIO_RX_T3p | DIFFOUT_T3p | M8 | DQS1T | DQS1T/CQ1T | DQ1T | |
| 7A | VREFB7A0 | IO | CLK12n | | DIFFIO_RX_T3n | DIFFOUT_T3n | L8 | DQSn1T | DQSn1T/DQ1T | DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_TX_T4p | DIFFOUT_T4p | K10 | DQ2T | DQ1T | DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_TX_T4n | DIFFOUT_T4n | K9 | DQ2T | DQ1T | DQ1T | |
| 7A | VREFB7A0 | IO | CLK13p | | DIFFIO_RX_T5p | DIFFOUT_T5p | M9 | DQS2T | DQ1T/CQn1T | DQS1T/CQ1T | |
| 7A | VREFB7A0 | IO | CLK13n | | DIFFIO_RX_T5n | DIFFOUT_T5n | L9 | DQS2T | DQ1T | DQSn1T/DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_TX_T6p | DIFFOUT_T6p | P8 | DQ2T | DQ1T | DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_TX_T6n | DIFFOUT_T6n | N8 | DQ2T | DQ1T | DQ1T | |
| 7A | VREFB7A0 | IO | FPLL_TR_CLKOUT2,FPLL_TR_FBp,FPLL_TR_FB1 | | DIFFIO_RX_T7p | DIFFOUT_T7p | G8 | DQ3T | DQ2T | DQ1T | |
| 7A | VREFB7A0 | IO | FPLL_TR_CLKOUT3,FPLL_TR_FBn | | DIFFIO_RX_T7n | DIFFOUT_T7n | F8 | DQ3T | DQ2T | DQ1T | |
| 7A | VREFB7A0 | IO | FPLL_TR_CLKOUT0,FPLL_TR_CLKOUTp,FPLL_TR_FB0 | | DIFFIO_TX_T8p | DIFFOUT_T8p | F9 | DQ3T | DQ2T | DQ1T | |
| 7A | VREFB7A0 | IO | FPLL_TR_CLKOUT1,FPLL_TR_CLKOUTn | | DIFFIO_TX_T8n | DIFFOUT_T8n | E9 | DQ3T | DQ2T | DQ1T | |
| 7A | VREFB7A0 | IO | CLK14p | | DIFFIO_RX_T9p | DIFFOUT_T9p | E8 | DQS3T | DQS2T/CQ2T | DQ1T/CQn1T | |
| 7A | VREFB7A0 | IO | CLK14n | | DIFFIO_RX_T9n | DIFFOUT_T9n | D9 | DQS3T | DQS2T/DQ2T | DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_TX_T10p | DIFFOUT_T10p | D10 | DQ4T | DQ2T | DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_TX_T10n | DIFFOUT_T10n | C9 | DQ4T | DQ2T | DQ1T | |
| 7A | VREFB7A0 | IO | CLK15p | | DIFFIO_RX_T11p | DIFFOUT_T11p | B8 | DQS4T | DQ2T/CQn2T | DQ1T | |
| 7A | VREFB7A0 | IO | CLK15n | | DIFFIO_RX_T11n | DIFFOUT_T11n | A8 | DQS4T | DQ2T | DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_TX_T12p | DIFFOUT_T12p | B7 | DQ4T | DQ2T | DQ1T | |
| 7A | VREFB7A0 | IO | | | DIFFIO_TX_T12n | DIFFOUT_T12n | A7 | DQ4T | DQ2T | DQ1T | |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T13p | DIFFOUT_T13p | V10 | DQ5T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T13n | DIFFOUT_T13n | V9 | DQ5T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T14p | DIFFOUT_T14p | T10 | DQ5T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T14n | DIFFOUT_T14n | R10 | DQ5T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T15p | DIFFOUT_T15p | U9 | DQS5T | DQS3T/CQ3T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T15n | DIFFOUT_T15n | T9 | DQS5T | DQS3T/DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T16p | DIFFOUT_T16p | P12 | DQ6T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T16n | DIFFOUT_T16n | R12 | DQ6T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T17p | DIFFOUT_T17p | T12 | DQS6T | DQ3T/CQn3T | DQS2T/CQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T17n | DIFFOUT_T17n | T11 | DQS6T | DQ3T | DQS2T/DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T18p | DIFFOUT_T18p | M12 | DQ6T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T18n | DIFFOUT_T18n | L12 | DQ6T | DQ3T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T19p | DIFFOUT_T19p | J10 | DQ7T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T19n | DIFFOUT_T19n | H10 | DQ7T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T20p | DIFFOUT_T20p | N11 | DQ7T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T20n | DIFFOUT_T20n | M11 | DQ7T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T21p | DIFFOUT_T21p | K11 | DQS7T | DQS4T/CQ4T | DQ2T/CQn2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T21n | DIFFOUT_T21n | L11 | DQS7T | DQS4T/DQ4T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T22p | DIFFOUT_T22p | H12 | DQ8T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T22n | DIFFOUT_T22n | H11 | DQ8T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T23p | DIFFOUT_T23p | G10 | DQS8T | DQ4T/CQn4T | DQ2T | DQS1T/CQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T23n | DIFFOUT_T23n | F10 | DQS8T | DQ4T | DQ2T | DQSn1T/DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T24p | DIFFOUT_T24p | K12 | DQ8T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T24n | DIFFOUT_T24n | J12 | DQ8T | DQ4T | DQ2T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T25p | DIFFOUT_T25p | P13 | DQ9T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T25n | DIFFOUT_T25n | N13 | DQ9T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T26p | DIFFOUT_T26p | T13 | DQ9T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T26n | DIFFOUT_T26n | R13 | DQ9T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T27p | DIFFOUT_T27p | P14 | DQS9T | DQS5T/CQ5T | DQ3T | DQ1T/CQn1T |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|----------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T27n | DIFFOUT_T27n | N14 | DQSn9T | DQSn5T/DQ5T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T28p | DIFFOUT_T28p | U14 | DQ10T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T28n | DIFFOUT_T28n | T14 | DQ10T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T29p | DIFFOUT_T29p | V12 | DQS10T | DQ5T/CQn5T | DQS3T/CQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T29n | DIFFOUT_T29n | V11 | DQSn10T | DQ5T | DQSn3T/DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T30p | DIFFOUT_T30p | U12 | DQ10T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T30n | DIFFOUT_T30n | U11 | DQ10T | DQ5T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T31p | DIFFOUT_T31p | G11 | DQ11T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T31n | DIFFOUT_T31n | F11 | DQ11T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T32p | DIFFOUT_T32p | E12 | DQ11T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T32n | DIFFOUT_T32n | E11 | DQ11T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T33p | DIFFOUT_T33p | D12 | DQSn11T | DQS6T/CQ6T | DQ3T/CQn3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T33n | DIFFOUT_T33n | C12 | DQSn11T | DQSn6T/DQ6T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T34p | DIFFOUT_T34p | D11 | DQ12T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T34n | DIFFOUT_T34n | C10 | DQ12T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T35p | DIFFOUT_T35p | B11 | DQS12T | DQ6T/CQn6T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_RX_T35n | DIFFOUT_T35n | A11 | DQSn12T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T36p | DIFFOUT_T36p | B10 | DQ12T | DQ6T | DQ3T | DQ1T |
| 7B | VREFB7B0 | IO | | | DIFFIO_TX_T36n | DIFFOUT_T36n | A10 | DQ12T | DQ6T | DQ3T | DQ1T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T37p | DIFFOUT_T37p | H14 | DQ13T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T37n | DIFFOUT_T37n | H13 | DQ13T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T38p | DIFFOUT_T38p | K13 | DQ13T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T38n | DIFFOUT_T38n | J13 | DQ13T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T39p | DIFFOUT_T39p | L15 | DQS13T | DQS7T/CQ7T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T39n | DIFFOUT_T39n | K14 | DQSn13T | DQSn7T/DQ7T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T40p | DIFFOUT_T40p | G13 | DQ14T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T40n | DIFFOUT_T40n | F13 | DQ14T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T41p | DIFFOUT_T41p | H15 | DQS14T | DQ7T/CQn7T | DQS4T/CQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T41n | DIFFOUT_T41n | G14 | DQSn14T | DQ7T | DQSn4T/DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T42p | DIFFOUT_T42p | K16 | DQ14T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T42n | DIFFOUT_T42n | J16 | DQ14T | DQ7T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T43p | DIFFOUT_T43p | Y17 | DQ15T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T43n | DIFFOUT_T43n | W17 | DQ15T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T44p | DIFFOUT_T44p | W14 | DQ15T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T44n | DIFFOUT_T44n | V13 | DQ15T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T45p | DIFFOUT_T45p | Y16 | DQS15T | DQS8T/CQ8T | DQ4T/CQn4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T45n | DIFFOUT_T45n | W16 | DQSn15T | DQSn8T/DQ8T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T46p | DIFFOUT_T46p | U15 | DQ16T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T46n | DIFFOUT_T46n | T15 | DQ16T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T47p | DIFFOUT_T47p | R15 | DQS16T | DQ8T/CQn8T | DQ4T | DQS2T/CQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T47n | DIFFOUT_T47n | P15 | DQSn16T | DQ8T | DQ4T | DQSn2T/DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T48p | DIFFOUT_T48p | V16 | DQ16T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T48n | DIFFOUT_T48n | V15 | DQ16T | DQ8T | DQ4T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T49p | DIFFOUT_T49p | R16 | DQ17T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T49n | DIFFOUT_T49n | P16 | DQ17T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T50p | DIFFOUT_T50p | T17 | DQ17T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T50n | DIFFOUT_T50n | T16 | DQ17T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T51p | DIFFOUT_T51p | V17 | DQS17T | DQS9T/CQ9T | DQ5T | DQ2T/CQn2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T51n | DIFFOUT_T51n | U17 | DQSn17T | DQSn9T/DQ9T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T52p | DIFFOUT_T52p | N16 | DQ18T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T52n | DIFFOUT_T52n | M15 | DQ18T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T53p | DIFFOUT_T53p | K15 | DQS18T | DQ9T/CQn9T | DQS5T/CQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T53n | DIFFOUT_T53n | J15 | DQSn18T | DQ9T | DQSn5T/DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T54p | DIFFOUT_T54p | M14 | DQ18T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T54n | DIFFOUT_T54n | L14 | DQ18T | DQ9T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T55p | DIFFOUT_T55p | F14 | DQ19T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T55n | DIFFOUT_T55n | E14 | DQ19T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T56p | DIFFOUT_T56p | D14 | DQ19T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T56n | DIFFOUT_T56n | C13 | DQ19T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T57p | DIFFOUT_T57p | E15 | DQS19T | DQS10T/CQ10T | DQ5T/CQn5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T57n | DIFFOUT_T57n | D15 | DQSn19T | DQSn10T/DQ10T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T58p | DIFFOUT_T58p | B13 | DQ20T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T58n | DIFFOUT_T58n | A13 | DQ20T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T59p | DIFFOUT_T59p | C16 | DQS20T | DQ10T/CQn10T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_RX_T59n | DIFFOUT_T59n | C15 | DQSn20T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T60p | DIFFOUT_T60p | B14 | DQ20T | DQ10T | DQ5T | DQ2T |
| 7C | VREFB7C0 | IO | | | DIFFIO_TX_T60n | DIFFOUT_T60n | A14 | DQ20T | DQ10T | DQ5T | DQ2T |
| 7D | VREFB7D0 | IO | | | DIFFIO_RX_T61p | DIFFOUT_T61p | N17 | DQ21T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7D0 | IO | | | DIFFIO_RX_T61n | DIFFOUT_T61n | P17 | DQ21T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7D0 | IO | | | DIFFIO_TX_T62p | DIFFOUT_T62p | R19 | DQ21T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7D0 | IO | | | DIFFIO_TX_T62n | DIFFOUT_T62n | R18 | DQ21T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7D0 | IO | | | DIFFIO_RX_T63p | DIFFOUT_T63p | P19 | DQS21T | DQS11T/CQ11T | DQ6T | DQ3T |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|---------------------------|---|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T63n | DIFFOUT_T63n | P18 | DQSn21T | DQSn11T/DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T64p | DIFFOUT_T64p | M18 | DQ22T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T64n | DIFFOUT_T64n | M17 | DQ22T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T65p | DIFFOUT_T65p | L18 | DQS22T | DQ11T/CQn11T | DQ56T/CQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T65n | DIFFOUT_T65n | L17 | DQS22T | DQ11T | DQSn6T/DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T66p | DIFFOUT_T66p | K18 | DQ22T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T66n | DIFFOUT_T66n | K17 | DQ22T | DQ11T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | CLK19p | | DIFFIO_RX_T67p | DIFFOUT_T67p | G16 | DQ23T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | CLK19n | | DIFFIO_RX_T67n | DIFFOUT_T67n | F16 | DQ23T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T68p | DIFFOUT_T68p | H17 | DQ23T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T68n | DIFFOUT_T68n | H16 | DQ23T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | CLK18p | | DIFFIO_RX_T69p | DIFFOUT_T69p | J18 | DQS23T | DQS12T/CQ12T | DQ6T/CQn6T | DQ3T |
| 7D | VREFB7DN0 | IO | CLK18n | | DIFFIO_RX_T69n | DIFFOUT_T69n | H18 | DQSn23T | DQSn12T/DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T70p | DIFFOUT_T70p | G17 | DQ24T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T70n | DIFFOUT_T70n | F17 | DQ24T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | FPLL_TC_CLKOUT2,FPLL_TC_FbP,FPLL_TC_FB1 | | DIFFIO_RX_T71p | DIFFOUT_T71p | E17 | DQS24T | DQ12T/CQn12T | DQ6T | DQS3T/CQ3T |
| 7D | VREFB7DN0 | IO | FPLL_TC_CLKOUT3,FPLL_TC_FBn | | DIFFIO_RX_T71n | DIFFOUT_T71n | D17 | DQSn24T | DQ12T | DQ6T | DQSn3T/DQ3T |
| 7D | VREFB7DN0 | IO | FPLL_TC_CLKOUT0,FPLL_TC_CLKOUTp,FPLL_TC_FB0 | | DIFFIO_TX_T72p | DIFFOUT_T72p | B16 | DQ24T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | FPLL_TC_CLKOUT1,FPLL_TC_CLKOUTn | | DIFFIO_TX_T72n | DIFFOUT_T72n | A16 | DQ24T | DQ12T | DQ6T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T73p | DIFFOUT_T73p | J19 | DQ25T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T73n | DIFFOUT_T73n | H19 | DQ25T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T74p | DIFFOUT_T74p | E18 | DQ25T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T74n | DIFFOUT_T74n | D18 | DQ25T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T75p | DIFFOUT_T75p | G19 | DQS25T | DQS13T/CQ13T | DQ7T | DQ3T/CQn3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T75n | DIFFOUT_T75n | F19 | DQSn25T | DQSn13T/DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T76p | DIFFOUT_T76p | B17 | DQ26T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T76n | DIFFOUT_T76n | A17 | DQ26T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T77p | DIFFOUT_T77p | C19 | DQS26T | DQ13T/CQn13T | DQS7T/CQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T77n | DIFFOUT_T77n | C18 | DQSn26T | DQ13T | DQSn7T/DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T78p | DIFFOUT_T78p | B19 | DQ26T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T78n | DIFFOUT_T78n | A19 | DQ26T | DQ13T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T79p | DIFFOUT_T79p | U18 | DQ27T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T79n | DIFFOUT_T79n | T18 | DQ27T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T80p | DIFFOUT_T80p | W18 | DQ27T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T80n | DIFFOUT_T80n | V18 | DQ27T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T81p | DIFFOUT_T81p | T20 | DQS27T | DQS14T/CQ14T | DQ7T/CQn7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T81n | DIFFOUT_T81n | T19 | DQSn27T | DQSn14T/DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T82p | DIFFOUT_T82p | P20 | DQ28T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T82n | DIFFOUT_T82n | N20 | DQ28T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T83p | DIFFOUT_T83p | N19 | DQS28T | DQ14T/CQn14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_RX_T83n | DIFFOUT_T83n | M20 | DQSn28T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T84p | DIFFOUT_T84p | L20 | DQ28T | DQ14T | DQ7T | DQ3T |
| 7D | VREFB7DN0 | IO | | | DIFFIO_TX_T84n | DIFFOUT_T84n | K19 | DQ28T | DQ14T | DQ7T | DQ3T |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T85p | DIFFOUT_T85p | V19 | DQ29T | DQ15T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T85n | DIFFOUT_T85n | U20 | DQ29T | DQ15T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T86p | DIFFOUT_T86p | U21 | DQ29T | DQ15T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T86n | DIFFOUT_T86n | T21 | DQ29T | DQ15T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T87p | DIFFOUT_T87p | V21 | DQS29T | DQS15T/CQ15T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T87n | DIFFOUT_T87n | V20 | DQSn29T | DQSn15T/DQ15T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T88p | DIFFOUT_T88p | R21 | DQ30T | DQ15T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T88n | DIFFOUT_T88n | P21 | DQ30T | DQ15T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T89p | DIFFOUT_T89p | N22 | DQS30T | DQ15T/CQn15T | DQS8T/CQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T89n | DIFFOUT_T89n | M22 | DQSn30T | DQ15T | DQSn8T/DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T90p | DIFFOUT_T90p | T22 | DQ30T | DQ15T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T90n | DIFFOUT_T90n | R22 | DQ30T | DQ15T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T91p | DIFFOUT_T91p | K21 | DQ31T | DQ16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T91n | DIFFOUT_T91n | J21 | DQ31T | DQ16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T92p | DIFFOUT_T92p | L21 | DQ31T | DQ16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T92n | DIFFOUT_T92n | K20 | DQ31T | DQ16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T93p | DIFFOUT_T93p | H21 | DQS31T | DQS16T/CQ16T | DQ8T/CQn8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T93n | DIFFOUT_T93n | H20 | DQSn31T | DQSn16T/DQ16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T94p | DIFFOUT_T94p | G20 | DQ32T | DQ16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T94n | DIFFOUT_T94n | F20 | DQ32T | DQ16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T95p | DIFFOUT_T95p | H22 | DQS32T | DQ16T/CQn16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T95n | DIFFOUT_T95n | G22 | DQSn32T | DQ16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T96p | DIFFOUT_T96p | K22 | DQ32T | DQ16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T96n | DIFFOUT_T96n | J22 | DQ32T | DQ16T | DQ8T | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T97p | DIFFOUT_T97p | F22 | DQ33T | DQ17T | | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T97n | DIFFOUT_T97n | F21 | DQ33T | DQ17T | | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T98p | DIFFOUT_T98p | E21 | DQ33T | DQ17T | | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_TX_T98n | DIFFOUT_T98n | E20 | DQ33T | DQ17T | | |
