INTEGRATED CIRCUITS, SILICON MONOLITHIC, CMOS DIGITAL, MEMORY, RADIATION HARDENED, FIELD PROGRAMMABLE GATE ARRAY, 16.9M GATES WITH 9.9Mb OF INDEPENDENT RAM

BASED ON TYPE NX1H140ATSP (NG-LARGE)

ESCC Detail Specification No. 9304/011

Issue 1	August 2025

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DCR No.	CHANGE DESCRIPTION

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1 GENERAL

1.1 SCOPE

This specification details the ratings, physical and electrical characteristics and test and inspection data for the component type variants and/or the range of components specified below. It supplements the requirements of, and shall be read in conjunction with, the ESCC Generic Specification listed under Applicable Documents.

1.2 APPLICABLE DOCUMENTS

The following documents form part of this specification and shall be read in conjunction with it:

(a) ESCC Generic Specification No. 9000.
(b) MIL-STD-883, Test Methods and Procedures for Microelectronics.

1.3 TERMS, DEFINITIONS, ABBREVIATIONS, SYMBOLS AND UNITS

For the purpose of this specification, the terms, definitions, abbreviations, symbols and units specified in ESCC Basic Specification No. 21300 shall apply.

1.4 THE ESCC COMPONENT NUMBER AND COMPONENT TYPE VARIANTS

1.4.1 The ESCC Component Number

The ESCC Component number shall be constituted as follows:

Example: 930401101A

- Detail Specification Reference: 9304011
- Component Type Variant Number: 01 (as required)
- Total Dose Radiation Level Letter: E (as required)

1.4.2 Component Type Variants

The component type variants applicable to this specification are as follows:

Variant Number	Based on Type	Case	Lead/Terminal Material and Finish (Note 1)	Weight Max g	Total Dose Radiation Level Letter (Notes 2, 3)
01	NX1H140ATSP (NG-Large)	CLGA-1752	D2	56	E [20krad(Si)]

NOTES:

1. The lead/terminal material and finish shall be in accordance with the requirements of ESCC Basic Specification No. 23500.
2. The total dose radiation level letter shall be as defined in ESCC Basic Specification No. 22900. If an alternative radiation test level is specified in the Purchase Order the letter shall be changed accordingly.
3. The Total Dose Radiation Level Letter (E) shall be validated as follows:
   - Tested up to 30krad(Si)

1.5 MAXIMUM RATINGS

The maximum ratings shall not be exceeded at any time during use or storage. Functional performance for extended periods at the maximum ratings may adversely affect device reliability.

Maximum ratings shall only be exceeded during testing to the extent specified in this specification and when stipulated in Test Methods and Procedures of the ESCC Generic Specification.

Characteristics	Symbols	Maximum Ratings	Units	Remarks
Supply Voltages	V_{DD} V_{CC}	-0.3 to 1.32 -0.3 to 3.6	V	Notes 1, 2
Input Voltage Range	V_{IN}	-0.5 to 3.6	V	Note 2
Output Voltage Range	V_{OUT}	-0.5 to 1.32	V	Note 2
Analog Core Supply Transient Voltage	V_{DD2V5A}	-0.3 to 2.75	V	
Device Power Dissipation	P_D	2.5	W	
Operating Temperature Range	T_{op}	-20 to +105	°C	At junction Note 3
Storage Temperature Range	T_{stg}	-65 to +150	°C	
Junction Temperature	T_j	+150	°C	
Thermal Resistance, Junction to Case	$R_{th(j-c)}$	2.55	°C/W	Over T_{op} Note 3
Soldering Temperature	T_{sol}	+235	°C	Note 4

NOTES:

1. V_{DD} is for core. V_{CC} is for I/O.
2. With reference to V_{SS} = 0V.
3. The maximum operating temperature at the junction, $T_{op(max)}$, shall be determined by thermal analysis of the programmed FPGA by the user, and shall not exceed the specified maximum rating.
4. Duration 10 seconds maximum at a distance of not less than 1.6mm from the device body and the same terminal shall not be resoldered until 3 minutes have elapsed.

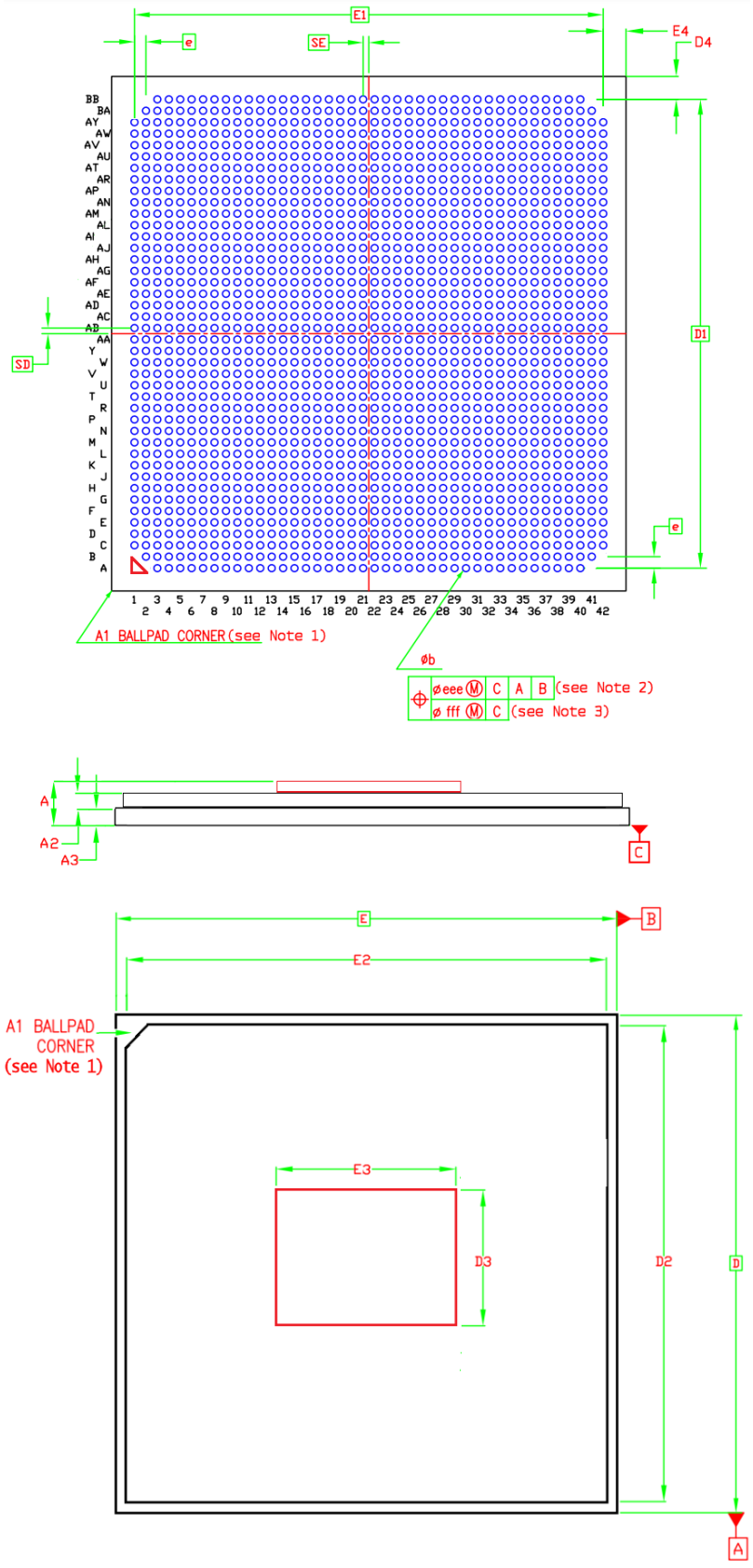
1.6 HANDLING PRECAUTIONS

These devices are susceptible to damage by electrostatic discharge. Therefore, suitable precautions shall be employed for protection during all phases of manufacture, testing, packaging, shipment and any handling.

These components are categorised as Class 1A per ESCC Basic Specification No. 23800 with a Minimum Critical Path Failure Voltage of 250 Volts.

1.7 PHYSICAL DIMENSIONS AND TERMINAL IDENTIFICATION

Ceramic Land Grid Array (CLGA-1752) - 1752 Lands



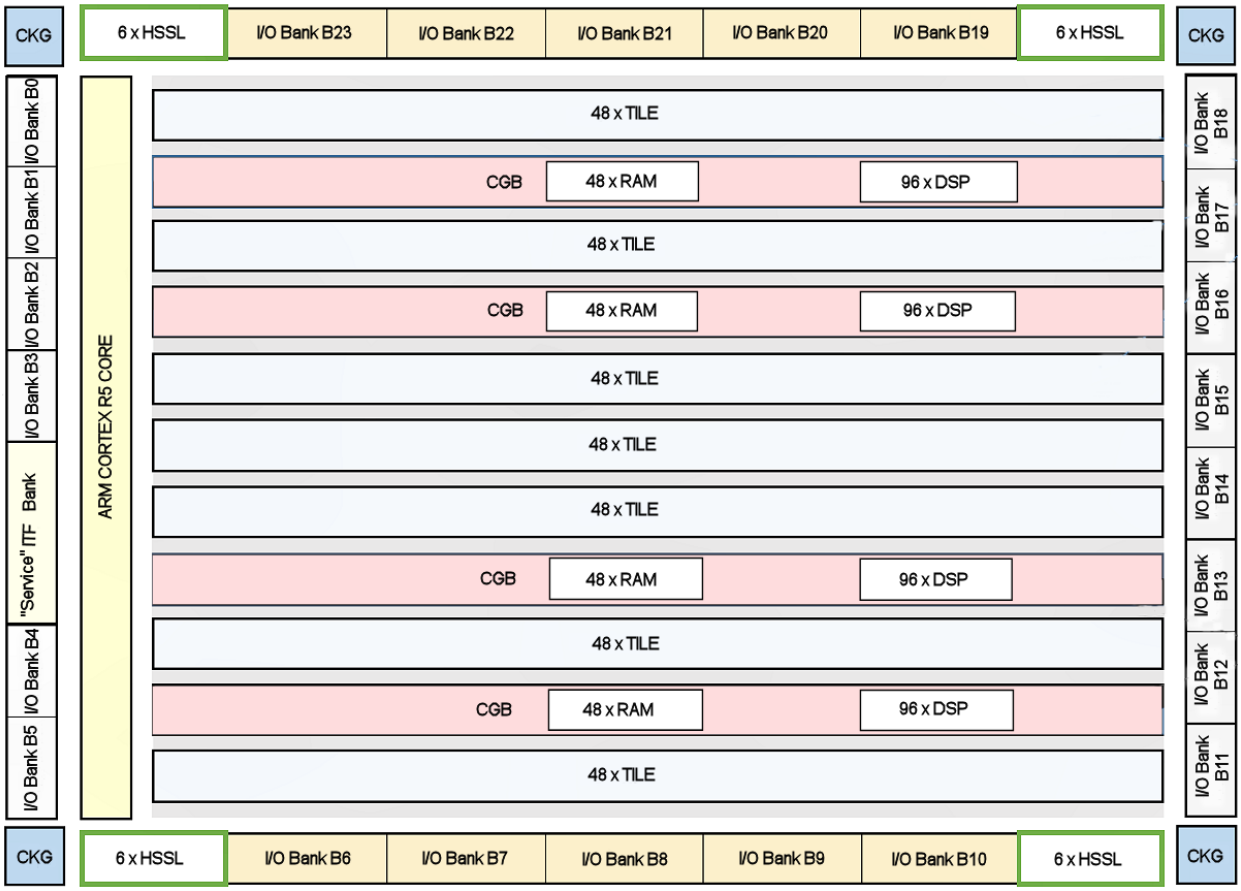
Symbols	Dimensions mm		Notes
	Min	Max	
A	6.35	7.71	4
A2	1.25	1.45	
A3	4.36	5.32	
Øb	0.65	0.85	
D / E	44.64	45.36	
D1 / E1	41 (NOMINAL)		
D2 / E2	42.8	43.2	
D3 / E3	36.2 (NOMINAL)		
D4 / E4	2 (NOMINAL)		5
e	1 (NOMINAL)		
SD / SE	0.5 (NOMINAL)		

NOTES:

1. Terminal identification: the A1 ballpad corner must be identified on the top surface by using a corner chamfer, ink or metalized markings, or other feature of package body or integral heat slug. There may be a distinguishing feature on the bottom surface of the package to identify the A1 ballpad corner; the shape and size of this feature is at the manufacturer's discretion.
2. Øeee (the tolerance of position that controls the location of the pattern of lands with respect to datums A and B) is 0.3mm. For each land there is a cylindrical tolerance zone "eee" perpendicular to datum C and located on true position with respect to datums A and B as defined by e. The axis perpendicular to datum C of each land must lie within this tolerance zone.
3. Øfff (the tolerance of position that controls the location of the lands within the matrix with respect to each other) is 0.2mm. For each land there is a cylindrical tolerance zone "fff" perpendicular to datum C and located on true position as defined by e. The axis perpendicular to datum C of each land must lie within this tolerance zone.

   Each tolerance zone "fff" in the array is contained entirely in the respective "eee" zone.
4. The lid height is 0.84mm TYP.
5. Dimension D4 applies in 4 places and dimension E4 applies in 4 places.

1.8 FUNCTIONAL DIAGRAM



NOTES:

1. Acronyms used are as follows:

   CGB = Coarse Grain Block
   CKG = Clock Generator
   DSP = Digital Signal Processor
   HSSL = High Speed Serial Links
   ITF = Interface

2. The NG-LARGEs I/O Ring consists of:

   I/O Banks B0 to B5, which are “Simple” I/O Banks with 18 I/Os per bank,
   I/O Banks B6 to B10 and B19 to B23, which are “Complex” I/O Banks with 34 I/Os per bank,
   I/O Banks B11 to B18, which are “Simple” I/O Banks with 24 I/Os per bank,
   A “Service” configuration/program Interface (ITF) Bank.

3. The NG-LARGE includes programmable logic resources contained in 7 rows of 48 TILEs. Each TILE includes Functional Elements (FE) and additional complementary logic such as arithmetic logic, eXtension Look Up Tables (X-LUT) and Register File.

1.9 PIN ASSIGNMENT

Land	Pin Name	I/O	Description
A3	HSSL2_GND2V5A		HSSL Bank 2 GND
A4	HSSL2_GND2V5A		HSSL Bank 2 GND
A5	HSSL2_TX1P	O	HSSL Bank 2 GND
A6	HSSL2_TX1N	O	HSSL Bank 2 GND
A7	HSSL2_TX1_GNDA		HSSL Bank 2 GND
A8	HSSL2_TX1_VDDA		HSSL Bank 2 GND
A9	HSSL2_D_GND		HSSL Bank 2 GND
A10	GND		Internal GND Plane
A11	IO_B18D06N	I/O	Bank 18 (Simple) I/O
A12	IO_B18D07N	I/O	Bank 18 (Simple) I/O
A13	GND		Internal GND Plane
A14	GND		Internal GND Plane
A15	VTO_19		Bank 19 (Complex) Termination Voltage
A16	VDDS_19		Bank 19 (Complex) Termination Switch Supply
A17	GND		Internal GND Plane
A18	GND		Internal GND Plane
A19	VTO_20		Bank 20 (Complex) Termination Voltage
A20	VDDS_20		Bank 20 (Complex) Termination Switch Supply
A21	GND		Internal GND Plane
A22	GND		Internal GND Plane
A23	VTO_21		Bank 21 (Complex) Termination Voltage
A24	VDDS_21		Bank 21 (Complex) Termination Switch Supply
A25	GND		Internal GND Plane
A26	GND		Internal GND Plane
A27	VTO_22		Bank 22 (Complex) Termination Voltage
A28	VDDS_22		Bank 22 (Complex) Termination Switch Supply
A29	GND		Internal GND Plane
A30	GND		Internal GND Plane
A31	VTO_23		Bank 23 (Complex) Termination Voltage
A32	VDDS_23		Bank 23 (Complex) Termination Switch Supply
A33	GND		Internal GND Plane
A34	HSSL3_D_GND		HSSL Bank 3 GND
A35	HSSL3_TX1_VDDA		HSSL Bank 3 GND
A36	HSSL3_TX1_GNDA		HSSL Bank 3 GND
A37	HSSL3_TX1N	O	HSSL Bank 3 GND
A38	HSSL3_TX1P	O	HSSL Bank 3 GND
A39	HSSL3_GND2V5A		HSSL Bank 3 GND
A40	HSSL3_GND2V5A		HSSL Bank 3 GND
B2	HSSL2_GND2V5A		HSSL Bank 2 GND
B3	HSSL2_RX1P	I	HSSL Bank 2 GND
B4	HSSL2_RX1N	I	HSSL Bank 2 GND

Land	Pin Name	I/O	Description
B5	HSSL2_TX2_GNDA		HSSL Bank 2 GND
B6	HSSL2_TX2_VDDA		HSSL Bank 2 GND
B7	HSSL2_TX2P	O	HSSL Bank 2 GND
B8	HSSL2_TX2N	O	HSSL Bank 2 GND
B9	HSSL2_D_GND		HSSL Bank 2 GND
B10	VDDIO_18		Bank 18 (Simple) I/O Supply
B11	IO_B18D06P	I/O	Bank 18 (Simple) I/O
B12	IO_B18D07P	I/O	Bank 18 (Simple) I/O
B13	VDDIO_18		Bank 18 (Simple) I/O Supply
B14	IO_B19D12N_DQ	I/O	Bank 19 (Complex) I/O
B15	VDDIO_19		Bank 19 (Complex) I/O Supply
B16	VDDIO_19		Bank 19 (Complex) I/O Supply
B17	IO_B19D17N_DQ_SWSI	I/O	Bank 19 (Complex) I/O
B18	IO_B20D12N_DQ	I/O	Bank 20 (Complex) I/O
B19	VDDIO_20		Bank 20 (Complex) I/O Supply
B20	VDDIO_20		Bank 20 (Complex) I/O Supply
B21	IO_B20D17N_DQ_SWSI	I/O	Bank 20 (Complex) I/O
B22	IO_B21D12N_DQ	I/O	Bank 21 (Complex) I/O
B23	VDDIO_21		Bank 21 (Complex) I/O Supply
B24	VDDIO_21		Bank 21 (Complex) I/O Supply
B25	IO_B21D17N_DQ_SWSI	I/O	Bank 21 (Complex) I/O
B26	IO_B22D12N_DQ	I/O	Bank 22 (Complex) I/O
B27	VDDIO_22		Bank 22 (Complex) I/O Supply
B28	VDDIO_22		Bank 22 (Complex) I/O Supply
B29	IO_B22D17N_DQ_SWSI	I/O	Bank 22 (Complex) I/O
B30	IO_B23D12N_DQ	I/O	Bank 23 (Complex) I/O
B31	VDDIO_23		Bank 23 (Complex) I/O Supply
B32	VDDIO_23		Bank 23 (Complex) I/O Supply
B33	IO_B23D17N_DQ_SWSI	I/O	Bank 23 (Complex) I/O
B34	HSSL3_D_GND		HSSL Bank 3 GND
B35	HSSL3_TX2N	O	HSSL Bank 3 GND
B36	HSSL3_TX2P	O	HSSL Bank 3 GND
B37	HSSL3_TX2_VDDA		HSSL Bank 3 GND
B38	HSSL3_TX2_GNDA		HSSL Bank 3 GND
B39	HSSL3_RX1N	I	HSSL Bank 3 GND
B40	HSSL3_RX1P	I	HSSL Bank 3 GND
B41	HSSL3_GND2V5A		HSSL Bank 3 GND
C1	HSSL2_RX2P	I	HSSL Bank 2 GND
C2	HSSL2_RX2P	I	HSSL Bank 2 GND
C3	HSSL2_GND2V5A		HSSL Bank 2 GND
C4	HSSL2_VDD2V5A		HSSL Bank 2 GND
C5	HSSL2_TX3P	O	HSSL Bank 2 GND

