

SPECIFICATIONS

MT PXIe-5300

R Series for PXI Express Digital RIO with Kintex-7 160T FPGA

This document contains the specifications for MT PXIe-5300. Specifications are typical at 25°C unless otherwise noted.



Caution Using the MT PXIe-5300 in a manner not described in this document may impair the protection the MT PXIe-5300 provides.

Digital I/O

Number of connectors	4
Number of channels per connector	32
Maximum frequency	80 MHz
Compatibility	LVTTL,LVCMOS
Logic family	Hardware-selectable
Default software setting	3.3V

Table 1. Digital Input Logic Levels

Logic Family	Input Low Voltage(V _{IL}) Max	Input High Voltage(V _{IH}) Max
1.2 V	0.42 V	0.84 V
1.5 V	0.51 V	1.01 V
1.8 V	0.61 V	1.21 V
2.5 V	0.70 V	1.60 V
3.3 V	0.80 V	2.00 V

Minimum input	-0.3 V
Maximum input	3.6V
Input leakage current	± 15uA maximum
Input impedance	50kΩ typical, pull-down

Table 2. Digital Output Logic Levels

Logic Family	Current	Output Low Voltage(VoL) Max	Output High Voltage(VoH) Max
1.2 V	100 uA	0.20 V	1.00 V
1.5 V	100 uA	0.20 V	1.25 V
1.8 V	100 uA	0.20 V	1.54 V
2.5 V	100 uA	0.20 V	2.22 V
3.3 V	100 uA	0.20 V	3.00 V
	4 mA	0.40 V	2.40 V

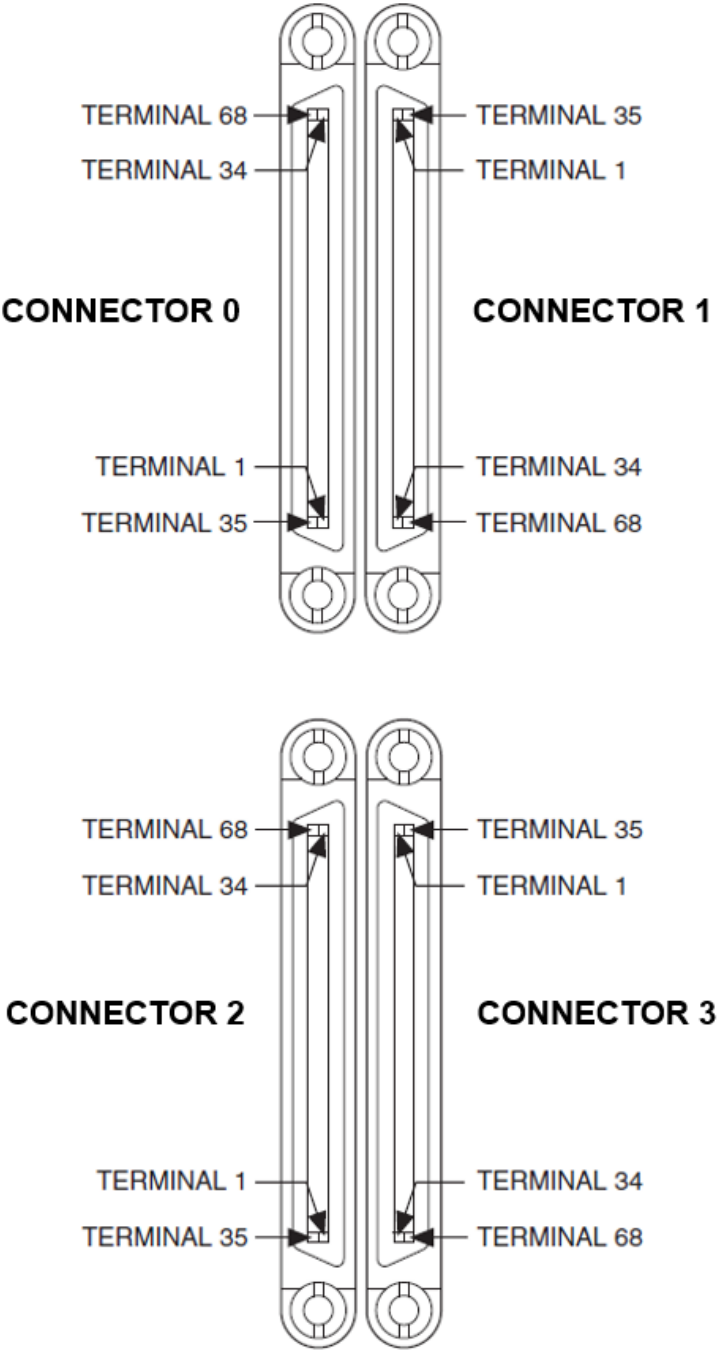
Maximum DC output current per channel

Source	4.0 mA
Sink	4.0 mA
Output impedance	50 Ω
Direction control of digital I/O channels	Per Channel
Minimum I/O pulse width	6.25 ns
Minimum sampling period	5 ns
Digital I/O voltage selection	Programmable, all connectors

Reconfigurable FPGA

FPGA type	Kintex-7 160T
Number of flip-flops	202,800
Number of LUTs	101,400
Embedded Block RAM	11,700 kbits
Number of DSP48 slices	600