| 7E | VREFB7EN0 | IO | | | DIFFIO_RX_T99p | DIFFOUT_T99p | D21 | DQS33T | DQS17T/CQ17T | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|----------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 7E | VREFB7E0 | IO | | | DIFFIO_RX_T99n | DIFFOUT_T99n | D20 | DQSn33T | DQSn17T/DQ17T | | |
| 7E | VREFB7E0 | IO | | | DIFFIO_TX_T100p | DIFFOUT_T100p | B20 | DQ34T | DQ17T | | |
| 7E | VREFB7E0 | IO | | | DIFFIO_TX_T100n | DIFFOUT_T100n | A20 | DQ34T | DQ17T | | |
| 7E | VREFB7E0 | IO | | | DIFFIO_RX_T101p | DIFFOUT_T101p | C22 | DQS34T | DQ17T/CQn17T | | |
| 7E | VREFB7E0 | IO | | | DIFFIO_RX_T101n | DIFFOUT_T101n | C21 | DQSn34T | DQ17T | | |
| 7E | VREFB7E0 | IO | | | DIFFIO_TX_T102p | DIFFOUT_T102p | B22 | DQ34T | DQ17T | | |
| 7E | VREFB7E0 | IO | | | DIFFIO_TX_T102n | DIFFOUT_T102n | A22 | DQ34T | DQ17T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T103p | DIFFOUT_T103p | B25 | DQ35T | DQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T103n | DIFFOUT_T103n | A25 | DQ35T | DQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T104p | DIFFOUT_T104p | B23 | DQ35T | DQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T104n | DIFFOUT_T104n | A23 | DQ35T | DQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T105p | DIFFOUT_T105p | C25 | DQS35T | DQS18T/CQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T105n | DIFFOUT_T105n | C24 | DQSn35T | DQSn18T/DQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T106p | DIFFOUT_T106p | E23 | DQ36T | DQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T106n | DIFFOUT_T106n | D23 | DQ36T | DQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T107p | DIFFOUT_T107p | G23 | DQS36T | DQ18T/CQn18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T107n | DIFFOUT_T107n | F23 | DQSn36T | DQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T108p | DIFFOUT_T108p | E24 | DQ36T | DQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T108n | DIFFOUT_T108n | D24 | DQ36T | DQ18T | | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T109p | DIFFOUT_T109p | U24 | DQ37T | DQ19T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T109n | DIFFOUT_T109n | T24 | DQ37T | DQ19T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T110p | DIFFOUT_T110p | U23 | DQ37T | DQ19T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T110n | DIFFOUT_T110n | T23 | DQ37T | DQ19T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T111p | DIFFOUT_T111p | R24 | DQS37T | DQS19T/CQ19T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T111n | DIFFOUT_T111n | P24 | DQSn37T | DQSn19T/DQ19T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T112p | DIFFOUT_T112p | P23 | DQ38T | DQ19T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T112n | DIFFOUT_T112n | N23 | DQ38T | DQ19T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T113p | DIFFOUT_T113p | L23 | DQS38T | DQ19T/CQn19T | DQS9T/CQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T113n | DIFFOUT_T113n | K24 | DQSn38T | DQ19T | DQSn9T/DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T114p | DIFFOUT_T114p | M23 | DQ38T | DQ19T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T114n | DIFFOUT_T114n | L24 | DQ38T | DQ19T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T115p | DIFFOUT_T115p | H24 | DQ39T | DQ20T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T115n | DIFFOUT_T115n | H23 | DQ39T | DQ20T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T116p | DIFFOUT_T116p | J25 | DQ39T | DQ20T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T116n | DIFFOUT_T116n | J24 | DQ39T | DQ20T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T117p | DIFFOUT_T117p | K26 | DQS39T | DQS20T/CQ20T | DQ9T/CQn9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T117n | DIFFOUT_T117n | K25 | DQSn39T | DQSn20T/DQ20T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T118p | DIFFOUT_T118p | F25 | DQ40T | DQ20T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T118n | DIFFOUT_T118n | F24 | DQ40T | DQ20T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T119p | DIFFOUT_T119p | H25 | DQS40T | DQ20T/CQn20T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_RX_T119n | DIFFOUT_T119n | G25 | DQSn40T | DQ20T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T120p | DIFFOUT_T120p | E26 | DQ40T | DQ20T | DQ9T | |
| 8E | VREFB8E0 | IO | | | DIFFIO_TX_T120n | DIFFOUT_T120n | D26 | DQ40T | DQ20T | DQ9T | |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T121p | DIFFOUT_T121p | D27 | DQ41T | DQ21T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T121n | DIFFOUT_T121n | C27 | DQ41T | DQ21T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T122p | DIFFOUT_T122p | B26 | DQ41T | DQ21T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T122n | DIFFOUT_T122n | A26 | DQ41T | DQ21T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T123p | DIFFOUT_T123p | F26 | DQS41T | DQS21T/CQ21T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T123n | DIFFOUT_T123n | E27 | DQSn41T | DQSn21T/DQ21T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T124p | DIFFOUT_T124p | A29 | DQ42T | DQ21T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T124n | DIFFOUT_T124n | A28 | DQ42T | DQ21T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T125p | DIFFOUT_T125p | E29 | DQS42T | DQ21T/CQn21T | DQS10T/CQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T125n | DIFFOUT_T125n | D29 | DQSn42T | DQ21T | DQSn10T/DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T126p | DIFFOUT_T126p | C28 | DQ42T | DQ21T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T126n | DIFFOUT_T126n | B28 | DQ42T | DQ21T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T127p | DIFFOUT_T127p | G29 | DQ43T | DQ22T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T127n | DIFFOUT_T127n | G28 | DQ43T | DQ22T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T128p | DIFFOUT_T128p | F29 | DQ43T | DQ22T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T128n | DIFFOUT_T128n | F28 | DQ43T | DQ22T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T129p | DIFFOUT_T129p | H27 | DQS43T | DQS22T/CQ22T | DQ10T/CQn10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T129n | DIFFOUT_T129n | G26 | DQSn43T | DQSn22T/DQ22T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T130p | DIFFOUT_T130p | H29 | DQ44T | DQ22T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T130n | DIFFOUT_T130n | H28 | DQ44T | DQ22T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T131p | DIFFOUT_T131p | J27 | DQS44T | DQ22T/CQn22T | DQ10T | DQS4T/CQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_RX_T131n | DIFFOUT_T131n | H26 | DQSn44T | DQ22T | DQ10T | DQSn4T/DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T132p | DIFFOUT_T132p | K28 | DQ44T | DQ22T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T132n | DIFFOUT_T132n | J28 | DQ44T | DQ22T | DQ10T | DQ4T |
| 8D | VREFB8D0 | IO | CLK17p | | DIFFIO_RX_T133p | DIFFOUT_T133p | N25 | DQ45T | DQ23T | DQ11T | DQ4T |
| 8D | VREFB8D0 | IO | CLK17n | | DIFFIO_RX_T133n | DIFFOUT_T133n | M25 | DQ45T | DQ23T | DQ11T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T134p | DIFFOUT_T134p | T26 | DQ45T | DQ23T | DQ11T | DQ4T |
| 8D | VREFB8D0 | IO | | | DIFFIO_TX_T134n | DIFFOUT_T134n | T25 | DQ45T | DQ23T | DQ11T | DQ4T |
| 8D | VREFB8D0 | IO | CLK16p | | DIFFIO_RX_T135p | DIFFOUT_T135p | R25 | DQS45T | DQS23T/CQ23T | DQ11T | DQ4T/CQn4T |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 8D | VREFB8DN0 | IO | CLK16n | | DIFFIO_RX_T135n | DIFFOUT_T135n | P25 | DQSn45T | DQSn23T/DQ23T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T136p | DIFFOUT_T136p | V27 | DQ46T | DQ23T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T136n | DIFFOUT_T136n | V26 | DQ46T | DQ23T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T137p | DIFFOUT_T137p | V25 | DQS46T | DQ23T/CQn23T | DQSn11T/CQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T137n | DIFFOUT_T137n | U26 | DQSn46T | DQ23T | DQSn11T/DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T138p | DIFFOUT_T138p | T27 | DQ46T | DQ23T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T138n | DIFFOUT_T138n | U27 | DQ46T | DQ23T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T139p | DIFFOUT_T139p | M27 | DQ47T | DQ24T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T139n | DIFFOUT_T139n | L26 | DQ47T | DQ24T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T140p | DIFFOUT_T140p | N28 | DQ47T | DQ24T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T140n | DIFFOUT_T140n | M28 | DQ47T | DQ24T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T141p | DIFFOUT_T141p | L27 | DQS47T | DQS24T/CQ24T | DQSn11T/CQn11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T141n | DIFFOUT_T141n | K27 | DQSn47T | DQSn24T/DQ24T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T142p | DIFFOUT_T142p | R27 | DQ48T | DQ24T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T142n | DIFFOUT_T142n | P27 | DQ48T | DQ24T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T143p | DIFFOUT_T143p | P26 | DQS48T | DQ24T/CQn24T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_RX_T143n | DIFFOUT_T143n | N26 | DQSn48T | DQ24T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T144p | DIFFOUT_T144p | P28 | DQ48T | DQ24T | DQ11T | DQ4T |