Land	Pin Name	I/O	Description
C6	HSSL2_TX3N	O	HSSL Bank 2 GND
C7	HSSL2_TX3_GNDA		HSSL Bank 2 GND
C8	HSSL2_TX3_VDDA		HSSL Bank 2 GND
C9	HSSL2_D_GND		HSSL Bank 2 GND
C10	IO_B18D05N	I/O	Bank 18 (Simple) I/O
C11	IO_B18D05P	I/O	Bank 18 (Simple) I/O
C12	IO_B18D08N	I/O	Bank 18 (Simple) I/O
C13	IO_B18D08P	I/O	Bank 18 (Simple) I/O
C14	IO_B19D12P	I/O	Bank 19 (Complex) I/O
C15	IO_B19D15P_DQS_SWSO	I/O	Bank 19 (Complex) I/O
C16	IO_B19D15N_DQS_SWSO	I/O	Bank 19 (Complex) I/O
C17	IO_B19D17P_DQ_SWSI	I/O	Bank 19 (Complex) I/O
C18	IO_B20D12P	I/O	Bank 20 (Complex) I/O
C19	IO_B20D15P_DQS_SWSO	I/O	Bank 20 (Complex) I/O
C20	IO_B20D15N_DQS_SWSO	I/O	Bank 20 (Complex) I/O
C21	IO_B20D17P_DQ_SWSI	I/O	Bank 20 (Complex) I/O
C22	IO_B21D12P	I/O	Bank 21 (Complex) I/O
C23	IO_B21D15P_DQS_SWSO	I/O	Bank 21 (Complex) I/O
C24	IO_B21D15N_DQS_SWSO	I/O	Bank 21 (Complex) I/O
C25	IO_B21D17P_DQ_SWSI	I/O	Bank 21 (Complex) I/O
C26	IO_B22D12P	I/O	Bank 22 (Complex) I/O
C27	IO_B22D15P_DQS_SWSO	I/O	Bank 22 (Complex) I/O
C28	IO_B22D15N_DQS_SWSO	I/O	Bank 22 (Complex) I/O
C29	IO_B22D17P_DQ_SWSI	I/O	Bank 22 (Complex) I/O
C30	IO_B23D12P	I/O	Bank 23 (Complex) I/O
C31	IO_B23D15P_DQS_SWSO	I/O	Bank 23 (Complex) I/O
C32	IO_B23D15N_DQS_SWSO	I/O	Bank 23 (Complex) I/O
C33	IO_B23D17P_DQ_SWSI	I/O	Bank 23 (Complex) I/O
C34	HSSL3_D_GND		HSSL Bank 3 GND
C35	HSSL3_TX3_VDDA		HSSL Bank 3 GND
C36	HSSL3_TX3_GNDA		HSSL Bank 3 GND
C37	HSSL3_TX3N	O	HSSL Bank 3 GND
C38	HSSL3_TX3P	O	HSSL Bank 3 GND
C39	HSSL3_VDD2V5A		HSSL Bank 3 GND
C40	HSSL3_GND2V5A		HSSL Bank 3 GND
C41	HSSL3_RX2N	I	HSSL Bank 3 GND
C42	HSSL3_RX2P	I	HSSL Bank 3 GND
D1	HSSL2_GND2V5A		HSSL Bank 2 GND
D2	HSSL2_GND2V5A		HSSL Bank 2 GND
D3	HSSL2_RX3P	I	HSSL Bank 2 GND
D4	HSSL2_RX3N	I	HSSL Bank 2 GND
D5	HSSL2_TX4_GNDA		HSSL Bank 2 GND

Land	Pin Name	I/O	Description
D6	HSSL2_TX4_VDDA		HSSL Bank 2 GND
D7	HSSL2_TX4P	O	HSSL Bank 2 GND
D8	HSSL2_TX4N	O	HSSL Bank 2 GND
D9	HSSL2_D_GND		HSSL Bank 2 GND
D10	IO_B18D03N	I/O	Bank 18 (Simple) I/O
D11	VDDIO_18		Bank 18 (Simple) I/O Supply
D12	GND		Internal GND Plane
D13	IO_B18D10N	I/O	Bank 18 (Simple) I/O
D14	IO_B19D14P_DQ_SWDO	I/O	Bank 19 (Complex) I/O
D15	IO_B19D14N_DQ_SWDO	I/O	Bank 19 (Complex) I/O
D16	IO_B19D16P_DQ_SWDI	I/O	Bank 19 (Complex) I/O
D17	IO_B19D16N_DQ_SWDI	I/O	Bank 19 (Complex) I/O
D18	IO_B20D14P_DQ_SWDO	I/O	Bank 20 (Complex) I/O
D19	IO_B20D14N_DQ_SWDO	I/O	Bank 20 (Complex) I/O
D20	IO_B20D16P_DQ_SWDI	I/O	Bank 20 (Complex) I/O
D21	IO_B20D16N_DQ_SWDI	I/O	Bank 20 (Complex) I/O
D22	IO_B21D14P_DQ_SWDO	I/O	Bank 21 (Complex) I/O
D23	IO_B21D14N_DQ_SWDO	I/O	Bank 21 (Complex) I/O
D24	IO_B21D16P_DQ_SWDI	I/O	Bank 21 (Complex) I/O
D25	IO_B21D16N_DQ_SWDI	I/O	Bank 21 (Complex) I/O
D26	IO_B22D14P_DQ_SWDO	I/O	Bank 22 (Complex) I/O
D27	IO_B22D14N_DQ_SWDO	I/O	Bank 22 (Complex) I/O
D28	IO_B22D16P_DQ_SWDI	I/O	Bank 22 (Complex) I/O
D29	IO_B22D16N_DQ_SWDI	I/O	Bank 22 (Complex) I/O
D30	IO_B23D14P_DQ_SWDO	I/O	Bank 23 (Complex) I/O
D31	IO_B23D14N_DQ_SWDO	I/O	Bank 23 (Complex) I/O
D32	IO_B23D16P_DQ_SWDI	I/O	Bank 23 (Complex) I/O
D33	IO_B23D16N_DQ_SWDI	I/O	Bank 23 (Complex) I/O
D34	HSSL3_D_GND		HSSL Bank 3 GND
D35	HSSL3_TX4N	O	HSSL Bank 3 GND
D36	HSSL3_TX4P	O	HSSL Bank 3 GND
D37	HSSL3_TX4_VDDA		HSSL Bank 3 GND
D38	HSSL3_TX4_GNDA		HSSL Bank 3 GND
D39	HSSL3_RX3N	I	HSSL Bank 3 GND
D40	HSSL3_RX3P	I	HSSL Bank 3 GND
D41	HSSL3_GND2V5A		HSSL Bank 3 GND
D42	HSSL3_GND2V5A		HSSL Bank 3 GND
E1	HSSL2_RX4P	I	HSSL Bank 2 GND
E2	HSSL2_RX4N	I	HSSL Bank 2 GND
E3	HSSL2_GND2V5A		HSSL Bank 2 GND
E4	HSSL2_VDD2V5A		HSSL Bank 2 GND
E5	HSSL2_TX5P	O	HSSL Bank 2 GND

Land	Pin Name	I/O	Description
E6	HSSL2_TX5N	O	HSSL Bank 2 GND
E7	HSSL2_TX5_GNDA		HSSL Bank 2 GND
E8	HSSL2_TX5_VDDA		HSSL Bank 2 GND
E9	HSSL2_D_GND		HSSL Bank 2 GND
E10	IO_B18D03P	I/O	Bank 18 (Simple) I/O
E11	IO_B18D01N	I/O	Bank 18 (Simple) I/O
E12	IO_B18D12N	I/O	Bank 18 (Simple) I/O
E13	IO_B18D10P	I/O	Bank 18 (Simple) I/O
E14	GND		Internal GND Plane
E15	IO_B19D13N_DQ	I/O	Bank 19 (Complex) I/O
E16	VTO_19		Bank 19 (Complex) Termination Voltage
E17	GND		Internal GND Plane
E18	GND		Internal GND Plane
E19	IO_B20D13N_DQ	I/O	Bank 20 (Complex) I/O
E20	VTO_20		Bank 20 (Complex) Termination Voltage
E21	GND		Internal GND Plane
E22	GND		Internal GND Plane
E23	IO_B21D13N_DQ	I/O	Bank 21 (Complex) I/O
E24	VTO_21		Bank 21 (Complex) Termination Voltage
E25	GND		Internal GND Plane
E26	GND		Internal GND Plane
E27	IO_B22D13N_DQ	I/O	Bank 22 (Complex) I/O
E28	VTO_22		Bank 22 (Complex) Termination Voltage
E29	GND		Internal GND Plane
E30	GND		Internal GND Plane
E31	IO_B23D13N_DQ	I/O	Bank 23 (Complex) I/O
E32	VTO_23		Bank 23 (Complex) Termination Voltage
E33	GND		Internal GND Plane
E34	HSSL3_D_GND		HSSL Bank 3 GND
E35	HSSL3_TX5_VDDA		HSSL Bank 3 GND
E36	HSSL3_TX5_GNDA		HSSL Bank 3 GND
E37	HSSL3_TX5N	O	HSSL Bank 3 GND
E38	HSSL3_TX5P	O	HSSL Bank 3 GND
E39	HSSL3_VDD2V5A		HSSL Bank 3 GND
E40	HSSL3_GND2V5A		HSSL Bank 3 GND
E41	HSSL3_RX4N	I	HSSL Bank 3 GND
E42	HSSL3_RX4P	I	HSSL Bank 3 GND
F1	HSSL2_GND2V5A		HSSL Bank 2 GND
F2	HSSL2_GND2V5A		HSSL Bank 2 GND
F3	HSSL2_RX5P	I	HSSL Bank 2 GND
F4	HSSL2_RX5N	I	HSSL Bank 2 GND
F5	HSSL2_TX6_GNDA		HSSL Bank 2 GND

Land	Pin Name	I/O	Description
F6	HSSL2_TX6_VDDA		HSSL Bank 2 GND
F7	HSSL2_TX6P	O	HSSL Bank 2 GND
F8	HSSL2_TX6N	O	HSSL Bank 2 GND
F9	HSSL2_D_GND		HSSL Bank 2 GND
F10	IO_B18D01P_CLK	I/O	Bank 18 (Simple) I/O
F11	GND		Internal GND Plane
F12	VDDIO_18		Bank 18 (Simple) I/O Supply
F13	IO_B18D12P	I/O	Bank 18 (Simple) I/O
F14	IO_B19D13P_DQ	I/O	Bank 19 (Complex) I/O
F15	VDDIO_19		Bank 19 (Complex) I/O Supply
F16	VDDIO_19		Bank 19 (Complex) I/O Supply
F17	IO_B19D11N	I/O	Bank 19 (Complex) I/O
F18	IO_B20D13P_DQ	I/O	Bank 20 (Complex) I/O
F19	VDDIO_20		Bank 20 (Complex) I/O Supply
F20	VDDIO_20		Bank 20 (Complex) I/O Supply
F21	IO_B20D11N	I/O	Bank 20 (Complex) I/O
F22	IO_B21D13P_DQ	I/O	Bank 21 (Complex) I/O
F23	VDDIO_21		Bank 21 (Complex) I/O Supply
F24	VDDIO_21		Bank 21 (Complex) I/O Supply
F25	IO_B21D11N	I/O	Bank 21 (Complex) I/O
F26	IO_B22D13P_DQ	I/O	Bank 22 (Complex) I/O
F27	VDDIO_22		Bank 22 (Complex) I/O Supply
F28	VDDIO_22		Bank 22 (Complex) I/O Supply
F29	IO_B22D11N	I/O	Bank 22 (Complex) I/O
F30	IO_B23D13P_DQ	I/O	Bank 23 (Complex) I/O
F31	VDDIO_23		Bank 23 (Complex) I/O Supply
F32	VDDIO_23		Bank 23 (Complex) I/O Supply
F33	IO_B23D11N	I/O	Bank 23 (Complex) I/O
F34	HSSL3_D_GND		HSSL Bank 3 GND
F35	HSSL3_TX6N	O	HSSL Bank 3 GND
F36	HSSL3_TX6P	O	HSSL Bank 3 GND
F37	HSSL3_TX6_VDDA		HSSL Bank 3 GND
F38	HSSL3_TX6_GNDA	I	HSSL Bank 3 GND
F39	HSSL3_RX5N	I	HSSL Bank 3 GND
F40	HSSL3_RX5P		HSSL Bank 3 GND
F41	HSSL3_GND2V5A		HSSL Bank 3 GND
F42	HSSL3_GND2V5A		HSSL Bank 3 GND
G1	HSSL2_RX6P	I	HSSL Bank 2 GND
G2	HSSL2_RX6N	I	HSSL Bank 2 GND
G3	HSSL2_GND2V5A		HSSL Bank 2 GND
G4	HSSL2_VDD2V5A		HSSL Bank 2 GND
G5	HSSL2_D_VDD		HSSL Bank 2 GND

Land	Pin Name	I/O	Description
G6	HSSL2_D_VDD		HSSL Bank 2 GND
G7	HSSL2_D_VDD		HSSL Bank 2 GND
G8	HSSL2_D_VDD		HSSL Bank 2 GND
G9	HSSL2_D_GND		HSSL Bank 2 GND
G10	IO_B18D02N	I/O	Bank 18 (Simple) I/O
G11	IO_B18D04N	I/O	Bank 18 (Simple) I/O
G12	IO_B18D09N	I/O	Bank 18 (Simple) I/O
G13	IO_B18D11N	I/O	Bank 18 (Simple) I/O
G14	IO_B19D09N	I/O	Bank 19 (Complex) I/O
G15	IO_B19D10P_CLK	I/O	Bank 19 (Complex) I/O
G16	IO_B19D10N	I/O	Bank 19 (Complex) I/O
G17	IO_B19D11P	I/O	Bank 19 (Complex) I/O
G18	IO_B20D09N	I/O	Bank 20 (Complex) I/O
G19	IO_B20D10P	I/O	Bank 20 (Complex) I/O
G20	IO_B20D10N	I/O	Bank 20 (Complex) I/O
G21	IO_B20D11P	I/O	Bank 20 (Complex) I/O
G22	IO_B21D09N	I/O	Bank 21 (Complex) I/O
G23	IO_B21D10P	I/O	Bank 21 (Complex) I/O
G24	IO_B21D10N	I/O	Bank 21 (Complex) I/O
G25	IO_B21D11P	I/O	Bank 21 (Complex) I/O
G26	IO_B22D09N	I/O	Bank 22 (Complex) I/O
G27	IO_B22D10P	I/O	Bank 22 (Complex) I/O
G28	IO_B22D10N	I/O	Bank 22 (Complex) I/O
G29	IO_B22D11P	I/O	Bank 22 (Complex) I/O
G30	IO_B23D09N	I/O	Bank 23 (Complex) I/O
G31	IO_B23D10P_CLK	I/O	Bank 23 (Complex) I/O
G32	IO_B23D10N	I/O	Bank 23 (Complex) I/O
G33	IO_B23D11P	I/O	Bank 23 (Complex) I/O
G34	HSSL3_D_GND		HSSL Bank 3 GND
G35	HSSL3_D_VDD		HSSL Bank 3 GND
G36	HSSL3_D_VDD		HSSL Bank 3 GND
G37	HSSL3_D_VDD		HSSL Bank 3 GND
G38	HSSL3_D_VDD		HSSL Bank 3 GND
G39	HSSL3_VDD2V5A		HSSL Bank 3 GND
G40	HSSL3_GND2V5A		HSSL Bank 3 GND
G41	HSSL3_RX6N	I	HSSL Bank 3 GND
G42	HSSL3_RX6P	I	HSSL Bank 3 GND
H1	HSSL2_GND2V5A		HSSL Bank 2 GND
H2	HSSL2_GND2V5A		HSSL Bank 2 GND
H3	HSSL2_CLKREFP	I	HSSL Bank 2 GND
H4	HSSL2_CLKREFN	I	HSSL Bank 2 GND
H5	HSSL2_D_VDD		HSSL Bank 2 GND