Pinout



CONNECTOR 0

DGND	68	34	DGND
NC	67	33	DGND
DGND	66	32	DGND
DIO0	65	31	DIO1
DGND	64	30	DGND
DIO2	63	29	DIO3
DGND	62	28	DGND
DIO4	61	27	DIO5
DGND	60	26	DGND
DIO6	59	25	DIO7
DGND	58	24	DGND
DIO8	57	23	DIO9
DGND	56	22	DGND
DIO10	55	21	DIO11
DGND	54	20	DGND
DIO12	53	19	DIO13
DGND	52	18	DGND
DIO14	51	17	DIO15
DGND	50	16	DGND
DIO16	49	15	DIO17
DGND	48	14	DGND
DIO18	47	13	DIO19
DGND	46	12	DGND
DIO20	45	11	DIO21
DGND	44	10	DGND
DIO22	43	9	DIO23
DGND	42	8	DGND
DIO24	41	7	DIO25
DGND	40	6	DGND
DIO26	39	5	DIO27
DGND	38	4	DGND
DIO28	37	3	DIO29
DGND	36	2	DGND
DIO30	35	1	DIO31

CONNECTOR 1

DGND	68	34	DGND
NC	67	33	DGND
DGND	66	32	DGND
DIO0	65	31	DIO1
DGND	64	30	DGND
DIO2	63	29	DIO3
DGND	62	28	DGND
DIO4	61	27	DIO5
DGND	60	26	DGND
DIO6	59	25	DIO7
DGND	58	24	DGND
DIO8	57	23	DIO9
DGND	56	22	DGND
DIO10	55	21	DIO11
DGND	54	20	DGND
DIO12	53	19	DIO13
DGND	52	18	DGND
DIO14	51	17	DIO15
DGND	50	16	DGND
DIO16	49	15	DIO17
DGND	48	14	DGND
DIO18	47	13	DIO19
DGND	46	12	DGND
DIO20	45	11	DIO21
DGND	44	10	DGND
DIO22	43	9	DIO23
DGND	42	8	DGND
DIO24	41	7	DIO25
DGND	40	6	DGND
DIO26	39	5	DIO27
DGND	38	4	DGND
DIO28	37	3	DIO29
DGND	36	2	DGND
DIO30	35	1	DIO31

CONNECTOR 2

DGND	68	34	DGND
NC	67	33	DGND
DGND	66	32	DGND
DIO0	65	31	DIO1
DGND	64	30	DGND
DIO2	63	29	DIO3
DGND	62	28	DGND
DIO4	61	27	DIO5
DGND	60	26	DGND
DIO6	59	25	DIO7
DGND	58	24	DGND
DIO8	57	23	DIO9
DGND	56	22	DGND
DIO10	55	21	DIO11
DGND	54	20	DGND
DIO12	53	19	DIO13
DGND	52	18	DGND
DIO14	51	17	DIO15
DGND	50	16	DGND
DIO16	49	15	DIO17
DGND	48	14	DGND
DIO18	47	13	DIO19
DGND	46	12	DGND
DIO20	45	11	DIO21
DGND	44	10	DGND
DIO22	43	9	DIO23
DGND	42	8	DGND
DIO24	41	7	DIO25
DGND	40	6	DGND
DIO26	39	5	DIO27
DGND	38	4	DGND
DIO28	37	3	DIO29
DGND	36	2	DGND
DIO30	35	1	DIO31

CONNECTOR 3

DGND	68	34	DGND
NC	67	33	DGND
DGND	66	32	DGND
DIO0	65	31	DIO1
DGND	64	30	DGND
DIO2	63	29	DIO3
DGND	62	28	DGND
DIO4	61	27	DIO5
DGND	60	26	DGND
DIO6	59	25	DIO7
DGND	58	24	DGND
DIO8	57	23	DIO9
DGND	56	22	DGND
DIO10	55	21	DIO11
DGND	54	20	DGND
DIO12	53	19	DIO13
DGND	52	18	DGND
DIO14	51	17	DIO15
DGND	50	16	DGND
DIO16	49	15	DIO17
DGND	48	14	DGND
DIO18	47	13	DIO19
DGND	46	12	DGND
DIO20	45	11	DIO21
DGND	44	10	DGND
DIO22	43	9	DIO23
DGND	42	8	DGND
DIO24	41	7	DIO25
DGND	40	6	DGND
DIO26	39	5	DIO27
DGND	38	4	DGND
DIO28	37	3	DIO29
DGND	36	2	DGND
DIO30	35	1	DIO31

Maximum Power Requirements

Power requirements are dependent on the digital output loads and configuration of the LabVIEW FPGA VI used in your application.

+3.3 V 3 A

+12 V 2 A

Safety Voltages

This product is designed to meet the requirements of the following electrical equipment safety standards for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA C22.2 No. 61010-1

CE Compliance

This product meets the essential requirements of applicable European Directives, as follows:

- 2014/35/EU; Low-Voltage Directive (safety)
- 2014/30/EU; Electromagnetic Compatibility Directive (EMC)
- 2014/34/EU; Potentially Explosive Atmospheres (ATEX)

Shock and Vibration

To meet these specifications, you must panel mount the system.

Operating vibration

Random (IEC 60068-2-64)	5 g _{rms} , 10 Hz to 500 Hz
Sinusoidal (IEC 60068-2-6)	5 g, 10 Hz to 500 Hz
Operating shock (IEC 60068-2-27)	30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations

Environmental

Refer to the manual for the chassis you are using for more information about meeting these specifications.

Operating temperature (IEC 60068-2-1, IEC 60068-2-2)	-40 °C to 70 °C
Storage temperature (IEC 60068-2-1, IEC 60068-2-2)	-40 °C to 85 °C
Ingress protection	IP40
Operating humidity (IEC 60068-2-78)	10% RH to 90% RH, noncondensing Storage
humidity (IEC 60068-2-78)	5% RH to 95% RH, noncondensing Pollution
Degree	2
Maximum altitude	4,000 m

Indoor use only.