| 8D | VREFB8DN0 | IO | | | DIFFIO_TX_T144n | DIFFOUT_T144n | P29 | DQ48T | DQ24T | DQ11T | DQ4T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T145p | DIFFOUT_T145p | Y28 | DQ49T | DQ25T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T145n | DIFFOUT_T145n | Y27 | DQ49T | DQ25T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T146p | DIFFOUT_T146p | W28 | DQ49T | DQ25T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T146n | DIFFOUT_T146n | V28 | DQ49T | DQ25T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T147p | DIFFOUT_T147p | Y30 | DQS49T | DQS25T/CQ25T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T147n | DIFFOUT_T147n | Y29 | DQSn49T | DQSn25T/DQ25T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T148p | DIFFOUT_T148p | W29 | DQ50T | DQ25T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T148n | DIFFOUT_T148n | V30 | DQ50T | DQ25T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T149p | DIFFOUT_T149p | T28 | DQS50T | DQ25T/CQn25T | DQSn12T/CQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T149n | DIFFOUT_T149n | R28 | DQSn50T | DQ25T | DQSn12T/DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T150p | DIFFOUT_T150p | V29 | DQ50T | DQ25T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T150n | DIFFOUT_T150n | U29 | DQ50T | DQ25T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T151p | DIFFOUT_T151p | A32 | DQ51T | DQ26T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T151n | DIFFOUT_T151n | A31 | DQ51T | DQ26T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T152p | DIFFOUT_T152p | C30 | DQ51T | DQ26T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T152n | DIFFOUT_T152n | B29 | DQ51T | DQ26T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T153p | DIFFOUT_T153p | C31 | DQS51T | DQS26T/CQ26T | DQ12T/CQn12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T153n | DIFFOUT_T153n | B31 | DQSn51T | DQSn26T/DQ26T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T154p | DIFFOUT_T154p | E30 | DQ52T | DQ26T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T154n | DIFFOUT_T154n | D30 | DQ52T | DQ26T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T155p | DIFFOUT_T155p | E32 | DQS52T | DQ26T/CQn26T | DQ12T | DQS5T/CQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T155n | DIFFOUT_T155n | D32 | DQSn52T | DQ26T | DQ12T | DQSn5T/DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T156p | DIFFOUT_T156p | G31 | DQ52T | DQ26T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T156n | DIFFOUT_T156n | F31 | DQ52T | DQ26T | DQ12T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T157p | DIFFOUT_T157p | G32 | DQ53T | DQ27T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T157n | DIFFOUT_T157n | F32 | DQ53T | DQ27T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T158p | DIFFOUT_T158p | H32 | DQ53T | DQ27T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T158n | DIFFOUT_T158n | H31 | DQ53T | DQ27T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T159p | DIFFOUT_T159p | J30 | DQS53T | DQS27T/CQ27T | DQ13T | DQ5T/CQn5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T159n | DIFFOUT_T159n | H30 | DQSn53T | DQSn27T/DQ27T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T160p | DIFFOUT_T160p | L30 | DQ54T | DQ27T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T160n | DIFFOUT_T160n | L29 | DQ54T | DQ27T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T161p | DIFFOUT_T161p | K30 | DQS54T | DQ27T/CQn27T | DQSn13T/CQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T161n | DIFFOUT_T161n | K29 | DQSn54T | DQ27T | DQSn13T/DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T162p | DIFFOUT_T162p | N29 | DQ54T | DQ27T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T162n | DIFFOUT_T162n | M30 | DQ54T | DQ27T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T163p | DIFFOUT_T163p | U30 | DQS5T | DQ28T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T163n | DIFFOUT_T163n | T29 | DQ55T | DQ28T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T164p | DIFFOUT_T164p | P31 | DQ55T | DQ28T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T164n | DIFFOUT_T164n | P30 | DQ55T | DQ28T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T165p | DIFFOUT_T165p | T30 | DQS55T | DQS28T/CQ28T | DQ13T/CQn13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T165n | DIFFOUT_T165n | R30 | DQSn55T | DQSn28T/DQ28T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T166p | DIFFOUT_T166p | Y32 | DQ56T | DQ28T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T166n | DIFFOUT_T166n | W31 | DQ56T | DQ28T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T167p | DIFFOUT_T167p | W32 | DQS56T | DQ28T/CQn28T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_RX_T167n | DIFFOUT_T167n | V31 | DQSn56T | DQ28T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T168p | DIFFOUT_T168p | T31 | DQ56T | DQ28T | DQ13T | DQ5T |
| 8C | VREFB8CN0 | IO | | | DIFFIO_TX_T168n | DIFFOUT_T168n | R31 | DQ56T | DQ28T | DQ13T | DQ5T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T169p | DIFFOUT_T169p | A35 | DQ57T | DQ29T | DQ14T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T169n | DIFFOUT_T169n | A34 | DQ57T | DQ29T | DQ14T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T170p | DIFFOUT_T170p | C33 | DQ57T | DQ29T | DQ14T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_TX_T170n | DIFFOUT_T170n | B32 | DQ57T | DQ29T | DQ14T | DQ6T |
| 8B | VREFB8BN0 | IO | | | DIFFIO_RX_T171p | DIFFOUT_T171p | C34 | DQS57T | DQS29T/CQ29T | DQ14T | DQ6T |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|----------|---------------------------|---|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T171n | DIFFOUT_T171n | B34 | DQSn57T | DQSn29T/DQ29T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T172p | DIFFOUT_T172p | E33 | DQ58T | DQ29T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T172n | DIFFOUT_T172n | D33 | DQ58T | DQ29T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T173p | DIFFOUT_T173p | C36 | DQ58T | DQ29T/CQn29T | DQSn14T/CQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T173n | DIFFOUT_T173n | B35 | DQSn58T | DQ29T | DQSn14T/DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T174p | DIFFOUT_T174p | D36 | DQ58T | DQ29T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T174n | DIFFOUT_T174n | D35 | DQ58T | DQ29T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T175p | DIFFOUT_T175p | U33 | DQ59T | DQ30T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T175n | DIFFOUT_T175n | U32 | DQ59T | DQ30T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T176p | DIFFOUT_T176p | V34 | DQ59T | DQ30T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T176n | DIFFOUT_T176n | V33 | DQ59T | DQ30T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T177p | DIFFOUT_T177p | T33 | DQSn59T | DQSn30T/CQ30T | DQ14T/CQn14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T177n | DIFFOUT_T177n | T32 | DQSn59T | DQSn30T/DQ30T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T178p | DIFFOUT_T178p | N31 | DQ60T | DQ30T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T178n | DIFFOUT_T178n | M31 | DQ60T | DQ30T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T179p | DIFFOUT_T179p | N32 | DQ60T | DQ30T/CQn30T | DQ14T | DQSn6T/CQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T179n | DIFFOUT_T179n | M33 | DQSn60T | DQ30T | DQ14T | DQSn6T/DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T180p | DIFFOUT_T180p | P33 | DQ60T | DQ30T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T180n | DIFFOUT_T180n | P32 | DQ60T | DQ30T | DQ14T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T181p | DIFFOUT_T181p | F35 | DQ61T | DQ31T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T181n | DIFFOUT_T181n | E35 | DQ61T | DQ31T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T182p | DIFFOUT_T182p | G34 | DQ61T | DQ31T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T182n | DIFFOUT_T182n | F34 | DQ61T | DQ31T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T183p | DIFFOUT_T183p | H35 | DQ61T | DQSn31T/CQ31T | DQ15T | DQ6T/CQn6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T183n | DIFFOUT_T183n | G35 | DQSn61T | DQSn31T/DQ31T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T184p | DIFFOUT_T184p | K31 | DQ62T | DQ31T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T184n | DIFFOUT_T184n | J31 | DQ62T | DQ31T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T185p | DIFFOUT_T185p | H34 | DQ62T | DQ31T/CQn31T | DQSn15T/CQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T185n | DIFFOUT_T185n | H33 | DQSn62T | DQ31T | DQSn15T/DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T186p | DIFFOUT_T186p | J34 | DQ62T | DQ31T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T186n | DIFFOUT_T186n | J33 | DQ62T | DQ31T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T187p | DIFFOUT_T187p | W34 | DQ63T | DQ32T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T187n | DIFFOUT_T187n | V35 | DQ63T | DQ32T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T188p | DIFFOUT_T188p | T34 | DQ63T | DQ32T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T188n | DIFFOUT_T188n | R34 | DQ63T | DQ32T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T189p | DIFFOUT_T189p | U35 | DQ63T | DQSn32T/CQ32T | DQ15T/CQn15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T189n | DIFFOUT_T189n | T35 | DQSn63T | DQSn32T/DQ32T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T190p | DIFFOUT_T190p | R33 | DQ64T | DQ32T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T190n | DIFFOUT_T190n | P34 | DQ64T | DQ32T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T191p | DIFFOUT_T191p | L32 | DQ64T | DQ32T/CQn32T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_RX_T191n | DIFFOUT_T191n | K32 | DQSn64T | DQ32T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T192p | DIFFOUT_T192p | M34 | DQ64T | DQ32T | DQ15T | DQ6T |