Land	Pin Name	I/O	Description
H6	HSSL2_D_VDD		HSSL Bank 2 GND
H7	HSSL2_D_VDD		HSSL Bank 2 GND
H8	HSSL2_D_VDD		HSSL Bank 2 GND
H9	HSSL2_D_GND		HSSL Bank 2 GND
H10	IO_B18D02P_CLK	I/O	Bank 18 (Simple) I/O
H11	IO_B18D04P	I/O	Bank 18 (Simple) I/O
H12	IO_B18D09P	I/O	Bank 18 (Simple) I/O
H13	IO_B18D11P	I/O	Bank 18 (Simple) I/O
H14	IO_B19D09P_CLK	I/O	Bank 19 (Complex) I/O
H15	IO_B19D08P	I/O	Bank 19 (Complex) I/O
H16	IO_B19D08N	I/O	Bank 19 (Complex) I/O
H17	IO_B19D07N	I/O	Bank 19 (Complex) I/O
H18	IO_B20D09P	I/O	Bank 20 (Complex) I/O
H19	IO_B20D08P	I/O	Bank 20 (Complex) I/O
H20	IO_B20D08N	I/O	Bank 20 (Complex) I/O
H21	IO_B20D07N	I/O	Bank 20 (Complex) I/O
H22	IO_B21D09P	I/O	Bank 21 (Complex) I/O
H23	IO_B21D08P	I/O	Bank 21 (Complex) I/O
H24	IO_B21D08N	I/O	Bank 21 (Complex) I/O
H25	IO_B21D07N	I/O	Bank 21 (Complex) I/O
H26	IO_B22D09P	I/O	Bank 22 (Complex) I/O
H27	IO_B22D08P	I/O	Bank 22 (Complex) I/O
H28	IO_B22D08N	I/O	Bank 22 (Complex) I/O
H29	IO_B22D07N	I/O	Bank 22 (Complex) I/O
H30	IO_B23D09P_CLK	I/O	Bank 23 (Complex) I/O
H31	IO_B23D08P	I/O	Bank 23 (Complex) I/O
H32	IO_B23D08N	I/O	Bank 23 (Complex) I/O
H33	IO_B23D07N	I/O	Bank 23 (Complex) I/O
H34	HSSL3_D_GND		HSSL Bank 3 GND
H35	HSSL3_D_VDD		HSSL Bank 3 GND
H36	HSSL3_D_VDD		HSSL Bank 3 GND
H37	HSSL3_D_VDD		HSSL Bank 3 GND
H38	HSSL3_D_VDD		HSSL Bank 3 GND
H39	HSSL3_CLKREFN	I	HSSL Bank 3 GND
H40	HSSL3_CLKREFP	I	HSSL Bank 3 GND
H41	HSSL3_GND2V5A		HSSL Bank 3 GND
H42	HSSL3_GND2V5A		HSSL Bank 3 GND
J1	HSSL2_CALIBRATE	I	HSSL Bank 2 GND
J2	HSSL2_D_GND		HSSL Bank 2 GND
J3	HSSL2_D_GND		HSSL Bank 2 GND
J4	HSSL2_D_GND		HSSL Bank 2 GND
J5	HSSL2_D_GND		HSSL Bank 2 GND

Land	Pin Name	I/O	Description
J6	HSSL2_D_GND		HSSL Bank 2 GND
J7	HSSL2_D_GND		HSSL Bank 2 GND
J8	HSSL2_D_GND		HSSL Bank 2 GND
J9	HSSL2_D_GND		HSSL Bank 2 GND
J10	GND		Internal GND Plane
J11	VDDIO_18		Bank 18 (Simple) I/O Supply
J12	VDDIO_18		Bank 18 (Simple) I/O Supply
J13	GND		Internal GND Plane
J14	GND		Internal GND Plane
J15	VDDIO_19		Bank 19 (Complex) I/O Supply
J16	VDDIO_19		Bank 19 (Complex) I/O Supply
J17	IO_B19D07P	I/O	Bank 19 (Complex) I/O
J18	GND		Internal GND Plane
J19	VDDIO_20		Bank 20 (Complex) I/O Supply
J20	VDDIO_20		Bank 20 (Complex) I/O Supply
J21	IO_B20D07P	I/O	Bank 20 (Complex) I/O
J22	GND		Internal GND Plane
J23	VDDIO_21		Bank 21 (Complex) I/O Supply
J24	VDDIO_21		Bank 21 (Complex) I/O Supply
J25	IO_B21D07P	I/O	Bank 21 (Complex) I/O
J26	GND		Internal GND Plane
J27	VDDIO_22		Bank 22 (Complex) I/O Supply
J28	VDDIO_22		Bank 22 (Complex) I/O Supply
J29	IO_B22D07P	I/O	Bank 22 (Complex) I/O
J30	GND		Internal GND Plane
J31	VDDIO_23		Bank 23 (Complex) I/O Supply
J32	VDDIO_23		Bank 23 (Complex) I/O Supply
J33	IO_B23D07P	I/O	Bank 23 (Complex) I/O
J34	HSSL3_D_GND		HSSL Bank 3 GND
J35	HSSL3_D_GND		HSSL Bank 3 GND
J36	HSSL3_D_GND		HSSL Bank 3 GND
J37	HSSL3_D_GND		HSSL Bank 3 GND
J38	HSSL3_D_GND		HSSL Bank 3 GND
J39	HSSL3_D_GND		HSSL Bank 3 GND
J40	HSSL3_D_GND		HSSL Bank 3 GND
J41	HSSL3_D_GND		HSSL Bank 3 GND
J42	HSSL3_CALIBRATE		HSSL Bank 3 GND
K1	GND		Internal GND Plane
K2	VDDIO_17		Bank 17 (Simple) I/O Supply
K3	IO_B17D08P	I/O	Bank 17 (Simple) I/O
K4	IO_B17D10N	I/O	Bank 17 (Simple) I/O
K5	IO_B17D10P	I/O	Bank 17 (Simple) I/O

Land	Pin Name	I/O	Description
K6	IO_B17D12P	I/O	Bank 17 (Simple) I/O
K7	IO_B17D11N	I/O	Bank 17 (Simple) I/O
K8	IO_B17D11P	I/O	Bank 17 (Simple) I/O
K9	GND		Internal GND Plane
K10	CG0_3_VDDCORE		Clock Generators CG0/CG3 PLL Digital 1.2V Supply
K11	GND		Internal GND Plane
K12	VDD2V5A		Internal Analog 2.5V Supply
K13	GND		Internal GND Plane
K14	IO_B19D06P_DQ	I/O	Bank 19 (Complex) I/O
K15	VTO_19		Bank 19 (Complex) Termination Voltage
K16	IO_B19D06N_CAL	I/O	Bank 19 (Complex) I/O
K17	GND		Internal GND Plane
K18	IO_B20D06P_DQ	I/O	Bank 20 (Complex) I/O
K19	VTO_20		Bank 20 (Complex) Termination Voltage
K20	IO_B20D06N_CAL	I/O	Bank 20 (Complex) I/O
K21	GND		Internal GND Plane
K22	IO_B21D06P_DQ	I/O	Bank 21 (Complex) I/O
K23	VTO_21		Bank 21 (Complex) Termination Voltage
K24	IO_B21D06N_CAL	I/O	Bank 21 (Complex) I/O
K25	GND		Internal GND Plane
K26	IO_B22D06P_DQ	I/O	Bank 22 (Complex) I/O
K27	VTO_22		Bank 22 (Complex) Termination Voltage
K28	IO_B22D06N_CAL	I/O	Bank 22 (Complex) I/O
K29	GND		Internal GND Plane
K30	IO_B23D06P_DQ	I/O	Bank 23 (Complex) I/O
K31	VTO_23		Bank 23 (Complex) Termination Voltage
K32	IO_B23D06N_CAL	I/O	Bank 23 (Complex) I/O
K33	GND		Internal GND Plane
K34	GND		Internal GND Plane
K35	IO_B00D01P_CLK	I/O	Bank 0 (Simple) I/O
K36	VDDIO_00		Bank 0 (Simple) I/O Supply
K37	IO_B00D06N	I/O	Bank 0 (Simple) I/O
K38	GND		Internal GND Plane
K39	IO_B00D04N	I/O	Bank 0 (Simple) I/O
K40	VDDIO_00		Bank 0 (Simple) I/O Supply
K41	IO_B00D03P	I/O	Bank 0 (Simple) I/O
K42	IO_B00D03N	I/O	Bank 0 (Simple) I/O
L1	IO_B17D07N	I/O	Bank 17 (Simple) I/O
L2	IO_B17D07P	I/O	Bank 17 (Simple) I/O
L3	IO_B17D08N	I/O	Bank 17 (Simple) I/O
L4	GND		Internal GND Plane
L5	IO_B17D12N	I/O	Bank 17 (Simple) I/O

Land	Pin Name	I/O	Description
L6	VDDIO_17		Bank 17 (Simple) I/O Supply
L7	IO_B17D09N	I/O	Bank 17 (Simple) I/O
L8	IO_B17D09P	I/O	Bank 17 (Simple) I/O
L9	VDDIO_17		Bank 17 (Simple) I/O Supply
L10	CG0_3_GNDA		Clock Generators CG0/CG3 PLL Analog Reference
L11	VDDCORE		Internal VDD1V2 Plane
L12	GND		Internal GND Plane
L13	VDDCORE		Internal VDD1V2 Plane
L14	IO_B19D04P_DQ_SWSI	I/O	Bank 19 (Complex) I/O
L15	IO_B19D04N_DQ_SWSI	I/O	Bank 19 (Complex) I/O
L16	IO_B19D05P_DQ	I/O	Bank 19 (Complex) I/O
L17	IO_B19D05N_DQ	I/O	Bank 19 (Complex) I/O
L18	IO_B20D04P_DQ_SWSI	I/O	Bank 20 (Complex) I/O
L19	IO_B20D04N_DQ_SWSI	I/O	Bank 20 (Complex) I/O
L20	IO_B20D05P_DQ	I/O	Bank 20 (Complex) I/O
L21	IO_B20D05N_DQ	I/O	Bank 20 (Complex) I/O
L22	IO_B21D04P_DQ_SWSI	I/O	Bank 21 (Complex) I/O
L23	IO_B21D04N_DQ_SWSI	I/O	Bank 21 (Complex) I/O
L24	IO_B21D05P_DQ	I/O	Bank 21 (Complex) I/O
L25	IO_B21D05N_DQ	I/O	Bank 21 (Complex) I/O
L26	IO_B22D04P_DQ_SWSI	I/O	Bank 22 (Complex) I/O
L27	IO_B22D04N_DQ_SWSI	I/O	Bank 22 (Complex) I/O
L28	IO_B22D05P_DQ	I/O	Bank 22 (Complex) I/O
L29	IO_B22D05N_DQ	I/O	Bank 22 (Complex) I/O
L30	IO_B23D04P_DQ_SWSI	I/O	Bank 23 (Complex) I/O
L31	IO_B23D04N_DQ_SWSI	I/O	Bank 23 (Complex) I/O
L32	IO_B23D05P_DQ	I/O	Bank 23 (Complex) I/O
L33	IO_B23D05N_DQ	I/O	Bank 23 (Complex) I/O
L34	IO_B00D01N	I/O	Bank 0 (Simple) I/O
L35	IO_B00D02P_CLK	I/O	Bank 0 (Simple) I/O
L36	IO_B00D06P	I/O	Bank 0 (Simple) I/O
L37	IO_B00D08P	I/O	Bank 0 (Simple) I/O
L38	IO_B00D04P	I/O	Bank 0 (Simple) I/O
L39	IO_B00D05P	I/O	Bank 0 (Simple) I/O
L40	IO_B00D07N	I/O	Bank 0 (Simple) I/O
L41	IO_B00D07P	I/O	Bank 0 (Simple) I/O
L42	IO_B00D09P	I/O	Bank 0 (Simple) I/O
M1	IO_B17D06N	I/O	Bank 17 (Simple) I/O
M2	IO_B17D06P	I/O	Bank 17 (Simple) I/O
M3	IO_B17D05P	I/O	Bank 17 (Simple) I/O
M4	VDDIO_17		Bank 17 (Simple) I/O Supply
M5	IO_B17D01N	I/O	Bank 17 (Simple) I/O

Land	Pin Name	I/O	Description
M6	GND		Internal GND Plane
M7	IO_B17D04N	I/O	Bank 17 (Simple) I/O
M8	IO_B17D04P	I/O	Bank 17 (Simple) I/O
M9	VDDIO_17		Bank 17 (Simple) I/O Supply
M10	CG0_3_VDD2V5A		Clock Generators CG0/CG3 PLL Analog 2.5V Supply
M11	GND		Internal GND Plane
M12	VDDCORE		Internal VDD1V2 Plane
M13	GND		Internal GND Plane
M14	IO_B19D01N_DQ_SWDO	I/O	Bank 19 (Complex) I/O
M15	IO_B19D03P_DQS_SWDI	I/O	Bank 19 (Complex) I/O
M16	IO_B19D03N_DQS_SWDI	I/O	Bank 19 (Complex) I/O
M17	IO_B19D02N_DQ_SWSO	I/O	Bank 19 (Complex) I/O
M18	IO_B20D01N_DQ_SWDO	I/O	Bank 20 (Complex) I/O
M19	IO_B20D03P_DQS_SWDI	I/O	Bank 20 (Complex) I/O
M20	IO_B20D03N_DQS_SWDI	I/O	Bank 20 (Complex) I/O
M21	IO_B20D02N_DQ_SWSO	I/O	Bank 20 (Complex) I/O
M22	IO_B21D01N_DQ_SWDO	I/O	Bank 21 (Complex) I/O
M23	IO_B21D03P_DQS_SWDI	I/O	Bank 21 (Complex) I/O
M24	IO_B21D03N_DQS_SWDI	I/O	Bank 21 (Complex) I/O
M25	IO_B21D02N_DQ_SWSO	I/O	Bank 21 (Complex) I/O
M26	IO_B22D01N_DQ_SWDO	I/O	Bank 22 (Complex) I/O
M27	IO_B22D03P_DQS_SWDI	I/O	Bank 22 (Complex) I/O
M28	IO_B22D03N_DQS_SWDI	I/O	Bank 22 (Complex) I/O
M29	IO_B22D02N_DQ_SWSO	I/O	Bank 22 (Complex) I/O
M30	IO_B23D01N_DQ_SWDO	I/O	Bank 23 (Complex) I/O
M31	IO_B23D03P_DQS_SWDI	I/O	Bank 23 (Complex) I/O
M32	IO_B23D03N_DQS_SWDI	I/O	Bank 23 (Complex) I/O
M33	IO_B23D02N_DQ_SWSO	I/O	Bank 23 (Complex) I/O
M34	VDDIO_00		Bank 0 (Simple) I/O Supply
M35	IO_B00D02N	I/O	Bank 0 (Simple) I/O
M36	GND		Internal GND Plane
M37	IO_B00D08N	I/O	Bank 0 (Simple) I/O
M38	VDDIO_00		Bank 0 (Simple) I/O Supply
M39	IO_B00D05N	I/O	Bank 0 (Simple) I/O
M40	GND		Internal GND Plane
M41	IO_B00D09N	I/O	Bank 0 (Simple) I/O
M42	VDDIO_00		Bank 0 (Simple) I/O Supply
N1	GND		Internal GND Plane
N2	VDDIO_17		Bank 17 (Simple) I/O Supply
N3	IO_B17D05N	I/O	Bank 17 (Simple) I/O
N4	IO_B17D03N	I/O	Bank 17 (Simple) I/O
N5	IO_B17D03P	I/O	Bank 17 (Simple) I/O

Land	Pin Name	I/O	Description
N6	IO_B17D01P	I/O	Bank 17 (Simple) I/O
N7	IO_B17D02N	I/O	Bank 17 (Simple) I/O
N8	IO_B17D02P	I/O	Bank 17 (Simple) I/O
N9	GND		Internal GND Plane
N10	GND		Internal GND Plane
N11	VDDCORE		Internal VDD1V2 Plane
N12	GND		Internal GND Plane
N13	VDDCORE		Internal VDD1V2 Plane
N14	IO_B19D01P_DQ_SWDO	I/O	Bank 19 (Complex) I/O
N15	VDDIO_19		Bank 19 (Complex) I/O Supply
N16	VDDIO_19		Bank 19 (Complex) I/O Supply
N17	IO_B19D02P_DQ_SWSO	I/O	Bank 19 (Complex) I/O
N18	IO_B20D01P_DQ_SWDO	I/O	Bank 20 (Complex) I/O
N19	VDDIO_20		Bank 20 (Complex) I/O Supply
N20	VDDIO_20		Bank 20 (Complex) I/O Supply
N21	IO_B20D02P_DQ_SWSO	I/O	Bank 20 (Complex) I/O
N22	IO_B21D01P_DQ_SWDO	I/O	Bank 21 (Complex) I/O
N23	VDDIO_21		Bank 21 (Complex) I/O Supply
N24	VDDIO_21		Bank 21 (Complex) I/O Supply
N25	IO_B21D02P_DQ_SWSO	I/O	Bank 21 (Complex) I/O
N26	IO_B22D01P_DQ_SWDO	I/O	Bank 22 (Complex) I/O
N27	VDDIO_22		Bank 22 (Complex) I/O Supply
N28	VDDIO_22		Bank 22 (Complex) I/O Supply
N29	IO_B22D02P_DQ_SWSO	I/O	Bank 22 (Complex) I/O
N30	IO_B23D01P_DQ_SWDO	I/O	Bank 23 (Complex) I/O
N31	VDDIO_23		Bank 23 (Complex) I/O Supply
N32	VDDIO_23		Bank 23 (Complex) I/O Supply
N33	IO_B23D02P_DQ_SWSO	I/O	Bank 23 (Complex) I/O
N34	GND		Internal GND Plane
N35	IO_B01D01P	I/O	Bank 1 (Simple) I/O
N36	VDDIO_01		Bank 1 (Simple) I/O Supply
N37	IO_B01D06N	I/O	Bank 1 (Simple) I/O
N38	GND		Internal GND Plane
N39	IO_B01D04N	I/O	Bank 1 (Simple) I/O
N40	VDDIO_01		Bank 1 (Simple) I/O Supply
N41	IO_B01D03P	I/O	Bank 1 (Simple) I/O
N42	IO_B01D03N	I/O	Bank 1 (Simple) I/O
P1	GND		Internal GND Plane
P2	VDDIO_16		Bank 16 (Simple) I/O Supply
P3	IO_B16D08P	I/O	Bank 16 (Simple) I/O
P4	IO_B16D10N	I/O	Bank 16 (Simple) I/O
P5	IO_B16D10P	I/O	Bank 16 (Simple) I/O

Land	Pin Name	I/O	Description
P6	IO_B16D12P	I/O	Bank 16 (Simple) I/O
P7	IO_B16D11N	I/O	Bank 16 (Simple) I/O
P8	IO_B16D11P	I/O	Bank 16 (Simple) I/O
P9	GND		Internal GND Plane
P10	VDDCORE		Internal VDD1V2 Plane
P11	GND		Internal GND Plane
P12	VDDCORE		Internal VDD1V2 Plane
P13	GND		Internal GND Plane
P14	GND		Internal GND Plane
P15	VDD2V5A		Internal Analog 2.5V Supply
P16	VTO_19		Bank 19 (Complex) Termination Voltage
P17	GND		Internal GND Plane
P18	GND		Internal GND Plane
P19	VDD2V5A		Internal Analog 2.5V Supply
P20	VTO_20		Bank 20 (Complex) Termination Voltage
P21	GND		Internal GND Plane
P22	GND		Internal GND Plane
P23	VDD2V5A		Internal Analog 2.5V Supply
P24	VTO_21		Bank 21 (Complex) Termination Voltage
P25	GND		Internal GND Plane
P26	GND		Internal GND Plane
P27	VDD2V5A		Internal Analog 2.5V Supply
P28	VTO_22		Bank 22 (Complex) Termination Voltage
P29	GND		Internal GND Plane
P30	GND		Internal GND Plane
P31	VDD2V5A		Internal Analog 2.5V Supply
P32	VTO_23		Bank 23 (Complex) Termination Voltage
P33	GND		Internal GND Plane
P34	IO_B01D01N	I/O	Bank 1 (Simple) I/O
P35	IO_B01D02P	I/O	Bank 1 (Simple) I/O
P36	IO_B01D06P	I/O	Bank 1 (Simple) I/O
P37	IO_B01D08P	I/O	Bank 1 (Simple) I/O
P38	IO_B01D04P	I/O	Bank 1 (Simple) I/O
P39	IO_B01D05P	I/O	Bank 1 (Simple) I/O
P40	IO_B01D07N	I/O	Bank 1 (Simple) I/O
P41	IO_B01D07P	I/O	Bank 1 (Simple) I/O
P42	IO_B01D09P	I/O	Bank 1 (Simple) I/O
R1	IO_B16D07N	I/O	Bank 16 (Simple) I/O
R2	IO_B16D07P	I/O	Bank 16 (Simple) I/O
R3	IO_B16D08N	I/O	Bank 16 (Simple) I/O
R4	GND		Internal GND Plane
R5	IO_B16D12N	I/O	Bank 16 (Simple) I/O