| 8B | VREFB8B0 | IO | | | DIFFIO_TX_T192n | DIFFOUT_T192n | L33 | DQ64T | DQ32T | DQ15T | DQ6T |
| 8A | VREFB8A0 | IO | CLK23p | | DIFFIO_RX_T193p | DIFFOUT_T193p | B37 | DQ65T | DQ33T | DQ16T | |
| 8A | VREFB8A0 | IO | CLK23n | | DIFFIO_RX_T193n | DIFFOUT_T193n | A37 | DQ65T | DQ33T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T194p | DIFFOUT_T194p | C37 | DQ65T | DQ33T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T194n | DIFFOUT_T194n | B38 | DQ65T | DQ33T | DQ16T | |
| 8A | VREFB8A0 | IO | CLK22p | | DIFFIO_RX_T195p | DIFFOUT_T195p | B39 | DQ65T | DQSn33T/CQ33T | DQ16T | |
| 8A | VREFB8A0 | IO | CLK22n | | DIFFIO_RX_T195n | DIFFOUT_T195n | A38 | DQSn65T | DQSn33T/DQ33T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T196p | DIFFOUT_T196p | E36 | DQ66T | DQ33T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T196n | DIFFOUT_T196n | D37 | DQ66T | DQ33T | DQ16T | |
| 8A | VREFB8A0 | IO | FPLL_TL_CLKOUT2.FPLL_TL_FbP.FPLL_TL_FB1 | | DIFFIO_RX_T197p | DIFFOUT_T197p | J37 | DQ66T | DQ33T/CQn33T | DQSn16T/CQ16T | |
| 8A | VREFB8A0 | IO | FPLL_TL_CLKOUT3.FPLL_TL_FBn | | DIFFIO_RX_T197n | DIFFOUT_T197n | H37 | DQSn66T | DQ33T | DQSn16T/DQ16T | |
| 8A | VREFB8A0 | IO | FPLL_TL_CLKOUT0.FPLL_TL_CLKOUTp.FPLL_TL_FB0 | | DIFFIO_TX_T198p | DIFFOUT_T198p | G37 | DQ66T | DQ33T | DQ16T | |
| 8A | VREFB8A0 | IO | FPLL_TL_CLKOUT1.FPLL_TL_CLKOUTn | | DIFFIO_TX_T198n | DIFFOUT_T198n | F36 | DQ66T | DQ33T | DQ16T | |
| 8A | VREFB8A0 | IO | CLK21p | | DIFFIO_RX_T199p | DIFFOUT_T199p | U36 | DQ67T | DQ34T | DQ16T | |
| 8A | VREFB8A0 | IO | CLK21n | | DIFFIO_RX_T199n | DIFFOUT_T199n | T36 | DQ67T | DQ34T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T200p | DIFFOUT_T200p | W35 | DQ67T | DQ34T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T200n | DIFFOUT_T200n | V36 | DQ67T | DQ34T | DQ16T | |
| 8A | VREFB8A0 | IO | CLK20p | | DIFFIO_RX_T201p | DIFFOUT_T201p | R36 | DQ67T | DQSn34T/CQ34T | DQ16T/CQn16T | |
| 8A | VREFB8A0 | IO | CLK20n | | DIFFIO_RX_T201n | DIFFOUT_T201n | P37 | DQSn67T | DQSn34T/DQ34T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T202p | DIFFOUT_T202p | P39 | DQ68T | DQ34T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T202n | DIFFOUT_T202n | P38 | DQ68T | DQ34T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T203p | DIFFOUT_T203p | P36 | DQ68T | DQ34T/CQn34T | DQ16T | |
| 8A | VREFB8A0 | IO | RZQ_5 | | DIFFIO_RX_T203n | DIFFOUT_T203n | P35 | DQSn68T | DQ34T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T204p | DIFFOUT_T204p | N38 | DQ68T | DQ34T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T204n | DIFFOUT_T204n | N37 | DQ68T | DQ34T | DQ16T | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T205p | DIFFOUT_T205p | J36 | DQ69T | DQ35T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T205n | DIFFOUT_T205n | H36 | DQ69T | DQ35T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T206p | DIFFOUT_T206p | K35 | DQ69T | DQ35T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T206n | DIFFOUT_T206n | K34 | DQ69T | DQ35T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T207p | DIFFOUT_T207p | K37 | DQ69T | DQSn35T/CQ35T | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|----------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T207n | DIFFOUT_T207n | K36 | DQSn69T | DQSn35T/DQ35T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T208p | DIFFOUT_T208p | M37 | DQ70T | DQ35T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T208n | DIFFOUT_T208n | M36 | DQ70T | DQ35T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T209p | DIFFOUT_T209p | L36 | DQS70T | DQ35T/CQn35T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_RX_T209n | DIFFOUT_T209n | L35 | DQSn70T | DQ35T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T210p | DIFFOUT_T210p | M39 | DQ70T | DQ35T | | |
| 8A | VREFB8A0 | IO | | | DIFFIO_TX_T210n | DIFFOUT_T210n | M38 | DQ70T | DQ35T | | |
| | | GND | | | | | A40 | | | | |
| | | GND | | | | | A42 | | | | |
| | | GND | | | | | A43 | | | | |
| | | GND | | | | | AA39 | | | | |
| | | GND | | | | | AA43 | | | | |
| | | GND | | | | | AA44 | | | | |
| | | GND | | | | | AB41 | | | | |
| | | GND | | | | | AB42 | | | | |
| | | GND | | | | | AC38 | | | | |
| | | GND | | | | | AC40 | | | | |
| | | GND | | | | | AC43 | | | | |
| | | GND | | | | | AC44 | | | | |
| | | GND | | | | | AD41 | | | | |
| | | GND | | | | | AD42 | | | | |
| | | GND | | | | | AE39 | | | | |
| | | GND | | | | | AE43 | | | | |
| | | GND | | | | | AE44 | | | | |
| | | GND | | | | | AF41 | | | | |
| | | GND | | | | | AF42 | | | | |
| | | GND | | | | | AG38 | | | | |
| | | GND | | | | | AG40 | | | | |
| | | GND | | | | | AG43 | | | | |
| | | GND | | | | | AG44 | | | | |
| | | GND | | | | | AH41 | | | | |
| | | GND | | | | | AH42 | | | | |
| | | GND | | | | | AJ39 | | | | |
| | | GND | | | | | AJ43 | | | | |
| | | GND | | | | | AJ44 | | | | |
| | | GND | | | | | AK41 | | | | |
| | | GND | | | | | AK42 | | | | |
| | | GND | | | | | AL38 | | | | |
| | | GND | | | | | AL40 | | | | |
| | | GND | | | | | AL43 | | | | |
| | | GND | | | | | AL44 | | | | |
| | | GND | | | | | AM41 | | | | |
| | | GND | | | | | AM42 | | | | |
| | | GND | | | | | AN43 | | | | |
| | | GND | | | | | AN44 | | | | |
| | | GND | | | | | AP41 | | | | |
| | | GND | | | | | AP42 | | | | |
| | | GND | | | | | AR39 | | | | |
| | | GND | | | | | AR40 | | | | |
| | | GND | | | | | AR43 | | | | |
| | | GND | | | | | AR44 | | | | |
| | | GND | | | | | AT41 | | | | |
| | | GND | | | | | AT42 | | | | |
| | | GND | | | | | AU39 | | | | |
| | | GND | | | | | AU40 | | | | |
| | | GND | | | | | AU43 | | | | |
| | | GND | | | | | AU44 | | | | |
| | | GND | | | | | AV41 | | | | |
| | | GND | | | | | AV42 | | | | |
| | | GND | | | | | AW39 | | | | |
| | | GND | | | | | AW40 | | | | |
| | | GND | | | | | AW43 | | | | |
| | | GND | | | | | AW44 | | | | |
| | | GND | | | | | AY41 | | | | |
| | | GND | | | | | AY42 | | | | |
| | | GND | | | | | B40 | | | | |
| | | GND | | | | | B41 | | | | |
| | | GND | | | | | B42 | | | | |
| | | GND | | | | | BA39 | | | | |
| | | GND | | | | | BA40 | | | | |
| | | GND | | | | | BA43 | | | | |
| | | GND | | | | | BA44 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | BB40 | | | | |
| | | GND | | | | | BB41 | | | | |
| | | GND | | | | | BB42 | | | | |
| | | GND | | | | | BC42 | | | | |
| | | GND | | | | | BC43 | | | | |
| | | GND | | | | | BC44 | | | | |
| | | GND | | | | | C39 | | | | |
| | | GND | | | | | C40 | | | | |
| | | GND | | | | | C43 | | | | |
| | | GND | | | | | C44 | | | | |
| | | GND | | | | | D41 | | | | |
| | | GND | | | | | D42 | | | | |
| | | GND | | | | | E39 | | | | |
| | | GND | | | | | E40 | | | | |
| | | GND | | | | | E43 | | | | |
| | | GND | | | | | E44 | | | | |
| | | GND | | | | | F41 | | | | |
| | | GND | | | | | F42 | | | | |
| | | GND | | | | | G39 | | | | |
| | | GND | | | | | G40 | | | | |
| | | GND | | | | | G43 | | | | |
| | | GND | | | | | G44 | | | | |
| | | GND | | | | | H41 | | | | |
| | | GND | | | | | H42 | | | | |
| | | GND | | | | | J39 | | | | |
| | | GND | | | | | J40 | | | | |
| | | GND | | | | | J43 | | | | |
| | | GND | | | | | J44 | | | | |
| | | GND | | | | | K41 | | | | |
| | | GND | | | | | K42 | | | | |
| | | GND | | | | | L39 | | | | |
| | | GND | | | | | L40 | | | | |
| | | GND | | | | | L43 | | | | |
| | | GND | | | | | L44 | | | | |
| | | GND | | | | | M41 | | | | |
| | | GND | | | | | M42 | | | | |
| | | GND | | | | | N43 | | | | |
| | | GND | | | | | N44 | | | | |
| | | GND | | | | | P41 | | | | |
| | | GND | | | | | P42 | | | | |
| | | GND | | | | | R38 | | | | |
| | | GND | | | | | R43 | | | | |
| | | GND | | | | | R44 | | | | |
| | | GND | | | | | T41 | | | | |
| | | GND | | | | | T42 | | | | |
| | | GND | | | | | U39 | | | | |
| | | GND | | | | | U43 | | | | |
| | | GND | | | | | U44 | | | | |
| | | GND | | | | | V41 | | | | |
| | | GND | | | | | V42 | | | | |
| | | GND | | | | | W38 | | | | |
| | | GND | | | | | W40 | | | | |
| | | GND | | | | | W43 | | | | |
| | | GND | | | | | W44 | | | | |
| | | GND | | | | | Y41 | | | | |
| | | GND | | | | | Y42 | | | | |
| | | GND | | | | | A2 | | | | |
| | | GND | | | | | A3 | | | | |
| | | GND | | | | | A5 | | | | |