Land	Pin Name	I/O	Description
R6	VDDIO_16		Bank 16 (Simple) I/O Supply
R7	IO_B16D09N	I/O	Bank 16 (Simple) I/O
R8	IO_B16D09P	I/O	Bank 16 (Simple) I/O
R9	VDDIO_16		Bank 16 (Simple) I/O Supply
R10	GND		Internal GND Plane
R11	VDDCORE		Internal VDD1V2 Plane
R12	GND		Internal GND Plane
R13	VDDCORE		Internal VDD1V2 Plane
R14	GND		Internal GND Plane
R15	VDDCORE		Internal VDD1V2 Plane
R16	GND		Internal GND Plane
R17	VDDCORE		Internal VDD1V2 Plane
R18	GND		Internal GND Plane
R19	VDDCORE		Internal VDD1V2 Plane
R20	GND		Internal GND Plane
R21	VDDCORE		Internal VDD1V2 Plane
R22	GND		Internal GND Plane
R23	VDDCORE		Internal VDD1V2 Plane
R24	GND		Internal GND Plane
R25	VDDCORE		Internal VDD1V2 Plane
R26	GND		Internal GND Plane
R27	VDDCORE		Internal VDD1V2 Plane
R28	GND		Internal GND Plane
R29	VDDCORE		Internal VDD1V2 Plane
R30	GND		Internal GND Plane
R31	VDDCORE		Internal VDD1V2 Plane
R32	GND		Internal GND Plane
R33	VDD2V5A		Internal Analog 2.5V Supply
R34	VDDIO_01		Bank 1 (Simple) I/O Supply
R35	IO_B01D02N	I/O	Bank 1 (Simple) I/O
R36	GND		Internal GND Plane
R37	IO_B01D08N	I/O	Bank 1 (Simple) I/O
R38	VDDIO_01		Bank 1 (Simple) I/O Supply
R39	IO_B01D05N	I/O	Bank 1 (Simple) I/O
R40	GND		Internal GND Plane
R41	IO_B01D09N	I/O	Bank 1 (Simple) I/O
R42	VDDIO_01		Bank 1 (Simple) I/O Supply
T1	IO_B16D06N	I/O	Bank 16 (Simple) I/O
T2	IO_B16D06P	I/O	Bank 16 (Simple) I/O
T3	IO_B16D05P	I/O	Bank 16 (Simple) I/O
T4	VDDIO_16		Bank 16 (Simple) I/O Supply
T5	IO_B16D01N	I/O	Bank 16 (Simple) I/O

Land	Pin Name	I/O	Description
T6	GND		Internal GND Plane
T7	IO_B16D04N	I/O	Bank 16 (Simple) I/O
T8	IO_B16D04P	I/O	Bank 16 (Simple) I/O
T9	VDDIO_16		Bank 16 (Simple) I/O Supply
T10	VDD2V5A		Internal Analog 2.5V Supply
T11	GND		Internal GND Plane
T12	VDDCORE		Internal VDD1V2 Plane
T13	GND		Internal GND Plane
T14	VDDCORE		Internal VDD1V2 Plane
T15	GND		Internal GND Plane
T16	VDDCORE		Internal VDD1V2 Plane
T17	GND		Internal GND Plane
T18	VDDCORE		Internal VDD1V2 Plane
T19	GND		Internal GND Plane
T20	VDDCORE		Internal VDD1V2 Plane
T21	GND		Internal GND Plane
T22	VDDCORE		Internal VDD1V2 Plane
T23	GND		Internal GND Plane
T24	VDDCORE		Internal VDD1V2 Plane
T25	GND		Internal GND Plane
T26	VDDCORE		Internal VDD1V2 Plane
T27	GND		Internal GND Plane
T28	VDDCORE		Internal VDD1V2 Plane
T29	GND		Internal GND Plane
T30	VDDCORE		Internal VDD1V2 Plane
T31	GND		Internal GND Plane
T32	VDDCORE		Internal VDD1V2 Plane
T33	GND		Internal GND Plane
T34	GND		Internal GND Plane
T35	IO_B02D01P	I/O	Bank 2 (Simple) I/O
T36	VDDIO_02		Bank 2 (Simple) I/O Supply
T37	IO_B02D06N	I/O	Bank 2 (Simple) I/O
T38	GND		Internal GND Plane
T39	IO_B02D04N	I/O	Bank 2 (Simple) I/O
T40	VDDIO_02		Bank 2 (Simple) I/O Supply
T41	IO_B02D03P	I/O	Bank 2 (Simple) I/O
T42	IO_B02D03N	I/O	Bank 2 (Simple) I/O
U1	GND		Internal GND Plane
U2	VDDIO_16		Bank 16 (Simple) I/O Supply
U3	IO_B16D05N	I/O	Bank 16 (Simple) I/O
U4	IO_B16D03N	I/O	Bank 16 (Simple) I/O
U5	IO_B16D03P	I/O	Bank 16 (Simple) I/O

Land	Pin Name	I/O	Description
U6	IO_B16D01P	I/O	Bank 16 (Simple) I/O
U7	IO_B16D02N	I/O	Bank 16 (Simple) I/O
U8	IO_B16D02P	I/O	Bank 16 (Simple) I/O
U9	GND		Internal GND Plane
U10	GND		Internal GND Plane
U11	VDDCORE		Internal VDD1V2 Plane
U12	GND		Internal GND Plane
U13	VDDCORE		Internal VDD1V2 Plane
U14	GND		Internal GND Plane
U15	VDDCORE		Internal VDD1V2 Plane
U16	GND		Internal GND Plane
U17	VDDCORE		Internal VDD1V2 Plane
U18	GND		Internal GND Plane
U19	VDDCORE		Internal VDD1V2 Plane
U20	GND		Internal GND Plane
U21	VDDCORE		Internal VDD1V2 Plane
U22	GND		Internal GND Plane
U23	VDDCORE		Internal VDD1V2 Plane
U24	GND		Internal GND Plane
U25	VDDCORE		Internal VDD1V2 Plane
U26	GND		Internal GND Plane
U27	VDDCORE		Internal VDD1V2 Plane
U28	GND		Internal GND Plane
U29	VDDCORE		Internal VDD1V2 Plane
U30	GND		Internal GND Plane
U31	VDDCORE		Internal VDD1V2 Plane
U32	GND		Internal GND Plane
U33	VDD2V5A		Internal Analog 2.5V Supply
U34	IO_B02D01N	I/O	Bank 2 (Simple) I/O
U35	IO_B02D02P	I/O	Bank 2 (Simple) I/O
U36	IO_B02D06P	I/O	Bank 2 (Simple) I/O
U37	IO_B02D08P	I/O	Bank 2 (Simple) I/O
U38	IO_B02D04P	I/O	Bank 2 (Simple) I/O
U39	IO_B02D05P	I/O	Bank 2 (Simple) I/O
U40	IO_B02D07N	I/O	Bank 2 (Simple) I/O
U41	IO_B02D07P	I/O	Bank 2 (Simple) I/O
U42	IO_B02D09P	I/O	Bank 2 (Simple) I/O
V1	GND		Internal GND Plane
V2	VDDIO_15		Bank 15 (Simple) I/O Supply
V3	IO_B15D08P	I/O	Bank 15 (Simple) I/O
V4	IO_B15D10N	I/O	Bank 15 (Simple) I/O
V5	IO_B15D10P	I/O	Bank 15 (Simple) I/O

Land	Pin Name	I/O	Description
V6	IO_B15D12P	I/O	Bank 15 (Simple) I/O
V7	IO_B15D11N	I/O	Bank 15 (Simple) I/O
V8	IO_B15D11P	I/O	Bank 15 (Simple) I/O
V9	GND		Internal GND Plane
V10	VDDCORE		Internal VDD1V2 Plane
V11	GND		Internal GND Plane
V12	VDDCORE		Internal VDD1V2 Plane
V13	GND		Internal GND Plane
V14	VDDCORE		Internal VDD1V2 Plane
V15	GND		Internal GND Plane
V16	VDDCORE		Internal VDD1V2 Plane
V17	GND		Internal GND Plane
V18	VDDCORE		Internal VDD1V2 Plane
V19	GND		Internal GND Plane
V20	VDDCORE		Internal VDD1V2 Plane
V21	GND		Internal GND Plane
V22	VDDCORE		Internal VDD1V2 Plane
V23	GND		Internal GND Plane
V24	VDDCORE		Internal VDD1V2 Plane
V25	GND		Internal GND Plane
V26	VDDCORE		Internal VDD1V2 Plane
V27	GND		Internal GND Plane
V28	VDDCORE		Internal VDD1V2 Plane
V29	GND		Internal GND Plane
V30	VDDCORE		Internal VDD1V2 Plane
V31	GND		Internal GND Plane
V32	VDDCORE		Internal VDD1V2 Plane
V33	GND		Internal GND Plane
V34	VDDIO_02		Bank 2 (Simple) I/O Supply
V35	IO_B02D02N	I/O	Bank 2 (Simple) I/O
V36	GND		Internal GND Plane
V37	IO_B02D08N	I/O	Bank 2 (Simple) I/O
V38	VDDIO_02		Bank 2 (Simple) I/O Supply
V39	IO_B02D05N	I/O	Bank 2 (Simple) I/O
V40	GND		Internal GND Plane
V41	IO_B02D09N	I/O	Bank 2 (Simple) I/O
V42	VDDIO_02		Bank 2 (Simple) I/O Supply
W1	IO_B15D07N	I/O	Bank 15 (Simple) I/O
W2	IO_B15D07P	I/O	Bank 15 (Simple) I/O
W3	IO_B15D08N	I/O	Bank 15 (Simple) I/O
W4	GND		Internal GND Plane
W5	IO_B15D12N	I/O	Bank 15 (Simple) I/O

Land	Pin Name	I/O	Description
W6	VDDIO_15		Bank 15 (Simple) I/O Supply
W7	IO_B15D09N	I/O	Bank 15 (Simple) I/O
W8	IO_B15D09P	I/O	Bank 15 (Simple) I/O
W9	VDDIO_15		Bank 15 (Simple) I/O Supply
W10	GND		Internal GND Plane
W11	VDDCORE		Internal VDD1V2 Plane
W12	GND		Internal GND Plane
W13	VDDCORE		Internal VDD1V2 Plane
W14	GND		Internal GND Plane
W15	VDDCORE		Internal VDD1V2 Plane
W16	GND		Internal GND Plane
W17	VDDCORE		Internal VDD1V2 Plane
W18	GND		Internal GND Plane
W19	VDDCORE		Internal VDD1V2 Plane
W20	GND		Internal GND Plane
W21	VDDCORE		Internal VDD1V2 Plane
W22	GND		Internal GND Plane
W23	VDDCORE		Internal VDD1V2 Plane
W24	GND		Internal GND Plane
W25	VDDCORE		Internal VDD1V2 Plane
W26	GND		Internal GND Plane
W27	VDDCORE		Internal VDD1V2 Plane
W28	GND		Internal GND Plane
W29	VDDCORE		Internal VDD1V2 Plane
W30	GND		Internal GND Plane
W31	VDDCORE		Internal VDD1V2 Plane
W32	GND		Internal GND Plane
W33	VDDCORE		Internal VDD1V2 Plane
W34	GND		Internal GND Plane
W35	IO_B03D01P	I/O	Bank 3 (Simple) I/O
W36	VDDIO_03		Bank 3 (Simple) I/O Supply
W37	IO_B03D06N	I/O	Bank 3 (Simple) I/O
W38	GND		Internal GND Plane
W39	IO_B03D04N	I/O	Bank 3 (Simple) I/O
W40	VDDIO_03		Bank 3 (Simple) I/O Supply
W41	IO_B03D03P	I/O	Bank 3 (Simple) I/O
W42	IO_B03D03N	I/O	Bank 3 (Simple) I/O
Y1	IO_B15D06N	I/O	Bank 15 (Simple) I/O
Y2	IO_B15D06P	I/O	Bank 15 (Simple) I/O
Y3	IO_B15D05P	I/O	Bank 15 (Simple) I/O
Y4	VDDIO_15		Bank 15 (Simple) I/O Supply
Y5	IO_B15D01N	I/O	Bank 15 (Simple) I/O

Land	Pin Name	I/O	Description
Y6	GND		Internal GND Plane
Y7	IO_B15D04N	I/O	Bank 15 (Simple) I/O
Y8	IO_B15D04P	I/O	Bank 15 (Simple) I/O
Y9	VDDIO_15		Bank 15 (Simple) I/O Supply
Y10	VDD2V5A		Internal Analog 2.5V Supply
Y11	GND		Internal GND Plane
Y12	VDDCORE		Internal VDD1V2 Plane
Y13	GND		Internal GND Plane
Y14	VDDCORE		Internal VDD1V2 Plane
Y15	GND		Internal GND Plane
Y16	VDDCORE		Internal VDD1V2 Plane
Y17	GND		Internal GND Plane
Y18	VDDCORE		Internal VDD1V2 Plane
Y19	GND		Internal GND Plane
Y20	VDDCORE		Internal VDD1V2 Plane
Y21	GND		Internal GND Plane
Y22	VDDCORE		Internal VDD1V2 Plane
Y23	GND		Internal GND Plane
Y24	VDDCORE		Internal VDD1V2 Plane
Y25	GND		Internal GND Plane
Y26	VDDCORE		Internal VDD1V2 Plane
Y27	GND		Internal GND Plane
Y28	VDDCORE		Internal VDD1V2 Plane
Y29	GND		Internal GND Plane
Y30	VDDCORE		Internal VDD1V2 Plane
Y31	GND		Internal GND Plane
Y32	VDDCORE		Internal VDD1V2 Plane
Y33	VDD2V5A		Internal Analog 2.5V Supply
Y34	IO_B03D01N	I/O	Bank 3 (Simple) I/O
Y35	IO_B03D02P	I/O	Bank 3 (Simple) I/O
Y36	IO_B03D06P	I/O	Bank 3 (Simple) I/O
Y37	IO_B03D08P	I/O	Bank 3 (Simple) I/O
Y38	IO_B03D04P	I/O	Bank 3 (Simple) I/O
Y39	IO_B03D05P	I/O	Bank 3 (Simple) I/O
Y40	IO_B03D07N	I/O	Bank 3 (Simple) I/O
Y41	IO_B03D07P	I/O	Bank 3 (Simple) I/O
Y42	IO_B03D09P	I/O	Bank 3 (Simple) I/O
AA1	GND		Internal GND Plane
AA2	VDDIO_15		Bank 15 (Simple) I/O Supply
AA3	IO_B15D05N	I/O	Bank 15 (Simple) I/O
AA4	IO_B15D03N	I/O	Bank 15 (Simple) I/O
AA5	IO_B15D03P	I/O	Bank 15 (Simple) I/O

Land	Pin Name	I/O	Description
AA6	IO_B15D01P	I/O	Bank 15 (Simple) I/O
AA7	IO_B15D02N	I/O	Bank 15 (Simple) I/O
AA8	IO_B15D02P	I/O	Bank 15 (Simple) I/O
AA9	GND		Internal GND Plane
AA10	GND		Internal GND Plane
AA11	VDDCORE		Internal VDD1V2 Plane
AA12	GND		Internal GND Plane
AA13	VDDCORE		Internal VDD1V2 Plane
AA14	GND		Internal GND Plane
AA15	VDDCORE		Internal VDD1V2 Plane
AA16	GND		Internal GND Plane
AA17	VDDCORE		Internal VDD1V2 Plane
AA18	GND		Internal GND Plane
AA19	VDDCORE		Internal VDD1V2 Plane
AA20	GND		Internal GND Plane
AA21	VDDSENSE		VDDCORE Sense Return
AA22	GND		Internal GND Plane
AA23	VDDCORE		Internal VDD1V2 Plane
AA24	GND		Internal GND Plane
AA25	VDDCORE		Internal VDD1V2 Plane
AA26	GND		Internal GND Plane
AA27	VDDCORE		Internal VDD1V2 Plane
AA28	GND		Internal GND Plane
AA29	VDDCORE		Internal VDD1V2 Plane
AA30	GND		Internal GND Plane
AA31	VDDCORE		Internal VDD1V2 Plane
AA32	GND		Internal GND Plane
AA33	VDDCORE		Internal VDD1V2 Plane
AA34	VDDIO_03		Bank 3 (Simple) I/O Supply
AA35	IO_B03D02N	I/O	Bank 3 (Simple) I/O
AA36	GND		Internal GND Plane
AA37	IO_B03D08N	I/O	Bank 3 (Simple) I/O
AA38	VDDIO_03		Bank 3 (Simple) I/O Supply
AA39	IO_B03D05N	I/O	Bank 3 (Simple) I/O
AA40	GND		Internal GND Plane
AA41	IO_B03D09N	I/O	Bank 3 (Simple) I/O
AA42	VDDIO_03		Bank 3 (Simple) I/O Supply
AB1	GND		Internal GND Plane
AB2	VDDIO_14		Bank 14 (Simple) I/O Supply
AB3	IO_B14D08P	I/O	Bank 14 (Simple) I/O
AB4	IO_B14D10N	I/O	Bank 14 (Simple) I/O
AB5	IO_B14D10P	I/O	Bank 14 (Simple) I/O