| | | GND | | | | | AA1 | | | | |
| | | GND | | | | | AA2 | | | | |
| | | GND | | | | | AA6 | | | | |
| | | GND | | | | | AB3 | | | | |
| | | GND | | | | | AB4 | | | | |
| | | GND | | | | | AC1 | | | | |
| | | GND | | | | | AC2 | | | | |
| | | GND | | | | | AC5 | | | | |
| | | GND | | | | | AC7 | | | | |
| | | GND | | | | | AD3 | | | | |
| | | GND | | | | | AD4 | | | | |
| | | GND | | | | | AE1 | | | | |
| | | GND | | | | | AE2 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | AE6 | | | | |
| | | GND | | | | | AF3 | | | | |
| | | GND | | | | | AF4 | | | | |
| | | GND | | | | | AG1 | | | | |
| | | GND | | | | | AG2 | | | | |
| | | GND | | | | | AG5 | | | | |
| | | GND | | | | | AG7 | | | | |
| | | GND | | | | | AH3 | | | | |
| | | GND | | | | | AH4 | | | | |
| | | GND | | | | | AJ1 | | | | |
| | | GND | | | | | AJ2 | | | | |
| | | GND | | | | | AJ6 | | | | |
| | | GND | | | | | AK3 | | | | |
| | | GND | | | | | AK4 | | | | |
| | | GND | | | | | AL1 | | | | |
| | | GND | | | | | AL2 | | | | |
| | | GND | | | | | AL5 | | | | |
| | | GND | | | | | AL7 | | | | |
| | | GND | | | | | AM3 | | | | |
| | | GND | | | | | AM4 | | | | |
| | | GND | | | | | AN1 | | | | |
| | | GND | | | | | AN2 | | | | |
| | | GND | | | | | AP3 | | | | |
| | | GND | | | | | AP4 | | | | |
| | | GND | | | | | AR1 | | | | |
| | | GND | | | | | AR2 | | | | |
| | | GND | | | | | AR5 | | | | |
| | | GND | | | | | AR6 | | | | |
| | | GND | | | | | AT3 | | | | |
| | | GND | | | | | AT4 | | | | |
| | | GND | | | | | AU1 | | | | |
| | | GND | | | | | AU2 | | | | |
| | | GND | | | | | AU5 | | | | |
| | | GND | | | | | AU6 | | | | |
| | | GND | | | | | AV3 | | | | |
| | | GND | | | | | AV4 | | | | |
| | | GND | | | | | AW1 | | | | |
| | | GND | | | | | AW2 | | | | |
| | | GND | | | | | AW5 | | | | |
| | | GND | | | | | AW6 | | | | |
| | | GND | | | | | AY3 | | | | |
| | | GND | | | | | AY4 | | | | |
| | | GND | | | | | B3 | | | | |
| | | GND | | | | | B4 | | | | |
| | | GND | | | | | B5 | | | | |
| | | GND | | | | | BA1 | | | | |
| | | GND | | | | | BA2 | | | | |
| | | GND | | | | | BA5 | | | | |
| | | GND | | | | | BA6 | | | | |
| | | GND | | | | | BB3 | | | | |
| | | GND | | | | | BB4 | | | | |
| | | GND | | | | | BB5 | | | | |
| | | GND | | | | | BC1 | | | | |
| | | GND | | | | | BC2 | | | | |
| | | GND | | | | | BC3 | | | | |
| | | GND | | | | | C1 | | | | |
| | | GND | | | | | C2 | | | | |
| | | GND | | | | | C5 | | | | |
| | | GND | | | | | C6 | | | | |
| | | GND | | | | | D3 | | | | |
| | | GND | | | | | D4 | | | | |
| | | GND | | | | | E1 | | | | |
| | | GND | | | | | E2 | | | | |
| | | GND | | | | | E5 | | | | |
| | | GND | | | | | E6 | | | | |
| | | GND | | | | | F3 | | | | |
| | | GND | | | | | F4 | | | | |
| | | GND | | | | | G1 | | | | |
| | | GND | | | | | G2 | | | | |
| | | GND | | | | | G5 | | | | |
| | | GND | | | | | G6 | | | | |
| | | GND | | | | | H3 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | H4 | | | | |
| | | GND | | | | | J1 | | | | |
| | | GND | | | | | J2 | | | | |
| | | GND | | | | | J5 | | | | |
| | | GND | | | | | J6 | | | | |
| | | GND | | | | | K3 | | | | |
| | | GND | | | | | K4 | | | | |
| | | GND | | | | | L1 | | | | |
| | | GND | | | | | L2 | | | | |
| | | GND | | | | | L5 | | | | |
| | | GND | | | | | L6 | | | | |
| | | GND | | | | | M3 | | | | |
| | | GND | | | | | M4 | | | | |
| | | GND | | | | | N1 | | | | |
| | | GND | | | | | N2 | | | | |
| | | GND | | | | | P3 | | | | |
| | | GND | | | | | P4 | | | | |
| | | GND | | | | | R1 | | | | |
| | | GND | | | | | R2 | | | | |
| | | GND | | | | | R7 | | | | |
| | | GND | | | | | T3 | | | | |
| | | GND | | | | | T4 | | | | |
| | | GND | | | | | U1 | | | | |
| | | GND | | | | | U2 | | | | |
| | | GND | | | | | U6 | | | | |
| | | GND | | | | | V3 | | | | |
| | | GND | | | | | V4 | | | | |
| | | GND | | | | | W1 | | | | |
| | | GND | | | | | W2 | | | | |
| | | GND | | | | | W5 | | | | |
| | | GND | | | | | W7 | | | | |
| | | GND | | | | | Y3 | | | | |
| | | GND | | | | | Y4 | | | | |
| | | GND | | | | | A12 | | | | |
| | | GND | | | | | A15 | | | | |
| | | GND | | | | | A18 | | | | |
| | | GND | | | | | A21 | | | | |
| | | GND | | | | | A24 | | | | |
| | | GND | | | | | A27 | | | | |
| | | GND | | | | | A30 | | | | |
| | | GND | | | | | A33 | | | | |
| | | GND | | | | | A36 | | | | |
| | | GND | | | | | A39 | | | | |
| | | GND | | | | | A6 | | | | |
| | | GND | | | | | A9 | | | | |
| | | GND | | | | | AA10 | | | | |
| | | GND | | | | | AA11 | | | | |
| | | GND | | | | | AA12 | | | | |
| | | GND | | | | | AA13 | | | | |
| | | GND | | | | | AA14 | | | | |
| | | GND | | | | | AA15 | | | | |
| | | GND | | | | | AA18 | | | | |
| | | GND | | | | | AA20 | | | | |
| | | GND | | | | | AA25 | | | | |
| | | GND | | | | | AA27 | | | | |
| | | GND | | | | | AA30 | | | | |
| | | GND | | | | | AA31 | | | | |
| | | GND | | | | | AA32 | | | | |
| | | GND | | | | | AA33 | | | | |
| | | GND | | | | | AA34 | | | | |
| | | GND | | | | | AA35 | | | | |
| | | GND | | | | | AA36 | | | | |
| | | GND | | | | | AA37 | | | | |
| | | GND | | | | | AA8 | | | | |
| | | GND | | | | | AA9 | | | | |
| | | GND | | | | | AB10 | | | | |
| | | GND | | | | | AB11 | | | | |
| | | GND | | | | | AB12 | | | | |
| | | GND | | | | | AB13 | | | | |
| | | GND | | | | | AB14 | | | | |
| | | GND | | | | | AB16 | | | | |
| | | GND | | | | | AB23 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | AB29 | | | | |
| | | GND | | | | | AB31 | | | | |
| | | GND | | | | | AB32 | | | | |
| | | GND | | | | | AB33 | | | | |
| | | GND | | | | | AB34 | | | | |
| | | GND | | | | | AB35 | | | | |
| | | GND | | | | | AB36 | | | | |
| | | GND | | | | | AB9 | | | | |
| | | GND | | | | | AC10 | | | | |
| | | GND | | | | | AC11 | | | | |
| | | GND | | | | | AC12 | | | | |
| | | GND | | | | | AC13 | | | | |
| | | GND | | | | | AC15 | | | | |
| | | GND | | | | | AC19 | | | | |
| | | GND | | | | | AC22 | | | | |
| | | GND | | | | | AC26 | | | | |
| | | GND | | | | | AC30 | | | | |
| | | GND | | | | | AC32 | | | | |
| | | GND | | | | | AC33 | | | | |
| | | GND | | | | | AC34 | | | | |
| | | GND | | | | | AC35 | | | | |
| | | GND | | | | | AC36 | | | | |
| | | GND | | | | | AC9 | | | | |
| | | GND | | | | | AD10 | | | | |
| | | GND | | | | | AD11 | | | | |
| | | GND | | | | | AD12 | | | | |
| | | GND | | | | | AD13 | | | | |
| | | GND | | | | | AD17 | | | | |
| | | GND | | | | | AD20 | | | | |
| | | GND | | | | | AD28 | | | | |
| | | GND | | | | | AD31 | | | | |
| | | GND | | | | | AD34 | | | | |
| | | GND | | | | | AD35 | | | | |
| | | GND | | | | | AD36 | | | | |
| | | GND | | | | | AD37 | | | | |
| | | GND | | | | | AD6 | | | | |
| | | GND | | | | | AD9 | | | | |
| | | GND | | | | | AE37 | | | | |
| | | GND | | | | | AE8 | | | | |
| | | GND | | | | | AF12 | | | | |
| | | GND | | | | | AF15 | | | | |
| | | GND | | | | | AF18 | | | | |
| | | GND | | | | | AF19 | | | | |
| | | GND | | | | | AF21 | | | | |
| | | GND | | | | | AF23 | | | | |
| | | GND | | | | | AF25 | | | | |
| | | GND | | | | | AF27 | | | | |
| | | GND | | | | | AF30 | | | | |
| | | GND | | | | | AF33 | | | | |
| | | GND | | | | | AF36 | | | | |
| | | GND | | | | | AF8 | | | | |
| | | GND | | | | | AF9 | | | | |
| | | GND | | | | | AG8 | | | | |
| | | GND | | | | | AH11 | | | | |
| | | GND | | | | | AH14 | | | | |
| | | GND | | | | | AH17 | | | | |
| | | GND | | | | | AH20 | | | | |
| | | GND | | | | | AH23 | | | | |
| | | GND | | | | | AH26 | | | | |
| | | GND | | | | | AH29 | | | | |
| | | GND | | | | | AH32 | | | | |
| | | GND | | | | | AH35 | | | | |
| | | GND | | | | | AH37 | | | | |
| | | GND | | | | | AH8 | | | | |
| | | GND | | | | | AJ37 | | | | |
| | | GND | | | | | AJ8 | | | | |
| | | GND | | | | | AK10 | | | | |
| | | GND | | | | | AK13 | | | | |
| | | GND | | | | | AK16 | | | | |
| | | GND | | | | | AK19 | | | | |
| | | GND | | | | | AK22 | | | | |
| | | GND | | | | | AK25 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | AK28 | | | | |
| | | GND | | | | | AK31 | | | | |
| | | GND | | | | | AK34 | | | | |
| | | GND | | | | | AK37 | | | | |
| | | GND | | | | | AK8 | | | | |
| | | GND | | | | | AM12 | | | | |
| | | GND | | | | | AM15 | | | | |
| | | GND | | | | | AM18 | | | | |
| | | GND | | | | | AM21 | | | | |
| | | GND | | | | | AM24 | | | | |
| | | GND | | | | | AM27 | | | | |
| | | GND | | | | | AM30 | | | | |
| | | GND | | | | | AM33 | | | | |
| | | GND | | | | | AM36 | | | | |
| | | GND | | | | | AM39 | | | | |
| | | GND | | | | | AM40 | | | | |
| | | GND | | | | | AM6 | | | | |
| | | GND | | | | | AM9 | | | | |
| | | GND | | | | | AN40 | | | | |
| | | GND | | | | | AN5 | | | | |
| | | GND | | | | | AP11 | | | | |
| | | GND | | | | | AP14 | | | | |
| | | GND | | | | | AP17 | | | | |
| | | GND | | | | | AP20 | | | | |
| | | GND | | | | | AP23 | | | | |
| | | GND | | | | | AP26 | | | | |
| | | GND | | | | | AP29 | | | | |
| | | GND | | | | | AP32 | | | | |
| | | GND | | | | | AP35 | | | | |
| | | GND | | | | | AP38 | | | | |
| | | GND | | | | | AP40 | | | | |
| | | GND | | | | | AP5 | | | | |
| | | GND | | | | | AP7 | | | | |
| | | GND | | | | | AP8 | | | | |
| | | GND | | | | | AR38 | | | | |
| | | GND | | | | | AR7 | | | | |
| | | GND | | | | | AT10 | | | | |
| | | GND | | | | | AT13 | | | | |