Land	Pin Name	I/O	Description
AB6	IO_B14D12P	I/O	Bank 14 (Simple) I/O
AB7	IO_B14D11N	I/O	Bank 14 (Simple) I/O
AB8	IO_B14D11P	I/O	Bank 14 (Simple) I/O
AB9	GND		Internal GND Plane
AB10	VDDCORE		Internal VDD1V2 Plane
AB11	GND		Internal GND Plane
AB12	VDDCORE		Internal VDD1V2 Plane
AB13	GND		Internal GND Plane
AB14	VDDCORE		Internal VDD1V2 Plane
AB15	GND		Internal GND Plane
AB16	VDDCORE		Internal VDD1V2 Plane
AB17	GND		Internal GND Plane
AB18	VDDCORE		Internal VDD1V2 Plane
AB19	GND		Internal GND Plane
AB20	VDDCORE		Internal VDD1V2 Plane
AB21	GND		Internal GND Plane
AB22	VDDCORE		Internal VDD1V2 Plane
AB23	GND		Internal GND Plane
AB24	VDDCORE		Internal VDD1V2 Plane
AB25	GND		Internal GND Plane
AB26	VDDCORE		Internal VDD1V2 Plane
AB27	GND		Internal GND Plane
AB28	VDDCORE		Internal VDD1V2 Plane
AB29	GND		Internal GND Plane
AB30	VDDCORE		Internal VDD1V2 Plane
AB31	GND		Internal GND Plane
AB32	VDDIO_SERVICE		“Service” Config. Bank I/O Supply
AB33	TMS	I	Prog Bank JTAG TMS Input
AB34	TCK	I	Prog Bank JTAG Clock Input
AB35	MODE0	I	Prog Bank Chip Mode Input
AB36	MODE1	I	Prog Bank Chip Mode Input
AB37	MODE2	I	Prog Bank Chip Mode Input
AB38	VDDIO_SERVICE		“Service” Configuration Bank I/O Supply
AB39	SOUT_N	O	Prog Bank Spacewire Configuration Output
AB40	DOUT_N	O	Prog Bank Spacewire Configuration Output
AB41	SIN_N	I	Prog Bank Spacewire Configuration Input
AB42	DIN_N	I	Prog Bank Spacewire Configuration Input
AC1	IO_B14D07N	I/O	Bank 14 (Simple) I/O
AC2	IO_B14D07P	I/O	Bank 14 (Simple) I/O
AC3	IO_B14D08N	I/O	Bank 14 (Simple) I/O
AC4	GND		Internal GND Plane
AC5	IO_B14D12N	I/O	Bank 14 (Simple) I/O

Land	Pin Name	I/O	Description
AC6	VDDIO_14		Bank 14 (Simple) I/O Supply
AC7	IO_B14D09N	I/O	Bank 14 (Simple) I/O
AC8	IO_B14D09P	I/O	Bank 14 (Simple) I/O
AC9	VDDIO_14		Bank 14 (Simple) I/O Supply
AC10	GND		Internal GND Plane
AC11	VDDCORE		Internal VDD1V2 Plane
AC12	GND		Internal GND Plane
AC13	VDDCORE		Internal VDD1V2 Plane
AC14	GND		Internal GND Plane
AC15	VDDCORE		Internal VDD1V2 Plane
AC16	GND		Internal GND Plane
AC17	VDDCORE		Internal VDD1V2 Plane
AC18	GND		Internal GND Plane
AC19	VDDCORE		Internal VDD1V2 Plane
AC20	GND		Internal GND Plane
AC21	VDDCORE		Internal VDD1V2 Plane
AC22	GND		Internal GND Plane
AC23	VDDCORE		Internal VDD1V2 Plane
AC24	GND		Internal GND Plane
AC25	VDDCORE		Internal VDD1V2 Plane
AC26	GND		Internal GND Plane
AC27	VDDCORE		Internal VDD1V2 Plane
AC28	GND		Internal GND Plane
AC29	VDDCORE		Internal VDD1V2 Plane
AC30	GND		Internal GND Plane
AC31	VDDCORE		Internal VDD1V2 Plane
AC32	GND		Internal GND Plane
AC33	TDO	O	Prog Bank JTAG TDO Output
AC34	TDI	I	Prog Bank JTAG TDI Input
AC35	TRST	I	Prog Bank Active-low JTAG Reset Input
AC36	ERROR	O	Prog Bank Configuration Error Output
AC37	RST_HARD_N	I	Prog Bank Hardware Reset Input
AC38	GND		Internal GND Plane
AC39	SOUT_P	O	Prog Bank Spacewire Configuration Output
AC40	DOUT_P	O	Prog Bank Spacewire Configuration Output
AC41	SIN_P	I	Prog Bank Spacewire Configuration Input
AC42	DIN_P	I	Prog Bank Spacewire Configuration Input
AD1	IO_B14D06N	I/O	Bank 14 (Simple) I/O
AD2	IO_B14D06P	I/O	Bank 14 (Simple) I/O
AD3	IO_B14D05P	I/O	Bank 14 (Simple) I/O
AD4	VDDIO_14		Bank 14 (Simple) I/O Supply
AD5	IO_B14D01N	I/O	Bank 14 (Simple) I/O

Land	Pin Name	I/O	Description
AD6	GND		Internal GND Plane
AD7	IO_B14D04N	I/O	Bank 14 (Simple) I/O
AD8	IO_B14D04P	I/O	Bank 14 (Simple) I/O
AD9	VDDIO_14		Bank 14 (Simple) I/O Supply
AD10	VDD2V5A		Internal Analog 2.5V Supply
AD11	GND		Internal GND Plane
AD12	VDDCORE		Internal VDD1V2 Plane
AD13	GND		Internal GND Plane
AD14	VDDCORE		Internal VDD1V2 Plane
AD15	GND		Internal GND Plane
AD16	VDDCORE		Internal VDD1V2 Plane
AD17	GND		Internal GND Plane
AD18	VDDCORE		Internal VDD1V2 Plane
AD19	GND		Internal GND Plane
AD20	VDDCORE		Internal VDD1V2 Plane
AD21	GND		Internal GND Plane
AD22	VDDCORE		Internal VDD1V2 Plane
AD23	GND		Internal GND Plane
AD24	VDDCORE		Internal VDD1V2 Plane
AD25	GND		Internal GND Plane
AD26	VDDCORE		Internal VDD1V2 Plane
AD27	GND		Internal GND Plane
AD28	VDDCORE		Internal VDD1V2 Plane
AD29	GND		Internal GND Plane
AD30	VDDCORE		Internal VDD1V2 Plane
AD31	GND		Internal GND Plane
AD32	D3	I/O	“Service” Bank Slave Parallel Data Bit 3
AD33	D2	I/O	“Service” Bank Slave Parallel Data Bit 2
AD34	D1	I/O	“Service” Bank Slave Parallel Data Bit 1
AD35	GND		Internal GND Plane
AD36	D0	I/O	“Service” Bank Slave Parallel Data Bit 0
AD37	FABRIC_USER0	I/O	“Service” Bank Direct Communication with Fabric
AD38	FABRIC_USER1	I/O	“Service” Bank Direct Communication with Fabric
AD39	FABRIC_USER2	I/O	“Service” Bank Direct Communication with Fabric
AD40	FABRIC_USER3	I/O	“Service” Bank Direct Communication with Fabric
AD41	GND		Internal GND Plane
AD42	VDDIO_SPACEWIRE		Prog Bank 2.5V LVDS Supply (Spacewire)
AE1	GND		Internal GND Plane
AE2	VDDIO_14		Bank 14 (Simple) I/O Supply
AE3	IO_B14D05N	I/O	Bank 14 (Simple) I/O
AE4	IO_B14D03N	I/O	Bank 14 (Simple) I/O
AE5	IO_B14D03P	I/O	Bank 14 (Simple) I/O

Land	Pin Name	I/O	Description
AE6	IO_B14D01P	I/O	Bank 14 (Simple) I/O
AE7	IO_B14D02N	I/O	Bank 14 (Simple) I/O
AE8	IO_B14D02P	I/O	Bank 14 (Simple) I/O
AE9	GND		Internal GND Plane
AE10	GND		Internal GND Plane
AE11	VDDCORE		Internal VDD1V2 Plane
AE12	GND		Internal GND Plane
AE13	VDDCORE		Internal VDD1V2 Plane
AE14	GND		Internal GND Plane
AE15	VDDCORE		Internal VDD1V2 Plane
AE16	GND		Internal GND Plane
AE17	VDDCORE		Internal VDD1V2 Plane
AE18	GND		Internal GND Plane
AE19	VDDCORE		Internal VDD1V2 Plane
AE20	GND		Internal GND Plane
AE21	VDDCORE		Internal VDD1V2 Plane
AE22	GND		Internal GND Plane
AE23	VDDCORE		Internal VDD1V2 Plane
AE24	GND		Internal GND Plane
AE25	VDDCORE		Internal VDD1V2 Plane
AE26	GND		Internal GND Plane
AE27	VDDCORE		Internal VDD1V2 Plane
AE28	GND		Internal GND Plane
AE29	VDDCORE		Internal VDD1V2 Plane
AE30	GND		Internal GND Plane
AE31	VDDCORE		Internal VDD1V2 Plane
AE32	VDD2V5A		Internal Analog 2.5V Supply
AE33	D6	I/O	“Service” Bank Slave Parallel Data Bit 6
AE34	D7	I/O	“Service” Bank Slave Parallel Data Bit 7
AE35	D5	I/O	“Service” Bank Slave Parallel Data Bit 5
AE36	D4	I/O	“Service” Bank Slave Parallel Data Bit 4
AE37	READY	O	Prog Bank Configuration Ready Output
AE38	TYPE1	I	“Service” Bank Slave Parallel Input
AE39	POK	O	“Service” Bank Power OK Output
AE40	ID1	I	Bitstream Identification
AE41	CLK	I	Bitstream Manager Clock
AE42	CLK_OSC	O	Clock Oscillator from Bitstream Manager
AF1	GND		Internal GND Plane
AF2	VDDIO_13		Bank 13 (Simple) I/O Supply
AF3	IO_B13D08P	I/O	Bank 13 (Simple) I/O
AF4	IO_B13D10N	I/O	Bank 13 (Simple) I/O
AF5	IO_B13D10P	I/O	Bank 13 (Simple) I/O

Land	Pin Name	I/O	Description
AF6	IO_B13D12P	I/O	Bank 13 (Simple) I/O
AF7	IO_B13D11N	I/O	Bank 13 (Simple) I/O
AF8	IO_B13D11P	I/O	Bank 13 (Simple) I/O
AF9	GND		Internal GND Plane
AF10	VDDCORE		Internal VDD1V2 Plane
AF11	GND		Internal GND Plane
AF12	VDDCORE		Internal VDD1V2 Plane
AF13	GND		Internal GND Plane
AF14	VDDCORE		Internal VDD1V2 Plane
AF15	GND		Internal GND Plane
AF16	VDDCORE		Internal VDD1V2 Plane
AF17	GND		Internal GND Plane
AF18	VDDCORE		Internal VDD1V2 Plane
AF19	GND		Internal GND Plane
AF20	VDDCORE		Internal VDD1V2 Plane
AF21	GND		Internal GND Plane
AF22	VDDCORE		Internal VDD1V2 Plane
AF23	GND		Internal GND Plane
AF24	VDDCORE		Internal VDD1V2 Plane
AF25	GND		Internal GND Plane
AF26	VDDCORE		Internal VDD1V2 Plane
AF27	GND		Internal GND Plane
AF28	VDDCORE		Internal VDD1V2 Plane
AF29	GND		Internal GND Plane
AF30	VDDCORE		Internal VDD1V2 Plane
AF31	GND		Internal GND Plane
AF32	GND		Internal GND Plane
AF33	D10	I/O	“Service” Bank Slave Parallel Data Bit 10
AF34	D9	I/O	“Service” Bank Slave Parallel Data Bit 9
AF35	D8	I/O	“Service” Bank Slave Parallel Data Bit 8
AF36	D11	I/O	“Service” Bank Slave Parallel Data Bit 11
AF37	GND		Internal GND Plane
AF38	DATA_OE	O	“Service” Bank Slave Parallel Output Enable
AF39	ID3	I	Bitstream Identification
AF40	ID2	I	Bitstream Identification
AF41	ID0	I	Bitstream Identification
AF42	GND		Internal GND Plane
AG1	IO_B13D07N	I/O	Bank 13 (Simple) I/O
AG2	IO_B13D07P	I/O	Bank 13 (Simple) I/O
AG3	IO_B13D08N	I/O	Bank 13 (Simple) I/O
AG4	GND		Internal GND Plane
AG5	IO_B13D12N	I/O	Bank 13 (Simple) I/O

Land	Pin Name	I/O	Description
AG6	VDDIO_13		Bank 13 (Simple) I/O Supply
AG7	IO_B13D09N	I/O	Bank 13 (Simple) I/O
AG8	IO_B13D09P	I/O	Bank 13 (Simple) I/O
AG9	VDDIO_13		Bank 13 (Simple) I/O Supply
AG10	VDD2V5A		Internal Analog 2.5V Supply
AG11	VDDCORE		Internal VDD1V2 Plane
AG12	GND		Internal GND Plane
AG13	VDDCORE		Internal VDD1V2 Plane
AG14	GND		Internal GND Plane
AG15	VDDCORE		Internal VDD1V2 Plane
AG16	GND		Internal GND Plane
AG17	VDDCORE		Internal VDD1V2 Plane
AG18	GND		Internal GND Plane
AG19	VDDCORE		Internal VDD1V2 Plane
AG20	GND		Internal GND Plane
AG21	VDDCORE		Internal VDD1V2 Plane
AG22	GND		Internal GND Plane
AG23	VDDCORE		Internal VDD1V2 Plane
AG24	GND		Internal GND Plane
AG25	VDDCORE		Internal VDD1V2 Plane
AG26	GND		Internal GND Plane
AG27	VDDCORE		Internal VDD1V2 Plane
AG28	GND		Internal GND Plane
AG29	VDDCORE		Internal VDD1V2 Plane
AG30	GND		Internal GND Plane
AG31	VDDCORE		Internal VDD1V2 Plane
AG32	VDDIO_SERVICE		“Service” Config. Bank I/O Supply
AG33	D13	I/O	“Service” Bank Slave Parallel Data Bit 13
AG34	D12	I/O	“Service” Bank Slave Parallel Data Bit 12
AG35	D14	I/O	“Service” Bank Slave Parallel Data Bit 14
AG36	D15	I/O	“Service” Bank Slave Parallel Data Bit 15
AG37	VDDIO_SERVICE		“Service” Config. Bank I/O Supply
AG38	TYPE0	I	“Service” Bank Slave Parallel Input
AG39	TRIGGER	I	
AG40	CS	I	“Service” Bank Slave Parallel Chip Select
AG41	RST_SOFT_N	I	Bitstream Manager Reset
AG42	VDDIO_SERVICE		“Service” Config. Bank I/O Supply
AH1	IO_B13D06N	I/O	Bank 13 (Simple) I/O
AH2	IO_B13D06P	I/O	Bank 13 (Simple) I/O
AH3	IO_B13D05P	I/O	Bank 13 (Simple) I/O
AH4	VDDIO_13		Bank 13 (Simple) I/O Supply
AH5	IO_B13D01N	I/O	Bank 13 (Simple) I/O

Land	Pin Name	I/O	Description
AH6	GND		Internal GND Plane
AH7	IO_B13D04N	I/O	Bank 13 (Simple) I/O
AH8	IO_B13D04P	I/O	Bank 13 (Simple) I/O
AH9	VDDIO_13		Bank 13 (Simple) I/O Supply
AH10	VDDCORE		Internal VDD1V2 Plane
AH11	GND		Internal GND Plane
AH12	VDDCORE		Internal VDD1V2 Plane
AH13	GND		Internal GND Plane
AH14	VDDCORE		Internal VDD1V2 Plane
AH15	GND		Internal GND Plane
AH16	VDDCORE		Internal VDD1V2 Plane
AH17	GND		Internal GND Plane
AH18	VDDCORE		Internal VDD1V2 Plane
AH19	GND		Internal GND Plane
AH20	VDDCORE		Internal VDD1V2 Plane
AH21	GND		Internal GND Plane
AH22	VDDCORE		Internal VDD1V2 Plane
AH23	GND		Internal GND Plane
AH24	VDDCORE		Internal VDD1V2 Plane
AH25	GND		Internal GND Plane
AH26	VDDCORE		Internal VDD1V2 Plane
AH27	GND		Internal GND Plane
AH28	VDDCORE		Internal VDD1V2 Plane
AH29	GND		Internal GND Plane
AH30	VDDCORE		Internal VDD1V2 Plane
AH31	GND		Internal GND Plane
AH32	VDDCORE		Internal VDD1V2 Plane
AH33	VDD2V5A		Internal Analog 2.5V Supply
AH34	VDDIO_04		Bank 4 (Simple) I/O Supply
AH35	IO_B04D02N	I/O	Bank 4 (Simple) I/O
AH36	GND		Internal GND Plane
AH37	IO_B04D08N	I/O	Bank 4 (Simple) I/O
AH38	VDDIO_04		Bank 4 (Simple) I/O Supply
AH39	IO_B04D05N	I/O	Bank 4 (Simple) I/O
AH40	GND		Internal GND Plane
AH41	IO_B04D09N	I/O	Bank 4 (Simple) I/O
AH42	VDDIO_04		Bank 4 (Simple) I/O Supply
AJ1	GND		Internal GND Plane
AJ2	VDDIO_13		Bank 13 (Simple) I/O Supply
AJ3	IO_B13D05N	I/O	Bank 13 (Simple) I/O
AJ4	IO_B13D03N	I/O	Bank 13 (Simple) I/O
AJ5	IO_B13D03P	I/O	Bank 13 (Simple) I/O