| | | GND | | | | | AT16 | | | | |
| | | GND | | | | | AT19 | | | | |
| | | GND | | | | | AT22 | | | | |
| | | GND | | | | | AT25 | | | | |
| | | GND | | | | | AT28 | | | | |
| | | GND | | | | | AT31 | | | | |
| | | GND | | | | | AT34 | | | | |
| | | GND | | | | | AT37 | | | | |
| | | GND | | | | | AT38 | | | | |
| | | GND | | | | | AT7 | | | | |
| | | GND | | | | | AU38 | | | | |
| | | GND | | | | | AU7 | | | | |
| | | GND | | | | | AV12 | | | | |
| | | GND | | | | | AV15 | | | | |
| | | GND | | | | | AV18 | | | | |
| | | GND | | | | | AV21 | | | | |
| | | GND | | | | | AV24 | | | | |
| | | GND | | | | | AV27 | | | | |
| | | GND | | | | | AV30 | | | | |
| | | GND | | | | | AV33 | | | | |
| | | GND | | | | | AV36 | | | | |
| | | GND | | | | | AV38 | | | | |
| | | GND | | | | | AV7 | | | | |
| | | GND | | | | | AV9 | | | | |
| | | GND | | | | | AW38 | | | | |
| | | GND | | | | | AW7 | | | | |
| | | GND | | | | | AW8 | | | | |
| | | GND | | | | | AY11 | | | | |
| | | GND | | | | | AY14 | | | | |
| | | GND | | | | | AY17 | | | | |
| | | GND | | | | | AY20 | | | | |
| | | GND | | | | | AY23 | | | | |
| | | GND | | | | | AY26 | | | | |
| | | GND | | | | | AY29 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | AY32 | | | | |
| | | GND | | | | | AY35 | | | | |
| | | GND | | | | | AY38 | | | | |
| | | GND | | | | | AY7 | | | | |
| | | GND | | | | | AY8 | | | | |
| | | GND | | | | | B6 | | | | |
| | | GND | | | | | BA38 | | | | |
| | | GND | | | | | BA7 | | | | |
| | | GND | | | | | BA8 | | | | |
| | | GND | | | | | BB10 | | | | |
| | | GND | | | | | BB13 | | | | |
| | | GND | | | | | BB16 | | | | |
| | | GND | | | | | BB19 | | | | |
| | | GND | | | | | BB22 | | | | |
| | | GND | | | | | BB25 | | | | |
| | | GND | | | | | BB28 | | | | |
| | | GND | | | | | BB31 | | | | |
| | | GND | | | | | BB34 | | | | |
| | | GND | | | | | BB37 | | | | |
| | | GND | | | | | BB6 | | | | |
| | | GND | | | | | BB7 | | | | |
| | | GND | | | | | BC4 | | | | |
| | | GND | | | | | BC40 | | | | |
| | | GND | | | | | BC41 | | | | |
| | | GND | | | | | BC5 | | | | |
| | | GND | | | | | BC6 | | | | |
| | | GND | | | | | BD12 | | | | |
| | | GND | | | | | BD15 | | | | |
| | | GND | | | | | BD18 | | | | |
| | | GND | | | | | BD21 | | | | |
| | | GND | | | | | BD24 | | | | |
| | | GND | | | | | BD27 | | | | |
| | | GND | | | | | BD30 | | | | |
| | | GND | | | | | BD33 | | | | |
| | | GND | | | | | BD36 | | | | |
| | | GND | | | | | BD39 | | | | |
| | | GND | | | | | BD40 | | | | |
| | | GND | | | | | BD5 | | | | |
| | | GND | | | | | BD6 | | | | |
| | | GND | | | | | BD9 | | | | |
| | | GND | | | | | C11 | | | | |
| | | GND | | | | | C14 | | | | |
| | | GND | | | | | C17 | | | | |
| | | GND | | | | | C20 | | | | |
| | | GND | | | | | C23 | | | | |
| | | GND | | | | | C26 | | | | |
| | | GND | | | | | C29 | | | | |
| | | GND | | | | | C32 | | | | |
| | | GND | | | | | C35 | | | | |
| | | GND | | | | | C38 | | | | |
| | | GND | | | | | C7 | | | | |
| | | GND | | | | | C8 | | | | |
| | | GND | | | | | D38 | | | | |
| | | GND | | | | | D7 | | | | |
| | | GND | | | | | D8 | | | | |
| | | GND | | | | | E10 | | | | |
| | | GND | | | | | E13 | | | | |
| | | GND | | | | | E16 | | | | |
| | | GND | | | | | E19 | | | | |
| | | GND | | | | | E22 | | | | |
| | | GND | | | | | E25 | | | | |
| | | GND | | | | | E28 | | | | |
| | | GND | | | | | E31 | | | | |
| | | GND | | | | | E34 | | | | |
| | | GND | | | | | E37 | | | | |
| | | GND | | | | | E38 | | | | |
| | | GND | | | | | E7 | | | | |
| | | GND | | | | | F38 | | | | |
| | | GND | | | | | F7 | | | | |
| | | GND | | | | | G12 | | | | |
| | | GND | | | | | G15 | | | | |
| | | GND | | | | | G18 | | | | |



Pin Information for the Stratix® V 5SGSD8 Device
Version 1.1
Note (1)

| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | G21 | | | | |
| | | GND | | | | | G24 | | | | |
| | | GND | | | | | G27 | | | | |
| | | GND | | | | | G30 | | | | |
| | | GND | | | | | G33 | | | | |
| | | GND | | | | | G36 | | | | |
| | | GND | | | | | G38 | | | | |
| | | GND | | | | | G7 | | | | |
| | | GND | | | | | G9 | | | | |
| | | GND | | | | | H38 | | | | |
| | | GND | | | | | H7 | | | | |
| | | GND | | | | | J11 | | | | |
| | | GND | | | | | J14 | | | | |
| | | GND | | | | | J17 | | | | |
| | | GND | | | | | J20 | | | | |
| | | GND | | | | | J23 | | | | |
| | | GND | | | | | J26 | | | | |
| | | GND | | | | | J29 | | | | |
| | | GND | | | | | J32 | | | | |
| | | GND | | | | | J35 | | | | |
| | | GND | | | | | J38 | | | | |
| | | GND | | | | | J7 | | | | |
| | | GND | | | | | J8 | | | | |
| | | GND | | | | | K38 | | | | |
| | | GND | | | | | K7 | | | | |
| | | GND | | | | | L10 | | | | |
| | | GND | | | | | L13 | | | | |
| | | GND | | | | | L16 | | | | |
| | | GND | | | | | L19 | | | | |
| | | GND | | | | | L22 | | | | |
| | | GND | | | | | L25 | | | | |
| | | GND | | | | | L28 | | | | |
| | | GND | | | | | L31 | | | | |
| | | GND | | | | | L34 | | | | |
| | | GND | | | | | L37 | | | | |
| | | GND | | | | | L38 | | | | |
| | | GND | | | | | L7 | | | | |
| | | GND | | | | | M40 | | | | |
| | | GND | | | | | M5 | | | | |
| | | GND | | | | | M6 | | | | |
| | | GND | | | | | N12 | | | | |
| | | GND | | | | | N15 | | | | |
| | | GND | | | | | N18 | | | | |
| | | GND | | | | | N21 | | | | |
| | | GND | | | | | N24 | | | | |
| | | GND | | | | | N27 | | | | |
| | | GND | | | | | N30 | | | | |
| | | GND | | | | | N33 | | | | |
| | | GND | | | | | N36 | | | | |
| | | GND | | | | | N39 | | | | |
| | | GND | | | | | N40 | | | | |
| | | GND | | | | | N5 | | | | |
| | | GND | | | | | N6 | | | | |
| | | GND | | | | | N9 | | | | |
| | | GND | | | | | P40 | | | | |
| | | GND | | | | | P5 | | | | |
| | | GND | | | | | P9 | | | | |
| | | GND | | | | | R11 | | | | |
| | | GND | | | | | R14 | | | | |
| | | GND | | | | | R17 | | | | |
| | | GND | | | | | R20 | | | | |
| | | GND | | | | | R23 | | | | |
| | | GND | | | | | R26 | | | | |
| | | GND | | | | | R29 | | | | |
| | | GND | | | | | R32 | | | | |
| | | GND | | | | | R35 | | | | |
| | | GND | | | | | R37 | | | | |
| | | GND | | | | | R39 | | | | |
| | | GND | | | | | R40 | | | | |
| | | GND | | | | | R5 | | | | |
| | | GND | | | | | R6 | | | | |
| | | GND | | | | | R8 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | GND | | | | | R9 | | | | |
| | | GND | | | | | T37 | | | | |
| | | GND | | | | | T8 | | | | |
| | | GND | | | | | U10 | | | | |
| | | GND | | | | | U13 | | | | |
| | | GND | | | | | U16 | | | | |
| | | GND | | | | | U19 | | | | |
| | | GND | | | | | U22 | | | | |
| | | GND | | | | | U25 | | | | |
| | | GND | | | | | U28 | | | | |
| | | GND | | | | | U31 | | | | |
| | | GND | | | | | U34 | | | | |
| | | GND | | | | | U37 | | | | |
| | | GND | | | | | U8 | | | | |
| | | GND | | | | | V37 | | | | |
| | | GND | | | | | V8 | | | | |
| | | GND | | | | | W10 | | | | |
| | | GND | | | | | W11 | | | | |
| | | GND | | | | | W12 | | | | |
| | | GND | | | | | W13 | | | | |
| | | GND | | | | | W15 | | | | |
| | | GND | | | | | W19 | | | | |
| | | GND | | | | | W21 | | | | |
| | | GND | | | | | W23 | | | | |
| | | GND | | | | | W25 | | | | |
| | | GND | | | | | W27 | | | | |
| | | GND | | | | | W30 | | | | |
| | | GND | | | | | W33 | | | | |
| | | GND | | | | | W36 | | | | |
| | | GND | | | | | W9 | | | | |
| | | GND | | | | | Y10 | | | | |
| | | GND | | | | | Y11 | | | | |
| | | GND | | | | | Y12 | | | | |
| | | GND | | | | | Y13 | | | | |
| | | GND | | | | | Y14 | | | | |
| | | GND | | | | | Y15 | | | | |
| | | GND | | | | | Y18 | | | | |
| | | GND | | | | | Y22 | | | | |
| | | GND | | | | | Y26 | | | | |
| | | GND | | | | | Y31 | | | | |
| | | GND | | | | | Y33 | | | | |
| | | GND | | | | | Y34 | | | | |
| | | GND | | | | | Y35 | | | | |
| | | GND | | | | | Y36 | | | | |
| | | GND | | | | | Y9 | | | | |
| | | GND | | | | | AD24 | | | | |
| | | VCC | | | | | AF20 | | | | |
| | | VCC | | | | | AF22 | | | | |
| | | VCC | | | | | AF24 | | | | |
| | | VCC | | | | | AF26 | | | | |
| | | VCC | | | | | W20 | | | | |
| | | VCC | | | | | W22 | | | | |
| | | VCC | | | | | W24 | | | | |
| | | VCC | | | | | W26 | | | | |
| | | VCC | | | | | AA19 | | | | |
| | | VCC | | | | | AA21 | | | | |
| | | VCC | | | | | AA22 | | | | |
| | | VCC | | | | | AA23 | | | | |
| | | VCC | | | | | AA24 | | | | |
| | | VCC | | | | | AA26 | | | | |
| | | VCC | | | | | AB19 | | | | |
| | | VCC | | | | | AB20 | | | | |
| | | VCC | | | | | AB21 | | | | |
| | | VCC | | | | | AB22 | | | | |
| | | VCC | | | | | AB24 | | | | |
| | | VCC | | | | | AB25 | | | | |
| | | VCC | | | | | AB26 | | | | |
| | | VCC | | | | | AC20 | | | | |
| | | VCC | | | | | AC21 | | | | |
| | | VCC | | | | | AC25 | | | | |
| | | VCC | | | | | AD19 | | | | |
| | | VCC | | | | | AD21 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | VCC | | | | | AD22 | | | | |
| | | VCC | | | | | AD23 | | | | |
| | | VCC | | | | | AD25 | | | | |
| | | VCC | | | | | AD26 | | | | |
| | | VCC | | | | | AE19 | | | | |
| | | VCC | | | | | AE20 | | | | |
| | | VCC | | | | | AE21 | | | | |
| | | VCC | | | | | AE22 | | | | |
| | | VCC | | | | | AE23 | | | | |
| | | VCC | | | | | AE24 | | | | |
| | | VCC | | | | | AE25 | | | | |
| | | VCC | | | | | AE26 | | | | |
| | | VCC | | | | | Y19 | | | | |