Land	Pin Name	I/O	Description
AJ6	IO_B13D01P	I/O	Bank 13 (Simple) I/O
AJ7	IO_B13D02N	I/O	Bank 13 (Simple) I/O
AJ8	IO_B13D02P	I/O	Bank 13 (Simple) I/O
AJ9	GND		Internal GND Plane
AJ10	GND		Internal GND Plane
AJ11	VDDCORE		Internal VDD1V2 Plane
AJ12	GND		Internal GND Plane
AJ13	VDDCORE		Internal VDD1V2 Plane
AJ14	GND		Internal GND Plane
AJ15	VTO_10		Bank 10 (Complex) Termination Voltage
AJ16	VDD2V5A		Internal Analog 2.5V Supply
AJ17	GND		Internal GND Plane
AJ18	GND		Internal GND Plane
AJ19	VTO_09		Bank 9 (Complex) Termination Voltage
AJ20	VDD2V5A		Internal Analog 2.5V Supply
AJ21	GND		Internal GND Plane
AJ22	GND		Internal GND Plane
AJ23	VTO_08		Bank 8 (Complex) Termination Voltage
AJ24	VDD2V5A		Internal Analog 2.5V Supply
AJ25	GND		Internal GND Plane
AJ26	GND		Internal GND Plane
AJ27	VTO_07		Bank 7 (Complex) Termination Voltage
AJ28	VDD2V5A		Internal Analog 2.5V Supply
AJ29	GND		Internal GND Plane
AJ30	GND		Internal GND Plane
AJ31	VTO_06		Bank 6 (Complex) Termination Voltage
AJ32	VDD2V5A		Internal Analog 2.5V Supply
AJ33	GND		Internal GND Plane
AJ34	IO_B04D01N	I/O	Bank 4 (Simple) I/O
AJ35	IO_B04D02P	I/O	Bank 4 (Simple) I/O
AJ36	IO_B04D06P	I/O	Bank 4 (Simple) I/O
AJ37	IO_B04D08P	I/O	Bank 4 (Simple) I/O
AJ38	IO_B04D04P	I/O	Bank 4 (Simple) I/O
AJ39	IO_B04D05P	I/O	Bank 4 (Simple) I/O
AJ40	IO_B04D07N	I/O	Bank 4 (Simple) I/O
AJ41	IO_B04D07P	I/O	Bank 4 (Simple) I/O
AJ42	IO_B04D09P	I/O	Bank 4 (Simple) I/O
AK1	GND		Internal GND Plane
AK2	VDDIO_12		Bank 12 (Simple) I/O Supply
AK3	IO_B12D08P	I/O	Bank 12 (Simple) I/O
AK4	IO_B12D10N	I/O	Bank 12 (Simple) I/O
AK5	IO_B12D10P	I/O	Bank 12 (Simple) I/O

Land	Pin Name	I/O	Description
AK6	IO_B12D12P	I/O	Bank 12 (Simple) I/O
AK7	IO_B12D11N	I/O	Bank 12 (Simple) I/O
AK8	IO_B12D11P	I/O	Bank 12 (Simple) I/O
AK9	GND		Internal GND Plane
AK10	VDDCORE		Internal VDD1V2 Plane
AK11	GND		Internal GND Plane
AK12	VDDCORE		Internal VDD1V2 Plane
AK13	GND		Internal GND Plane
AK14	IO_B10D02P_DQ_SWSO	I/O	Bank 10 (Complex) I/O
AK15	VDDIO_10		Bank 10 (Complex) I/O Supply
AK16	VDDIO_10		Bank 10 (Complex) I/O Supply
AK17	IO_B10D01P_DQ_SWDO	I/O	Bank 10 (Complex) I/O
AK18	IO_B09D02P_DQ_SWSO	I/O	Bank 9 (Complex) I/O
AK19	VDDIO_09		Bank 9 (Complex) I/O Supply
AK20	VDDIO_09		Bank 9 (Complex) I/O Supply
AK21	IO_B09D01P_DQ_SWDO	I/O	Bank 9 (Complex) I/O
AK22	IO_B08D02P_DQ_SWSO	I/O	Bank 8 (Complex) I/O
AK23	VDDIO_08		Bank 8 (Complex) I/O Supply
AK24	VDDIO_08		Bank 8 (Complex) I/O Supply
AK25	IO_B08D01P_DQ_SWDO	I/O	Bank 8 (Complex) I/O
AK26	IO_B07D02P_DQ_SWSO	I/O	Bank 7 (Complex) I/O
AK27	VDDIO_07		Bank 7 (Complex) I/O Supply
AK28	VDDIO_07		Bank 7 (Complex) I/O Supply
AK29	IO_B07D01P_DQ_SWDO	I/O	Bank 7 (Complex) I/O
AK30	IO_B06D02P_DQ_SWSO	I/O	Bank 6 (Complex) I/O
AK31	VDDIO_06		Bank 6 (Complex) I/O Supply
AK32	VDDIO_06		Bank 6 (Complex) I/O Supply
AK33	IO_B06D01P_DQ_SWDO	I/O	Bank 6 (Complex) I/O
AK34	GND		Internal GND Plane
AK35	IO_B04D01P	I/O	Bank 4 (Simple) I/O
AK36	VDDIO_04		Bank 4 (Simple) I/O Supply
AK37	IO_B04D06N	I/O	Bank 4 (Simple) I/O
AK38	GND		Internal GND Plane
AK39	IO_B04D04N	I/O	Bank 4 (Simple) I/O
AK40	VDDIO_04		Bank 4 (Simple) I/O Supply
AK41	IO_B04D03P	I/O	Bank 4 (Simple) I/O
AK42	IO_B04D03N	I/O	Bank 4 (Simple) I/O
AL1	IO_B12D07N	I/O	Bank 12 (Simple) I/O
AL2	IO_B12D07P	I/O	Bank 12 (Simple) I/O
AL3	IO_B12D08N	I/O	Bank 12 (Simple) I/O
AL4	GND		Internal GND Plane
AL5	IO_B12D12N	I/O	Bank 12 (Simple) I/O

Land	Pin Name	I/O	Description
AL6	VDDIO_12		Bank 12 (Simple) I/O Supply
AL7	IO_B12D09N	I/O	Bank 12 (Simple) I/O
AL8	IO_B12D09P	I/O	Bank 12 (Simple) I/O
AL9	VDDIO_12		Bank 12 (Simple) I/O Supply
AL10	CG1_2_VDD2V5A		Clock Generators CG1/CG2 PLL Analog 2.5V Supply
AL11	VDDCORE		Internal VDD1V2 Plane
AL12	GND		Internal GND Plane
AL13	VDDCORE		Internal VDD1V2 Plane
AL14	IO_B10D02N_DQ_SWSO	I/O	Bank 10 (Complex) I/O
AL15	IO_B10D03N_DQS_SWDI	I/O	Bank 10 (Complex) I/O
AL16	IO_B10D03P_DQS_SWDI	I/O	Bank 10 (Complex) I/O
AL17	IO_B10D01N_DQ_SWDO	I/O	Bank 10 (Complex) I/O
AL18	IO_B09D02N_DQ_SWSO	I/O	Bank 9 (Complex) I/O
AL19	IO_B09D03N_DQS_SWDI	I/O	Bank 9 (Complex) I/O
AL20	IO_B09D03P_DQS_SWDI	I/O	Bank 9 (Complex) I/O
AL21	IO_B09D01N_DQ_SWDO	I/O	Bank 9 (Complex) I/O
AL22	IO_B08D02N_DQ_SWSO	I/O	Bank 8 (Complex) I/O
AL23	IO_B08D03N_DQS_SWDI	I/O	Bank 8 (Complex) I/O
AL24	IO_B08D03P_DQS_SWDI	I/O	Bank 8 (Complex) I/O
AL25	IO_B08D01N_DQ_SWDO	I/O	Bank 8 (Complex) I/O
AL26	IO_B07D02N_DQ_SWSO	I/O	Bank 7 (Complex) I/O
AL27	IO_B07D03N_DQS_SWDI	I/O	Bank 7 (Complex) I/O
AL28	IO_B07D03P_DQS_SWDI	I/O	Bank 7 (Complex) I/O
AL29	IO_B07D01N_DQ_SWDO	I/O	Bank 7 (Complex) I/O
AL30	IO_B06D02N_DQ_SWSO	I/O	Bank 6 (Complex) I/O
AL31	IO_B06D03N_DQS_SWDI	I/O	Bank 6 (Complex) I/O
AL32	IO_B06D03P_DQS_SWDI	I/O	Bank 6 (Complex) I/O
AL33	IO_B06D01N_DQ_SWDO	I/O	Bank 6 (Complex) I/O
AL34	VDDIO_05		Bank 5 (Simple) I/O Supply
AL35	IO_B05D02N	I/O	Bank 5 (Simple) I/O
AL36	GND		Internal GND Plane
AL37	IO_B05D08N	I/O	Bank 5 (Simple) I/O
AL38	VDDIO_05		Bank 5 (Simple) I/O Supply
AL39	IO_B05D05N	I/O	Bank 5 (Simple) I/O
AL40	GND		Internal GND Plane
AL41	IO_B05D09N	I/O	Bank 5 (Simple) I/O
AL42	VDDIO_05		Bank 5 (Simple) I/O Supply
AM1	IO_B12D06N	I/O	Bank 12 (Simple) I/O
AM2	IO_B12D06P	I/O	Bank 12 (Simple) I/O
AM3	IO_B12D05P	I/O	Bank 12 (Simple) I/O
AM4	VDDIO_12		Bank 12 (Simple) I/O Supply
AM5	IO_B12D01N	I/O	Bank 12 (Simple) I/O

Land	Pin Name	I/O	Description
AM6	GND		Internal GND Plane
AM7	IO_B12D04N	I/O	Bank 12 (Simple) I/O
AM8	IO_B12D04P	I/O	Bank 12 (Simple) I/O
AM9	VDDIO_12		Bank 12 (Simple) I/O Supply
AM10	CG1_2_VDDCORE		Clock Generators CG1/CG2 PLL Digital 1.2V Supply
AM11	GND		Internal GND Plane
AM12	VDDCORE		Internal VDD1V2 Plane
AM13	GND		Internal GND Plane
AM14	IO_B10D05N_DQ	I/O	Bank 10 (Complex) I/O
AM15	IO_B10D05P_DQ	I/O	Bank 10 (Complex) I/O
AM16	IO_B10D04N_DQ_SWSI	I/O	Bank 10 (Complex) I/O
AM17	IO_B10D04P_DQ_SWSI	I/O	Bank 10 (Complex) I/O
AM18	IO_B09D05N_DQ	I/O	Bank 9 (Complex) I/O
AM19	IO_B09D05P_DQ	I/O	Bank 9 (Complex) I/O
AM20	IO_B09D04N_DQ_SWSI	I/O	Bank 9 (Complex) I/O
AM21	IO_B09D04P_DQ_SWSI	I/O	Bank 9 (Complex) I/O
AM22	IO_B08D05N_DQ	I/O	Bank 8 (Complex) I/O
AM23	IO_B08D05P_DQ	I/O	Bank 8 (Complex) I/O
AM24	IO_B08D04N_DQ_SWSI	I/O	Bank 8 (Complex) I/O
AM25	IO_B08D04P_DQ_SWSI	I/O	Bank 8 (Complex) I/O
AM26	IO_B07D05N_DQ	I/O	Bank 7 (Complex) I/O
AM27	IO_B07D05P_DQ	I/O	Bank 7 (Complex) I/O
AM28	IO_B07D04N_DQ_SWSI	I/O	Bank 7 (Complex) I/O
AM29	IO_B07D04P_DQ_SWSI	I/O	Bank 7 (Complex) I/O
AM30	IO_B06D05N_DQ	I/O	Bank 6 (Complex) I/O
AM31	IO_B06D05P_DQ	I/O	Bank 6 (Complex) I/O
AM32	IO_B06D04N_DQ_SWSI	I/O	Bank 6 (Complex) I/O
AM33	IO_B06D04P_DQ_SWSI	I/O	Bank 6 (Complex) I/O
AM34	IO_B05D01N	I/O	Bank 5 (Simple) I/O
AM35	IO_B05D02P_CLK	I/O	Bank 5 (Simple) I/O
AM36	IO_B05D06P	I/O	Bank 5 (Simple) I/O
AM37	IO_B05D08P	I/O	Bank 5 (Simple) I/O
AM38	IO_B05D04P	I/O	Bank 5 (Simple) I/O
AM39	IO_B05D05P	I/O	Bank 5 (Simple) I/O
AM40	IO_B05D07N	I/O	Bank 5 (Simple) I/O
AM41	IO_B05D07P	I/O	Bank 5 (Simple) I/O
AM42	IO_B05D09P	I/O	Bank 5 (Simple) I/O
AN1	GND		Internal GND Plane
AN2	VDDIO_12		Bank 12 (Simple) I/O Supply
AN3	IO_B12D05N	I/O	Bank 12 (Simple) I/O
AN4	IO_B12D03N	I/O	Bank 12 (Simple) I/O
AN5	IO_B12D03P	I/O	Bank 12 (Simple) I/O

Land	Pin Name	I/O	Description
AN6	IO_B12D01P	I/O	Bank 12 (Simple) I/O
AN7	IO_B12D02N	I/O	Bank 12 (Simple) I/O
AN8	IO_B12D02P	I/O	Bank 12 (Simple) I/O
AN9	GND		Internal GND Plane
AN10	CG1_2_GNDA		Clock Generators CG1/CG2 PLL Analog Reference
AN11	VDDCORE		Internal VDD1V2 Plane
AN12	VDD2V5A		Internal Analog 2.5V Supply
AN13	VDDCORE		Internal VDD1V2 Plane
AN14	GND		Internal GND Plane
AN15	IO_B10D06N_CAL	I/O	Bank 10 (Complex) I/O
AN16	VTO_10		Bank 10 (Complex) Termination Voltage
AN17	IO_B10D06P_DQ	I/O	Bank 10 (Complex) I/O
AN18	GND		Internal GND Plane
AN19	IO_B09D06N_CAL	I/O	Bank 9 (Complex) I/O
AN20	VTO_09		Bank 9 (Complex) Termination Voltage
AN21	IO_B09D06P_DQ	I/O	Bank 9 (Complex) I/O
AN22	GND		Internal GND Plane
AN23	IO_B08D06N_CAL	I/O	Bank 8 (Complex) I/O
AN24	VTO_08		Bank 8 (Complex) Termination Voltage
AN25	IO_B08D06P_DQ	I/O	Bank 8 (Complex) I/O
AN26	GND		Internal GND Plane
AN27	IO_B07D06N_CAL	I/O	Bank 7 (Complex) I/O
AN28	VTO_07		Bank 7 (Complex) Termination Voltage
AN29	IO_B07D06P_DQ	I/O	Bank 7 (Complex) I/O
AN30	GND		Internal GND Plane
AN31	IO_B06D06N_CAL	I/O	Bank 6 (Complex) I/O
AN32	VTO_06		Bank 6 (Complex) Termination Voltage
AN33	IO_B06D06P_DQ	I/O	Bank 6 (Complex) I/O
AN34	GND		Internal GND Plane
AN35	IO_B05D01P_CLK	I/O	Bank 5 (Simple) I/O
AN36	VDDIO_05		Bank 5 (Simple) I/O Supply
AN37	IO_B05D06N	I/O	Bank 5 (Simple) I/O
AN38	GND		Internal GND Plane
AN39	IO_B05D04N	I/O	Bank 5 (Simple) I/O
AN40	VDDIO_05		Bank 5 (Simple) I/O Supply
AN41	IO_B05D03P	I/O	Bank 5 (Simple) I/O
AN42	IO_B05D03N	I/O	Bank 5 (Simple) I/O
AP1	HSSL1_CALIBRATE	I	HSSL Bank 1 GND
AP2	HSSL1_D_GND		HSSL Bank 1 GND
AP3	HSSL1_D_GND		HSSL Bank 1 GND
AP4	HSSL1_D_GND		HSSL Bank 1 GND
AP5	HSSL1_D_GND		HSSL Bank 1 GND

Land	Pin Name	I/O	Description
AP6	HSSL1_D_GND		HSSL Bank 1 GND
AP7	HSSL1_D_GND		HSSL Bank 1 GND
AP8	HSSL1_D_GND		HSSL Bank 1 GND
AP9	HSSL1_D_GND		HSSL Bank 1 GND
AP10	GND		Internal GND Plane
AP11	VDDIO_11		Bank 11 (Simple) I/O Supply
AP12	VDDIO_11		Bank 11 (Simple) I/O Supply
AP13	GND		Internal GND Plane
AP14	IO_B10D07P	I/O	Bank 10 (Complex) I/O
AP15	VDDIO_10		Bank 10 (Complex) I/O Supply
AP16	VDDIO_10		Bank 10 (Complex) I/O Supply
AP17	GND		Internal GND Plane
AP18	IO_B09D07P	I/O	Bank 9 (Complex) I/O
AP19	VDDIO_09		Bank 9 (Complex) I/O Supply
AP20	VDDIO_09		Bank 9 (Complex) I/O Supply
AP21	GND		Internal GND Plane
AP22	IO_B08D07P	I/O	Bank 8 (Complex) I/O
AP23	VDDIO_08		Bank 8 (Complex) I/O Supply
AP24	VDDIO_08		Bank 8 (Complex) I/O Supply
AP25	GND		Internal GND Plane
AP26	IO_B07D07P	I/O	Bank 7 (Complex) I/O
AP27	VDDIO_07		Bank 7 (Complex) I/O Supply
AP28	VDDIO_07		Bank 7 (Complex) I/O Supply
AP29	GND		Internal GND Plane
AP30	IO_B06D07P	I/O	Bank 6 (Complex) I/O
AP31	VDDIO_06		Bank 6 (Complex) I/O Supply
AP32	VDDIO_06		Bank 6 (Complex) I/O Supply
AP33	GND		Internal GND Plane
AP34	HSSL0_D_GND		HSSL Bank 0 GND
AP35	HSSL0_D_GND		HSSL Bank 0 GND
AP36	HSSL0_D_GND		HSSL Bank 0 GND
AP37	HSSL0_D_GND		HSSL Bank 0 GND
AP38	HSSL0_D_GND		HSSL Bank 0 GND
AP39	HSSL0_D_GND		HSSL Bank 0 GND
AP40	HSSL0_D_GND		HSSL Bank 0 GND
AP41	HSSL0_D_GND		HSSL Bank 0 GND
AP42	HSSL0_CALIBRATE	I	HSSL Bank 0 GND
AR1	HSSL1_GND2V5A		HSSL Bank 1 GND
AR2	HSSL1_GND2V5A		HSSL Bank 1 GND
AR3	HSSL1_CLKREFP	I	HSSL Bank 1 GND
AR4	HSSL1_CLKREFN	I	HSSL Bank 1 GND
AR5	HSSL1_D_VDD		HSSL Bank 1 GND

Land	Pin Name	I/O	Description
AR6	HSSL1_D_VDD		HSSL Bank 1 GND
AR7	HSSL1_D_VDD		HSSL Bank 1 GND
AR8	HSSL1_D_VDD		HSSL Bank 1 GND
AR9	HSSL1_D_GND		HSSL Bank 1 GND
AR10	IO_B11D11P_CLK	I/O	Bank 11 (Simple) I/O
AR11	IO_B11D09P	I/O	Bank 11 (Simple) I/O
AR12	IO_B11D04P	I/O	Bank 11 (Simple) I/O
AR13	IO_B11D02P	I/O	Bank 11 (Simple) I/O
AR14	IO_B10D07N	I/O	Bank 10 (Complex) I/O
AR15	IO_B10D08N	I/O	Bank 10 (Complex) I/O
AR16	IO_B10D08P	I/O	Bank 10 (Complex) I/O
AR17	IO_B10D09P_CLK	I/O	Bank 10 (Complex) I/O
AR18	IO_B09D07N	I/O	Bank 9 (Complex) I/O
AR19	IO_B09D08N	I/O	Bank 9 (Complex) I/O
AR20	IO_B09D08P	I/O	Bank 9 (Complex) I/O
AR21	IO_B09D09P	I/O	Bank 9 (Complex) I/O
AR22	IO_B08D07N	I/O	Bank 8 (Complex) I/O
AR23	IO_B08D08N	I/O	Bank 8 (Complex) I/O
AR24	IO_B08D08P	I/O	Bank 8 (Complex) I/O
AR25	IO_B08D09P	I/O	Bank 8 (Complex) I/O
AR26	IO_B07D07N	I/O	Bank 7 (Complex) I/O
AR27	IO_B07D08N	I/O	Bank 7 (Complex) I/O
AR28	IO_B07D08P	I/O	Bank 7 (Complex) I/O
AR29	IO_B07D09P	I/O	Bank 7 (Complex) I/O
AR30	IO_B06D07N	I/O	Bank 6 (Complex) I/O
AR31	IO_B06D08N	I/O	Bank 6 (Complex) I/O
AR32	IO_B06D08P	I/O	Bank 6 (Complex) I/O
AR33	IO_B06D09P_CLK	I/O	Bank 6 (Complex) I/O
AR34	HSSL0_D_GND		HSSL Bank 0 GND
AR35	HSSL0_D_VDD		HSSL Bank 0 GND
AR36	HSSL0_D_VDD		HSSL Bank 0 GND
AR37	HSSL0_D_VDD		HSSL Bank 0 GND
AR38	HSSL0_D_VDD		HSSL Bank 0 GND
AR39	HSSL0_CLKREFN	I	HSSL Bank 0 GND
AR40	HSSL0_CLKREFP	I	HSSL Bank 0 GND
AR41	HSSL0_GND2V5A		HSSL Bank 0 GND
AR42	HSSL0_GND2V5A		HSSL Bank 0 GND
AT1	HSSL1_RX6P	I	HSSL Bank 1 GND
AT2	HSSL1_RX6N	I	HSSL Bank 1 GND
AT3	HSSL1_GND2V5A		HSSL Bank 1 GND
AT4	HSSL1_VDD2V5A		HSSL Bank 1 GND
AT5	HSSL1_D_VDD		HSSL Bank 1 GND

Land	Pin Name	I/O	Description
AT6	HSSL1_D_VDD		HSSL Bank 1 GND
AT7	HSSL1_D_VDD		HSSL Bank 1 GND
AT8	HSSL1_D_VDD		HSSL Bank 1 GND
AT9	HSSL1_D_GND		HSSL Bank 1 GND
AT10	IO_B11D11N	I/O	Bank 11 (Simple) I/O
AT11	IO_B11D09N	I/O	Bank 11 (Simple) I/O
AT12	IO_B11D04N	I/O	Bank 11 (Simple) I/O
AT13	IO_B11D02N	I/O	Bank 11 (Simple) I/O
AT14	IO_B10D11P	I/O	Bank 10 (Complex) I/O
AT15	IO_B10D10N	I/O	Bank 10 (Complex) I/O
AT16	IO_B10D10P_CLK	I/O	Bank 10 (Complex) I/O
AT17	IO_B10D09N	I/O	Bank 10 (Complex) I/O
AT18	IO_B09D11P	I/O	Bank 9 (Complex) I/O
AT19	IO_B09D10N	I/O	Bank 9 (Complex) I/O
AT20	IO_B09D10P	I/O	Bank 9 (Complex) I/O
AT21	IO_B09D09N	I/O	Bank 9 (Complex) I/O
AT22	IO_B08D11P	I/O	Bank 8 (Complex) I/O
AT23	IO_B08D10N	I/O	Bank 8 (Complex) I/O
AT24	IO_B08D10P	I/O	Bank 8 (Complex) I/O
AT25	IO_B08D09N	I/O	Bank 8 (Complex) I/O
AT26	IO_B07D11P	I/O	Bank 7 (Complex) I/O
AT27	IO_B07D10N	I/O	Bank 7 (Complex) I/O
AT28	IO_B07D10P	I/O	Bank 7 (Complex) I/O
AT29	IO_B07D09N	I/O	Bank 7 (Complex) I/O
AT30	IO_B06D11P	I/O	Bank 6 (Complex) I/O
AT31	IO_B06D10N	I/O	Bank 6 (Complex) I/O
AT32	IO_B06D10P_CLK	I/O	Bank 6 (Complex) I/O
AT33	IO_B06D09N	I/O	Bank 6 (Complex) I/O
AT34	HSSL0_D_GND		HSSL Bank 0 GND
AT35	HSSL0_D_VDD		HSSL Bank 0 GND
AT36	HSSL0_D_VDD		HSSL Bank 0 GND
AT37	HSSL0_D_VDD		HSSL Bank 0 GND
AT38	HSSL0_D_VDD		HSSL Bank 0 GND
AT39	HSSL0_VDD2V5A		HSSL Bank 0 GND
AT40	HSSL0_VDD2V5A		HSSL Bank 0 GND
AT41	HSSL0_RX6N	I	HSSL Bank 0 GND
AT42	HSSL0_RX6P	I	HSSL Bank 0 GND
AU1	HSSL1_GND2V5A		HSSL Bank 1 GND
AU2	HSSL1_GND2V5A		HSSL Bank 1 GND
AU3	HSSL1_RX5P	I	HSSL Bank 1 GND
AU4	HSSL1_RX5N	I	HSSL Bank 1 GND
AU5	HSSL1_TX6_GNDA		HSSL Bank 1 GND

Land	Pin Name	I/O	Description
AU6	HSSL1_TX6_VDDA		HSSL Bank 1 GND
AU7	HSSL1_TX6P	O	HSSL Bank 1 GND
AU8	HSSL1_TX6N	O	HSSL Bank 1 GND
AU9	HSSL1_D_GND		HSSL Bank 1 GND
AU10	IO_B11D12P_CLK	I/O	Bank 11 (Simple) I/O
AU11	VDDIO_11		Bank 11 (Simple) I/O Supply
AU12	GND		Internal GND Plane
AU13	IO_B11D01P	I/O	Bank 11 (Simple) I/O
AU14	IO_B10D11N	I/O	Bank 10 (Complex) I/O
AU15	VDDIO_10		Bank 10 (Complex) I/O Supply
AU16	VDDIO_10		Bank 10 (Complex) I/O Supply
AU17	IO_B10D13P_DQ	I/O	Bank 10 (Complex) I/O
AU18	IO_B09D11N	I/O	Bank 9 (Complex) I/O
AU19	VDDIO_09		Bank 9 (Complex) I/O Supply
AU20	VDDIO_09		Bank 9 (Complex) I/O Supply
AU21	IO_B09D13P_DQ	I/O	Bank 9 (Complex) I/O
AU22	IO_B08D11N	I/O	Bank 8 (Complex) I/O
AU23	VDDIO_08		Bank 8 (Complex) I/O Supply
AU24	VDDIO_08		Bank 8 (Complex) I/O Supply
AU25	IO_B08D13P_DQ	I/O	Bank 8 (Complex) I/O
AU26	IO_B07D11N	I/O	Bank 7 (Complex) I/O
AU27	VDDIO_07		Bank 7 (Complex) I/O Supply
AU28	VDDIO_07		Bank 7 (Complex) I/O Supply
AU29	IO_B07D13P_DQ	I/O	Bank 7 (Complex) I/O
AU30	IO_B06D11N	I/O	Bank 6 (Complex) I/O
AU31	VDDIO_06		Bank 6 (Complex) I/O Supply
AU32	VDDIO_06		Bank 6 (Complex) I/O Supply
AU33	IO_B06D13P_DQ	I/O	Bank 6 (Complex) I/O
AU34	HSSL0_D_GND		HSSL Bank 0 GND
AU35	HSSL0_TX6N	O	HSSL Bank 0 GND
AU36	HSSL0_TX6P	O	HSSL Bank 0 GND
AU37	HSSL0_TX6_VDDA		HSSL Bank 0 GND
AU38	HSSL0_TX6_GNDA		HSSL Bank 0 GND
AU39	HSSL0_RX5N	I	HSSL Bank 0 GND
AU40	HSSL0_RX5P	I	HSSL Bank 0 GND
AU41	HSSL0_GND2V5A		HSSL Bank 0 GND
AU42	HSSL0_GND2V5A		HSSL Bank 0 GND
AV1	HSSL1_RX4P	I	HSSL Bank 1 GND
AV2	HSSL1_RX4N	I	HSSL Bank 1 GND
AV3	HSSL1_GND2V5A		HSSL Bank 1 GND
AV4	HSSL1_VDD2V5A		HSSL Bank 1 GND
AV5	HSSL1_TX5P	O	HSSL Bank 1 GND

Land	Pin Name	I/O	Description
AV6	HSSL1_TX5N	O	HSSL Bank 1 GND
AV7	HSSL1_TX5_GNDA		HSSL Bank 1 GND
AV8	HSSL1_TX5_VDDA		HSSL Bank 1 GND
AV9	HSSL1_D_GND		HSSL Bank 1 GND
AV10	IO_B11D10P	I/O	Bank 11 (Simple) I/O
AV11	IO_B11D12N	I/O	Bank 11 (Simple) I/O
AV12	IO_B11D01N	I/O	Bank 11 (Simple) I/O
AV13	IO_B11D03P	I/O	Bank 11 (Simple) I/O
AV14	GND		Internal GND Plane
AV15	VTO_10		Bank 10 (Complex) Termination Voltage
AV16	IO_B10D13N_DQ	I/O	Bank 10 (Complex) I/O
AV17	GND		Internal GND Plane
AV18	GND		Internal GND Plane
AV19	VTO_09		Bank 9 (Complex) Termination Voltage
AV20	IO_B09D13N_DQ	I/O	Bank 9 (Complex) I/O
AV21	GND		Internal GND Plane
AV22	GND		Internal GND Plane
AV23	VTO_08		Bank 8 (Complex) Termination Voltage
AV24	IO_B08D13N_DQ	I/O	Bank 8 (Complex) I/O
AV25	GND		Internal GND Plane
AV26	GND		Internal GND Plane
AV27	VTO_07		Bank 7 (Complex) Termination Voltage
AV28	IO_B07D13N_DQ	I/O	Bank 7 (Complex) I/O
AV29	GND		Internal GND Plane
AV30	GND		Internal GND Plane
AV31	VTO_06		Bank 6 (Complex) Termination Voltage
AV32	IO_B06D13N_DQ	I/O	Bank 6 (Complex) I/O
AV33	GND		Internal GND Plane
AV34	HSSL0_D_GND		HSSL Bank 0 GND
AV35	HSSL0_TX5_VDDA		HSSL Bank 0 GND
AV36	HSSL0_TX5_GNDA		HSSL Bank 0 GND
AV37	HSSL0_TX5N	O	HSSL Bank 0 GND
AV38	HSSL0_TX5P	O	HSSL Bank 0 GND
AV39	HSSL0_VDD2V5A		HSSL Bank 0 GND
AV40	HSSL0_GND2V5A		HSSL Bank 0 GND
AV41	HSSL0_RX4N	I	HSSL Bank 0 GND
AV42	HSSL0_RX4P	I	HSSL Bank 0 GND
AW1	HSSL1_GND2V5A		HSSL Bank 1 GND
AW2	HSSL1_GND2V5A		HSSL Bank 1 GND
AW3	HSSL1_RX3P	I	HSSL Bank 1 GND
AW4	HSSL1_RX3N	I	HSSL Bank 1 GND
AW5	HSSL1_TX4_GNDA		HSSL Bank 1 GND

Land	Pin Name	I/O	Description
AW6	HSSL1_TX4_VDDA		HSSL Bank 1 GND
AW7	HSSL1_TX4P	O	HSSL Bank 1 GND
AW8	HSSL1_TX4N	O	HSSL Bank 1 GND
AW9	HSSL1_D_GND		HSSL Bank 1 GND
AW10	IO_B11D10N	I/O	Bank 11 (Simple) I/O
AW11	GND		Internal GND Plane
AW12	VDDIO_11		Bank 11 (Simple) I/O Supply
AW13	IO_B11D03N	I/O	Bank 11 (Simple) I/O
AW14	IO_B10D16N_DQ_SWDI	I/O	Bank 10 (Complex) I/O
AW15	IO_B10D16P_DQ_SWDI	I/O	Bank 10 (Complex) I/O
AW16	IO_B10D14N_DQ_SWDO	I/O	Bank 10 (Complex) I/O
AW17	IO_B10D14P_DQ_SWDO	I/O	Bank 10 (Complex) I/O
AW18	IO_B09D16N_DQ_SWDI	I/O	Bank 9 (Complex) I/O
AW19	IO_B09D16P_DQ_SWDI	I/O	Bank 9 (Complex) I/O
AW20	IO_B09D14N_DQ_SWDO	I/O	Bank 9 (Complex) I/O
AW21	IO_B09D14P_DQ_SWDO	I/O	Bank 9 (Complex) I/O
AW22	IO_B08D16N_DQ_SWDI	I/O	Bank 8 (Complex) I/O
AW23	IO_B08D16P_DQ_SWDI	I/O	Bank 8 (Complex) I/O
AW24	IO_B08D14N_DQ_SWDO	I/O	Bank 8 (Complex) I/O
AW25	IO_B08D14P_DQ_SWDO	I/O	Bank 8 (Complex) I/O
AW26	IO_B07D16N_DQ_SWDI	I/O	Bank 7 (Complex) I/O
AW27	IO_B07D16P_DQ_SWDI	I/O	Bank 7 (Complex) I/O
AW28	IO_B07D14N_DQ_SWDO	I/O	Bank 7 (Complex) I/O
AW29	IO_B07D14P_DQ_SWDO	I/O	Bank 7 (Complex) I/O
AW30	IO_B06D16N_DQ_SWDI	I/O	Bank 6 (Complex) I/O
AW31	IO_B06D16P_DQ_SWDI	I/O	Bank 6 (Complex) I/O
AW32	IO_B06D14N_DQ_SWDO	I/O	Bank 6 (Complex) I/O
AW33	IO_B06D14P_DQ_SWDO	I/O	Bank 6 (Complex) I/O
AW34	HSSL0_D_GND		HSSL Bank 0 GND
AW35	HSSL0_TX4N	O	HSSL Bank 0 GND
AW36	HSSL0_TX4P	O	HSSL Bank 0 GND
AW37	HSSL0_TX4_VDDA		HSSL Bank 0 GND
AW38	HSSL0_TX4_GNDA		HSSL Bank 0 GND
AW39	HSSL0_RX3N	I	HSSL Bank 0 GND
AW40	HSSL0_RX3P	I	HSSL Bank 0 GND
AW41	HSSL0_GND2V5A		HSSL Bank 0 GND
AW42	HSSL0_GND2V5A		HSSL Bank 0 GND
AY1	HSSL1_RX2P	I	HSSL Bank 1 GND
AY2	HSSL1_RX2N	I	HSSL Bank 1 GND
AY3	HSSL1_GND2V5A		HSSL Bank 1 GND
AY4	HSSL1_VDD2V5A		HSSL Bank 1 GND
AY5	HSSL1_TX3P	O	HSSL Bank 1 GND

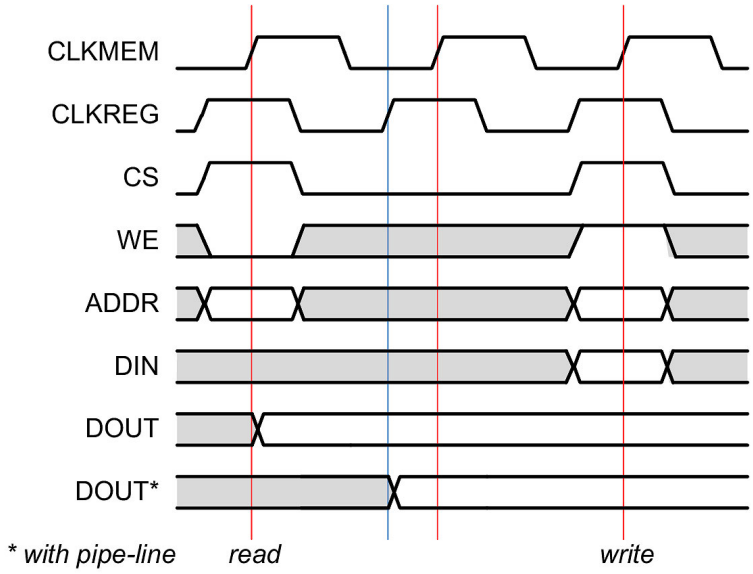
Land	Pin Name	I/O	Description
AY6	HSSL1_TX3N	O	HSSL Bank 1 GND
AY7	HSSL1_TX3_GNDA		HSSL Bank 1 GND
AY8	HSSL1_TX3_VDDA		HSSL Bank 1 GND
AY9	HSSL1_D_GND		HSSL Bank 1 GND
AY10	IO_B11D08P	I/O	Bank 11 (Simple) I/O
AY11	IO_B11D08N	I/O	Bank 11 (Simple) I/O
AY12	IO_B11D05P	I/O	Bank 11 (Simple) I/O
AY13	IO_B11D05N	I/O	Bank 11 (Simple) I/O
AY14	IO_B10D17P_DQ_SWSI	I/O	Bank 10 (Complex) I/O
AY15	IO_B10D15N_DQS_SWSO	I/O	Bank 10 (Complex) I/O
AY16	IO_B10D15P_DQS_SWSO	I/O	Bank 10 (Complex) I/O
AY17	IO_B10D12P	I/O	Bank 10 (Complex) I/O
AY18	IO_B09D17P_DQ_SWSI	I/O	Bank 9 (Complex) I/O
AY19	IO_B09D15N_DQS_SWSO	I/O	Bank 9 (Complex) I/O
AY20	IO_B09D15P_DQS_SWSO	I/O	Bank 9 (Complex) I/O
AY21	IO_B09D12P	I/O	Bank 9 (Complex) I/O
AY22	IO_B08D17P_DQ_SWSI	I/O	Bank 8 (Complex) I/O
AY23	IO_B08D15N_DQS_SWSO	I/O	Bank 8 (Complex) I/O
AY24	IO_B08D15P_DQS_SWSO	I/O	Bank 8 (Complex) I/O
AY25	IO_B08D12P	I/O	Bank 8 (Complex) I/O
AY26	IO_B07D17P_DQ_SWSI	I/O	Bank 7 (Complex) I/O
AY27	IO_B07D15N_DQS_SWSO	I/O	Bank 7 (Complex) I/O
AY28	IO_B07D15P_DQS_SWSO	I/O	Bank 7 (Complex) I/O
AY29	IO_B07D12P	I/O	Bank 7 (Complex) I/O
AY30	IO_B06D17P_DQ_SWSI	I/O	Bank 6 (Complex) I/O
AY31	IO_B06D15N_DQS_SWSO	I/O	Bank 6 (Complex) I/O
AY32	IO_B06D15P_DQS_SWSO	I/O	Bank 6 (Complex) I/O
AY33	IO_B06D12P	I/O	Bank 6 (Complex) I/O
AY34	HSSL0_D_GND		HSSL Bank 0 GND
AY35	HSSL0_TX3_VDDA		HSSL Bank 0 GND
AY36	HSSL0_TX3_GNDA		HSSL Bank 0 GND
AY37	HSSL0_TX3N	O	HSSL Bank 0 GND
AY38	HSSL0_TX3P	O	HSSL Bank 0 GND
AY39	HSSL0_VDD2V5A		HSSL Bank 0 GND
AY40	HSSL0_GND2V5A		HSSL Bank 0 GND
AY41	HSSL0_RX2N	I	HSSL Bank 0 GND
AY42	HSSL0_RX2P	I	HSSL Bank 0 GND
BA2	HSSL1_GND2V5A		HSSL Bank 1 GND
BA3	HSSL1_RX1P	I	HSSL Bank 1 GND
BA4	HSSL1_RX1N	I	HSSL Bank 1 GND
BA5	HSSL1_TX2_GNDA		HSSL Bank 1 GND
BA6	HSSL1_TX2_VDDA		HSSL Bank 1 GND