| | | VCC | | | | | Y20 | | | | |
| | | VCC | | | | | Y21 | | | | |
| | | VCC | | | | | Y23 | | | | |
| | | VCC | | | | | Y24 | | | | |
| | | VCC | | | | | Y25 | | | | |
| | | VCC | | | | | AC24 | | | | |
| | | VCCPT | | | | | AG24 | | | | |
| | | VCCPT | | | | | AG31 | | | | |
| | | VCCPT | | | | | AH16 | | | | |
| | | VCCPT | | | | | V14 | | | | |
| | | VCCPT | | | | | V22 | | | | |
| | | VCCPT | | | | | V32 | | | | |
| | | DNU | | | | | BD41 | | | | |
| | | DNU | | | | | BD42 | | | | |
| | | DNU | | | | | AF37 | | | | |
| | | DNU | | | | | AP22 | | | | |
| | | DNU | | | | | BD3 | | | | |
| | | DNU | | | | | BD4 | | | | |
| | | DNU | | | | | N7 | | | | |
| | | DNU | | | | | K23 | | | | |
| | | DNU | | | | | AC23 | | | | |
| | | VCCPGM | | | | | AL33 | | | | |
| | | VCCPGM | | | | | AL10 | | | | |
| | | TEMPDIODE _n | | | | | P7 | | | | |
| | | TEMPDIODE _p | | | | | P6 | | | | |
| | | VCCBAT | | | | | AL13 | | | | |
| | | VCCIO3A | | | | | BA37 | | | | |
| | | VCCIO3A | | | | | BC36 | | | | |
| | | VCCIO3B | | | | | BA35 | | | | |
| | | VCCIO3B | | | | | BC33 | | | | |
| | | VCCIO3C | | | | | BA32 | | | | |
| | | VCCIO3C | | | | | BC30 | | | | |
| | | VCCIO3D | | | | | BA26 | | | | |
| | | VCCIO3D | | | | | BC27 | | | | |
| | | VCCIO3E | | | | | BA23 | | | | |
| | | VCCIO3E | | | | | BC24 | | | | |
| | | VCCIO4A | | | | | BC9 | | | | |
| | | VCCIO4B | | | | | BA11 | | | | |
| | | VCCIO4B | | | | | BC12 | | | | |
| | | VCCIO4C | | | | | BA14 | | | | |
| | | VCCIO4C | | | | | BC15 | | | | |
| | | VCCIO4D | | | | | BA17 | | | | |
| | | VCCIO4D | | | | | BC18 | | | | |
| | | VCCIO4E | | | | | BA20 | | | | |
| | | VCCIO4E | | | | | BC21 | | | | |
| | | VCCIO7A | | | | | B9 | | | | |
| | | VCCIO7B | | | | | B12 | | | | |
| | | VCCIO7B | | | | | D13 | | | | |
| | | VCCIO7C | | | | | B15 | | | | |
| | | VCCIO7C | | | | | D16 | | | | |
| | | VCCIO7D | | | | | B18 | | | | |
| | | VCCIO7D | | | | | D19 | | | | |
| | | VCCIO7E | | | | | B21 | | | | |
| | | VCCIO7E | | | | | D22 | | | | |
| | | VCCIO8A | | | | | B36 | | | | |
| | | VCCIO8A | | | | | F37 | | | | |
| | | VCCIO8B | | | | | B33 | | | | |
| | | VCCIO8B | | | | | D34 | | | | |
| | | VCCIO8C | | | | | B30 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|-----------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | VCCIO8C | | | | | D31 | | | | |
| | | VCCIO8D | | | | | B27 | | | | |
| | | VCCIO8D | | | | | D28 | | | | |
| | | VCCIO8E | | | | | B24 | | | | |
| | | VCCIO8E | | | | | D25 | | | | |
| | | VCCPD3AB | | | | | AW31 | | | | |
| | | VCCPD3AB | | | | | AW34 | | | | |
| | | VCCPD3CD | | | | | AW25 | | | | |
| | | VCCPD3CD | | | | | AW28 | | | | |
| | | VCCPD4 | | | | | AW12 | | | | |
| | | VCCPD4 | | | | | AW15 | | | | |
| | | VCCPD4 | | | | | AW18 | | | | |
| | | VCCPD7 | | | | | F12 | | | | |
| | | VCCPD7 | | | | | F15 | | | | |
| | | VCCPD7 | | | | | F18 | | | | |
| | | VCCPD8 | | | | | F27 | | | | |
| | | VCCPD8 | | | | | F30 | | | | |
| | | VCCPD8 | | | | | F33 | | | | |
| 3A | VREFB3AN0 | VREFB3AN0 | VREFB3AN0 | | | | AN35 | | | | |
| 3B | VREFB3BN0 | VREFB3BN0 | VREFB3BN0 | | | | AN32 | | | | |
| 3C | VREFB3CN0 | VREFB3CN0 | VREFB3CN0 | | | | AN29 | | | | |
| 3D | VREFB3DN0 | VREFB3DN0 | VREFB3DN0 | | | | AN26 | | | | |
| 3E | VREFB3EN0 | VREFB3EN0 | VREFB3EN0 | | | | AN24 | | | | |
| 4A | VREFB4AN0 | VREFB4AN0 | VREFB4AN0 | | | | AN9 | | | | |
| 4B | VREFB4BN0 | VREFB4BN0 | VREFB4BN0 | | | | AN13 | | | | |
| 4C | VREFB4CN0 | VREFB4CN0 | VREFB4CN0 | | | | AN16 | | | | |
| 4D | VREFB4DN0 | VREFB4DN0 | VREFB4DN0 | | | | AN18 | | | | |
| 4E | VREFB4EN0 | VREFB4EN0 | VREFB4EN0 | | | | AN21 | | | | |
| 7A | VREFB7AN0 | VREFB7AN0 | VREFB7AN0 | | | | M10 | | | | |
| 7B | VREFB7BN0 | VREFB7BN0 | VREFB7BN0 | | | | M13 | | | | |
| 7C | VREFB7CN0 | VREFB7CN0 | VREFB7CN0 | | | | M16 | | | | |
| 7D | VREFB7DN0 | VREFB7DN0 | VREFB7DN0 | | | | M19 | | | | |
| 7E | VREFB7EN0 | VREFB7EN0 | VREFB7EN0 | | | | M21 | | | | |
| 8A | VREFB8AN0 | VREFB8AN0 | VREFB8AN0 | | | | K33 | | | | |
| 8B | VREFB8BN0 | VREFB8BN0 | VREFB8BN0 | | | | M32 | | | | |
| 8C | VREFB8CN0 | VREFB8CN0 | VREFB8CN0 | | | | M29 | | | | |
| 8D | VREFB8DN0 | VREFB8DN0 | VREFB8DN0 | | | | M26 | | | | |
| 8E | VREFB8EN0 | VREFB8EN0 | VREFB8EN0 | | | | M24 | | | | |
| | | VCCH_GXBL0 | | | | | AJ40 | | | | |
| | | VCCH_GXBL1 | | | | | AE40 | | | | |
| | | VCCH_GXBL2 | | | | | AA40 | | | | |
| | | VCCH_GXBL3 | | | | | U40 | | | | |
| | | VCCH_GXBR0 | | | | | AJ5 | | | | |
| | | VCCH_GXBR1 | | | | | AE5 | | | | |
| | | VCCH_GXBR2 | | | | | AA5 | | | | |
| | | VCCH_GXBR3 | | | | | U5 | | | | |
| | | VCCR_GXBL0 | | | | | AL39 | | | | |
| | | VCCR_GXBL1 | | | | | AG39 | | | | |
| | | VCCR_GXBL2 | | | | | AC39 | | | | |
| | | VCCR_GXBL3 | | | | | W39 | | | | |
| | | VCCR_GXBR0 | | | | | AL6 | | | | |
| | | VCCR_GXBR1 | | | | | AG6 | | | | |
| | | VCCR_GXBR2 | | | | | AC6 | | | | |
| | | VCCR_GXBR3 | | | | | W6 | | | | |
| | | VCCT_GXBL0 | | | | | AH38 | | | | |
| | | VCCT_GXBL0 | | | | | AJ38 | | | | |
| | | VCCT_GXBL1 | | | | | AD38 | | | | |
| | | VCCT_GXBL1 | | | | | AE38 | | | | |
| | | VCCT_GXBL2 | | | | | AA38 | | | | |
| | | VCCT_GXBL2 | | | | | AB38 | | | | |
| | | VCCT_GXBL3 | | | | | U38 | | | | |
| | | VCCT_GXBL3 | | | | | V38 | | | | |
| | | VCCT_GXBR0 | | | | | AH7 | | | | |
| | | VCCT_GXBR0 | | | | | AJ7 | | | | |
| | | VCCT_GXBR1 | | | | | AD7 | | | | |
| | | VCCT_GXBR1 | | | | | AE7 | | | | |
| | | VCCT_GXBR2 | | | | | AA7 | | | | |
| | | VCCT_GXBR2 | | | | | AB7 | | | | |
| | | VCCT_GXBR3 | | | | | U7 | | | | |
| | | VCCT_GXBR3 | | | | | V7 | | | | |
| | | VCCHIP_L | | | | | AA28 | | | | |
| | | VCCHIP_L | | | | | AB27 | | | | |



| Bank Number | VREF | Pin Name/Function (2),(3) | Optional Function(s) | Configuration Function | Dedicated Tx/Rx Channel | Emulated LVDS Output Channel | F1932 | DQS for X4 | DQS for X8/X9 | DQS for X16/ X18 | DQS for X32/ X36 |
|-------------|------|---------------------------|----------------------|------------------------|-------------------------|------------------------------|-------|------------|---------------|------------------|------------------|
| | | VCCHIP_L | | | | | AB28 | | | | |
| | | VCCHIP_L | | | | | AC27 | | | | |
| | | VCCHIP_L | | | | | AC28 | | | | |
| | | VCCHIP_L | | | | | AD27 | | | | |
| | | VCCHIP_R | | | | | AA17 | | | | |
| | | VCCHIP_R | | | | | AB17 | | | | |
| | | VCCHIP_R | | | | | AB18 | | | | |
| | | VCCHIP_R | | | | | AC17 | | | | |
| | | VCCHIP_R | | | | | AC18 | | | | |
| | | VCCHIP_R | | | | | AD18 | | | | |
| | | RREF_BL | | | | | BD43 | | | | |
| | | RREF_BR | | | | | BD2 | | | | |
| | | RREF_TL | | | | | A41 | | | | |
| | | RREF_TR | | | | | A4 | | | | |
| | | VCCA_FPLL | | | | | AM34 | | | | |
| | | VCCA_FPLL | | | | | AG22 | | | | |
| | | VCCA_FPLL | | | | | AM10 | | | | |
| | | VCCA_FPLL | | | | | P10 | | | | |
| | | VCCA_FPLL | | | | | V23 | | | | |
| | | VCCA_FPLL | | | | | N35 | | | | |
| | | VCCA_FPLL | | | | | AB37 | | | | |
| | | VCCA_FPLL | | | | | Y37 | | | | |
| | | VCCA_FPLL | | | | | AB8 | | | | |
| | | VCCA_FPLL | | | | | Y8 | | | | |
| | | VCCA_GXBL0 | | | | | AK40 | | | | |
| | | VCCA_GXBL1 | | | | | AF40 | | | | |
| | | VCCA_GXBL2 | | | | | Y40 | | | | |
| | | VCCA_GXBL3 | | | | | T40 | | | | |
| | | VCCA_GXBR0 | | | | | AK5 | | | | |
| | | VCCA_GXBR1 | | | | | AF5 | | | | |
| | | VCCA_GXBR2 | | | | | Y5 | | | | |
| | | VCCA_GXBR3 | | | | | T5 | | | | |
| | | VCCHSSI_L | | | | | AA29 | | | | |
| | | VCCHSSI_L | | | | | AB30 | | | | |
| | | VCCHSSI_L | | | | | AC29 | | | | |
| | | VCCHSSI_L | | | | | AC31 | | | | |
| | | VCCHSSI_L | | | | | AD29 | | | | |
| | | VCCHSSI_L | | | | | AD30 | | | | |
| | | VCCHSSI_R | | | | | AA16 | | | | |
| | | VCCHSSI_R | | | | | AB15 | | | | |
| | | VCCHSSI_R | | | | | AC14 | | | | |
| | | VCCHSSI_R | | | | | AC16 | | | | |
| | | VCCHSSI_R | | | | | AD15 | | | | |
| | | VCCHSSI_R | | | | | AD16 | | | | |
| | | VCCD_FPLL | | | | | AM35 | | | | |
| | | VCCD_FPLL | | | | | AG23 | | | | |
| | | VCCD_FPLL | | | | | AN10 | | | | |
| | | VCCD_FPLL | | | | | N10 | | | | |
| | | VCCD_FPLL | | | | | V24 | | | | |
| | | VCCD_FPLL | | | | | M35 | | | | |
| | | VCCD_FPLL | | | | | AC37 | | | | |
| | | VCCD_FPLL | | | | | W37 | | | | |
| | | VCCD_FPLL | | | | | AC8 | | | | |
| | | VCCD_FPLL | | | | | W8 | | | | |
| | | VCC_AUX | | | | | AK11 | | | | |
| | | VCC_AUX | | | | | AL22 | | | | |
| | | VCC_AUX | | | | | AL32 | | | | |
| | | VCC_AUX | | | | | N34 | | | | |
| | | VCC_AUX | | | | | P11 | | | | |
| | | VCC_AUX | | | | | P22 | | | | |

Notes:

- (1) For more information about pin definition and pin connection guidelines, refer to the [Stratix V Device Family Pin Connection Guidelines](#).
- (2) The GXB_REFCLK pin is not supported in the current Quartus II software version, but will be supported in the future Quartus II software release version.
- (3) The VCCPD3CD pin is shared by I/O banks 3C, 3D, and 3E.



**Pin Information for the Stratix® V 5SGSD8 Device
Version 1.1**

| Version Number | Date | Changes Made |
|-----------------------|-------------|---|
| 1.0 | 6/15/2012 | Initial release. |
| 1.1 | 10/14/2013 | Added note to Pin Name/Function column for F1932 package. |
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