Land	Pin Name	I/O	Description
BA7	HSSL1_TX2P	O	HSSL Bank 1 GND
BA8	HSSL1_TX2N	O	HSSL Bank 1 GND
BA9	HSSL1_D_GND		HSSL Bank 1 GND
BA10	VDDIO_11		Bank 11 (Simple) I/O Supply
BA11	IO_B11D07P	I/O	Bank 11 (Simple) I/O
BA12	IO_B11D06P	I/O	Bank 11 (Simple) I/O
BA13	VDDIO_11		Bank 11 (Simple) I/O Supply
BA14	IO_B10D17N_DQ_SWSI	I/O	Bank 10 (Complex) I/O
BA15	VDDIO_10		Bank 10 (Complex) I/O Supply
BA16	VDDIO_10		Bank 10 (Complex) I/O Supply
BA17	IO_B10D12N_DQ	I/O	Bank 10 (Complex) I/O
BA18	IO_B09D17N_DQ_SWSI	I/O	Bank 9 (Complex) I/O
BA19	VDDIO_09		Bank 9 (Complex) I/O Supply
BA20	VDDIO_09		Bank 9 (Complex) I/O Supply
BA21	IO_B09D12N_DQ	I/O	Bank 9 (Complex) I/O
BA22	IO_B08D17N_DQ_SWSI	I/O	Bank 8 (Complex) I/O
BA23	VDDIO_08		Bank 8 (Complex) I/O Supply
BA24	VDDIO_08		Bank 8 (Complex) I/O Supply
BA25	IO_B08D12N_DQ	I/O	Bank 8 (Complex) I/O
BA26	IO_B07D17N_DQ_SWSI	I/O	Bank 7 (Complex) I/O
BA27	VDDIO_07		Bank 7 (Complex) I/O Supply
BA28	VDDIO_07		Bank 7 (Complex) I/O Supply
BA29	IO_B07D12N_DQ	I/O	Bank 7 (Complex) I/O
BA30	IO_B06D17N_DQ_SWSI	I/O	Bank 6 (Complex) I/O
BA31	VDDIO_06		Bank 6 (Complex) I/O Supply
BA32	VDDIO_06		Bank 6 (Complex) I/O Supply
BA33	IO_B06D12N_DQ	I/O	Bank 6 (Complex) I/O
BA34	HSSL0_D_GND		HSSL Bank 0 GND
BA35	HSSL0_TX2N	O	HSSL Bank 0 GND
BA36	HSSL0_TX2P	O	HSSL Bank 0 GND
BA37	HSSL0_TX2_VDDA		HSSL Bank 0 GND
BA38	HSSL0_TX2_GNDA		HSSL Bank 0 GND
BA39	HSSL0_RX1N	I	HSSL Bank 0 GND
BA40	HSSL0_RX1P	I	HSSL Bank 0 GND
BA41	HSSL0_GND2V5A		HSSL Bank 0 GND
BB3	HSSL1_GND2V5A		HSSL Bank 1 GND
BB4	HSSL1_GND2V5A		HSSL Bank 1 GND
BB5	HSSL1_TX1P	O	HSSL Bank 1 GND
BB6	HSSL1_TX1N	O	HSSL Bank 1 GND
BB7	HSSL1_TX1_GNDA		HSSL Bank 1 GND
BB8	HSSL1_TX1_VDDA		HSSL Bank 1 GND
BB9	HSSL1_D_GND		HSSL Bank 1 GND

Land	Pin Name	I/O	Description
BB10	GND		Internal GND Plane
BB11	IO_B11D07N	I/O	Bank 11 (Simple) I/O
BB12	IO_B11D06N	I/O	Bank 11 (Simple) I/O
BB13	GND		Internal GND Plane
BB14	GND		Internal GND Plane
BB15	VDDS_10		Bank 10 (Complex) Termination Switch Supply
BB16	VTO_10		Bank 10 (Complex) Termination Voltage
BB17	GND		Internal GND Plane
BB18	GND		Internal GND Plane
BB19	VDDS_09		Bank 9 (Complex) Termination Switch Supply
BB20	VTO_09		Bank 9 (Complex) Termination Voltage
BB21	GND		Internal GND Plane
BB22	GND		Internal GND Plane
BB23	VDDS_8		Bank 8 (Complex) Termination Switch Supply
BB24	VTO_08		Bank 8 (Complex) Termination Voltage
BB25	GND		Internal GND Plane
BB26	GND		Internal GND Plane
BB27	VDDS_7		Bank 7 (Complex) Termination Switch Supply
BB28	VTO_07		Bank 7 (Complex) Termination Voltage
BB29	GND		Internal GND Plane
BB30	GND		Internal GND Plane
BB31	VDDS_06		Bank 6 (Complex) Termination Switch Supply
BB32	VTO_06		Bank 6 (Complex) Termination Voltage
BB33	GND		Internal GND Plane
BB34	HSSL0_D_GND		HSSL Bank 0 GND
BB35	HSSL0_TX1_VDDA		HSSL Bank 0 GND
BB36	HSSL0_TX1_GNDA		HSSL Bank 0 GND
BB37	HSSL0_TX1N	O	HSSL Bank 0 GND
BB38	HSSL0_TX1P	O	HSSL Bank 0 GND
BB39	HSSL0_GND2V5A		HSSL Bank 0 GND
BB40	HSSL0_GND2V5A		HSSL Bank 0 GND

1.10 TIMING DIAGRAM

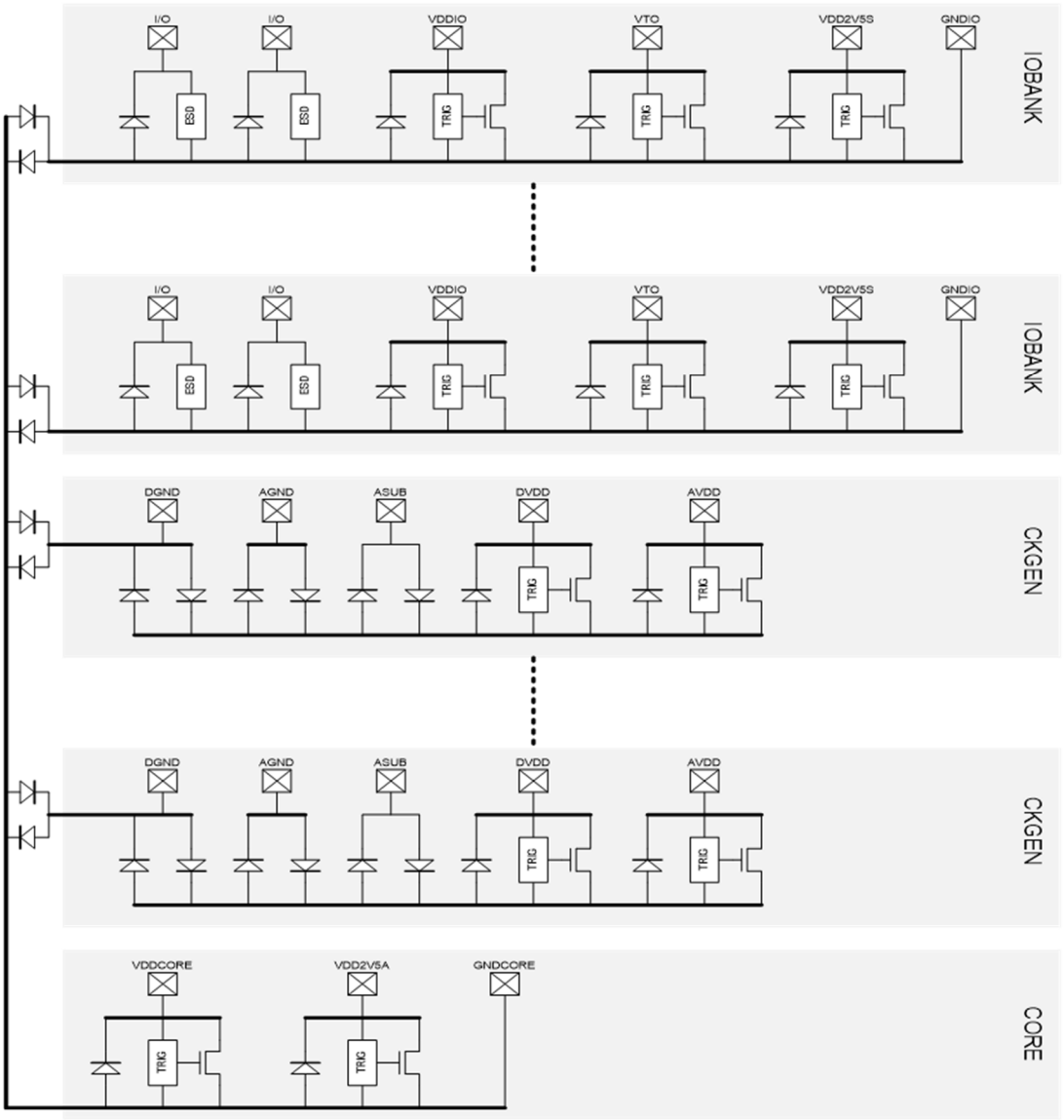
READ/WRITE TIMING



NOTES:

1. Memory Read Cycle: When the memory is enabled in a memory read cycle (CSx = 1 and WEx = 0), the address is stored on the rising memory clock (CLKMEMx) edge, and data appears at the output bus after the access time. Optional output pipeline registers are available in all memory configurations. These registers are clocked by CLKREGx signals, which may be different from the main memory clock signals CLKMEMx. The memory pipeline register may be forced to zero by asserting the synchronous RSTx signal. Both memory clocks and register clocks may have individually configured polarity. The presence of output pipeline registers is determined independently for each port.
2. Memory Write Cycle: When the memory is enabled in a memory write cycle (ENBx = 1 and WEx = 1), the address is stored and data is written to the memory on the rising edge of the memory clock (CLKMEMx). During a write access DOUT maintains the output previously generated by a read operation.
3. Simultaneous write by both ports of a same memory location or simultaneous read/write are not allowed.

1.11 I/O PROTECTION NETWORK



2 REQUIREMENTS

2.1 GENERAL

The complete requirements for procurement of the components specified herein are as stated in this specification and the ESCC Generic Specification. Permitted deviations from the Generic Specification, applicable to this specification only, are listed below.

Permitted deviations from the Generic Specification and this Detail Specification, formally agreed with specific Manufacturers on the basis that the alternative requirements are equivalent to the ESCC requirement and do not affect the component's reliability, are listed in the appendices attached to this specification.

2.1.1 Deviations from the Generic Specification

2.1.1.1 Deviations from Production Control for Packaged Components – Chart F2A

Total Dose Radiation Annealing shall not be performed.

2.1.1.2 Deviations from Screening Tests – Chart F3

High Temperature Reverse Bias Burn-in shall not be performed.

2.2 MARKING

The marking shall be in accordance with the requirements of ESCC Basic Specification No. 21700 and as follows.

As a minimum the information to be marked on the component shall be:

(a) The ESCC qualified components symbol (for ESCC qualified components only).
(b) The ESCC Component Number (see Para. 1.4.1).
(c) Traceability information.

2.3 ELECTRICAL MEASUREMENTS AT ROOM, HIGH AND LOW TEMPERATURES

Electrical measurements shall be performed at room, high and low temperatures.

2.3.1 Room Temperature Electrical Measurements

The measurements shall be performed at T_{amb} = +22 ±3 °C.

Characteristics	Symbols	Test Conditions	Limits		Units
			Min	Max	
Cold Sparing, Bank	I_{CSS}	V_{DD} = 0V	-	10	µA
Cold Sparing, SpaceWire	I_{CSC}	V_{DD} = 0V	-	100	µA
Supply Current Static Reset Consumption 1	$I_{DD(VDDCORE)}$		-	800	mA
Supply Current Static Reset Consumption 2	$I_{DD(CG\_VDD2V5)}$		-	800	mA
Supply Current Static Reset Consumption 3	$I_{DD(VDDS)}$		-	800	mA

Characteristics	Symbols	Test Conditions	Limits		Units
			Min	Max	
Supply Current Static Reset Consumption 4	$I_{DD(VDDD)}$		-	800	mA
Supply Current Static Reset Consumption 5	$I_{DD(VDDIO\_SPACEWIRE)}$		-	800	mA
Supply Current Static Reset Consumption 6	$I_{DD(VDD2V5A)}$		-	800	mA
Supply Current Static Reset Consumption 7	$I_{DD(VDDIO\_SERVICE)}$		-	800	mA
Supply Current Static Reset Consumption 8	$I_{DD(TX\_VDDA2V5)}$		-	800	mA
Supply Current Static Reset Consumption 9	$I_{DD(VT)}$		-	800	mA
Supply Current Static Reset Consumption 10	$I_{DD(TX\_VDDA)}$		-	800	mA
Functional Test 1, VOH 3V3	-		N/A		-
Functional Test 2, VOL 3V3	-		N/A		-
Functional Test 3, VOH 2V5	-		N/A		-
Functional Test 4, VOL 2V5	-		N/A		-
Functional Test 5, VOH 1V8	-		N/A		-
Functional Test 6, VOL 1V8	-		N/A		-
Functional Test 7, ID Code	-		N/A		-
Functional Test 8, Test Group BSM	-		N/A		-
Functional Test 9, Test Group CGB	-		N/A		-
Functional Test 10, Test Group TILE	-		N/A		-
Functional Test 11, Test Group CLKGEN	-		N/A		-
Functional Test 12, Test Group TOP	-		N/A		-
Functional Test 13, Test Group SOC	-		N/A		-
Functional Test 14, Test Group PAD	-		N/A		-

2.3.2 High and Low Temperatures Electrical Measurements

The measurements shall be performed at $T_{op(max)}$ = +105 (+0 -5) °C and T_{amb} = -20 (+5 -0) °C.

The characteristics, test methods, conditions and limits shall be the same as specified in Para. 2.3.1, Room Temperature Electrical Measurements.

2.4 PARAMETER DRIFT VALUES

Unless otherwise specified the measurements shall be performed at T_{amb} = +22 ±3 °C.

The test methods and test conditions shall be as per the corresponding test defined in Para. 2.3.1, Room Temperature Electrical Measurements.

The drift values (Δ) shall not be exceeded for each characteristic specified. The corresponding absolute limit values for each characteristic shall not be exceeded.

Characteristics	Symbols	Limits			Units
		Drift Value Δ	Absolute		
			Min	Max	
Supply Current Static Reset Consumption (1 – 10)	$I_{DD(xxxx)}$	±100	-	800	mA
Cold Sparing, Bank	I_{CSS}	±0.1	-	10	µA
Cold Sparing, SpaceWire	I_{CSC}	±0.1	-	100	µA

2.5 INTERMEDIATE AND END-POINT ELECTRICAL MEASUREMENTS

Unless otherwise specified the measurements shall be performed at T_{amb} = +22 ±3 °C. Unless otherwise specified the characteristics, test methods, conditions and limits shall be the same as specified in Para. 2.3.1, Room Temperature Electrical Measurements.

2.6 POWER BURN-IN CONDITIONS

Characteristics	Symbols	Test Conditions	Units
Test Temperature	$T_{op(max)}$	+105 (+0 -5)	°C
Analog (VDDIO) Supply Voltage	V_{CC}	2.75 (+0, -0.05)	V
Digital (VDDCORE) Supply Voltage	V_{DD}	1.32 (+0 -0.05)	V
Negative Supply Voltage	V_{SS}	0	V

NOTES:

1. During Burn-in and Operating Life, the FPGA is configured and then stimuli are applied.
2. Test set-up shall be maintained within the Manufacturer's PID.

2.7 OPERATING LIFE CONDITIONS

Unless otherwise specified the conditions shall be as specified in Para. 2.6, Power Burn-in Conditions.

2.8 TOTAL DOSE RADIATION TESTING

2.8.1 Bias Conditions and Total Dose Level for Total Dose Radiation Testing

Continuous bias shall be applied during irradiation testing as specified below.

The total dose level applied shall be as specified in Para. 1.4.2 or in the Purchase Order. The Radiation Dose Rate shall be within Window 2, i.e. 36 to 360 rad(Si)/hour.

Characteristics	Symbols	Test Conditions	Units
Ambient Temperature	T_{amb}	+20 ±2	°C
VDDSENSE Output pin	$V_{DDSENSE}$	1.2 (±10%)	V
All VDD2V5A pins	V_{DD2V5A}	2.5 (+0, -0.05)	V
Unused Inputs/Outputs/Supply Voltage pins	V_{IN} / V_{OUT} / V_{DD}	Not Connected	-
Analog (VDDIO) Supply Voltage	V_{CC}	3.3 (+0, -0.05)	V
Digital (VDDCORE) Supply Voltage	V_{DD}	1.2 (+0 -0.05)	V
Negative Supply Voltage	V_{SS}	0	V

NOTES:

1. Test set-up shall be maintained within the Manufacturer's PID.

2.8.2 Electrical Measurements for Total Dose Radiation Testing

Prior to irradiation testing the devices shall have successfully met Room Temperature Electrical Measurements specified in Para. 2.3.1.

Unless otherwise specified the measurements shall be performed at T_{amb} = +25 ±2 °C.

The test methods and test conditions shall be as per the corresponding test defined in Para. 2.3.1, Room Temperature Electrical Measurements.