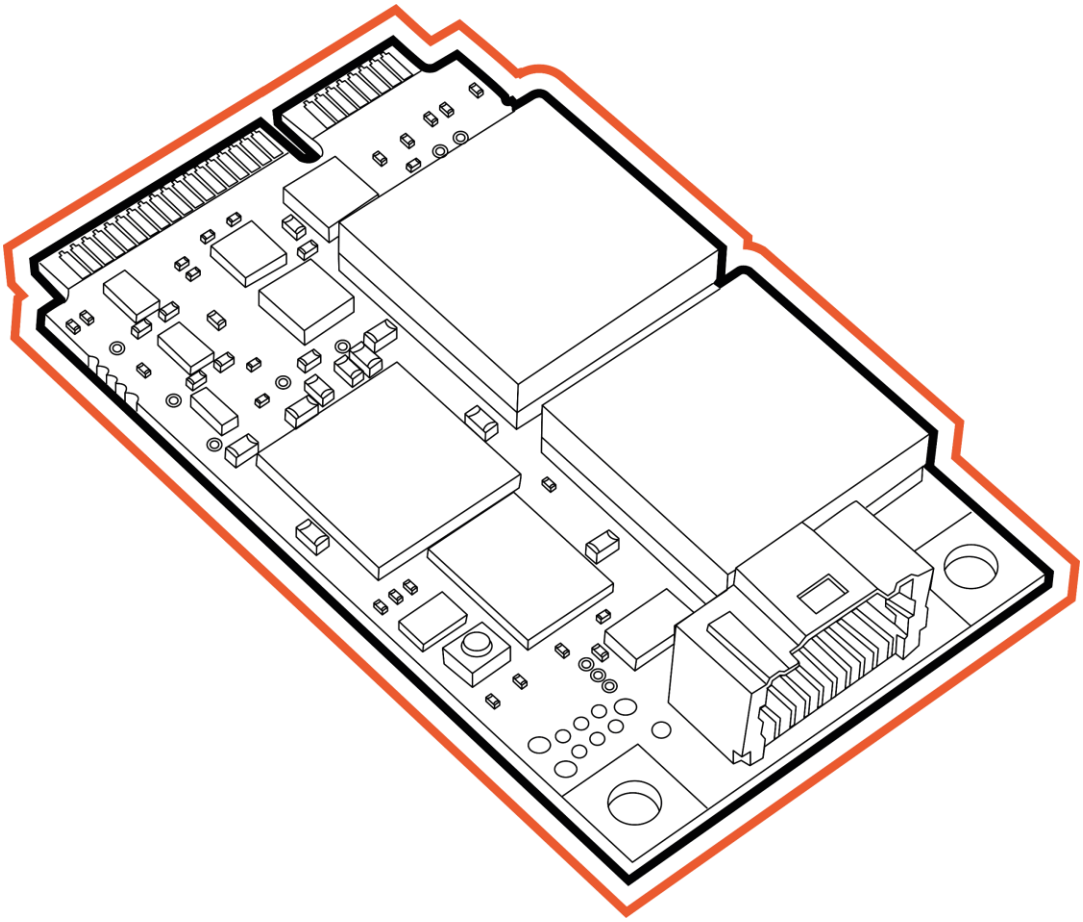
DE150100 DATASHEET

MPCIe MIL-STD-1553 MODULE 2CH



DEICO

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DESCRIPTION

DE150100 MPCIe MIL-STD-1553 Module 2Ch is a full-size PCI express mini card. DE150100 supports 2-channel transformer-coupled dual-redundant MIL-STD-1553B interface. It is suitable for embedded and portable systems. DE150100 supports bus controller, remote terminal, and bus monitoring operating modes.

Key Features

- ⇨ 2-channel transformer-coupled dual-redundant MIL-STD-1553B interface
- ⇨ Bus controller / remote terminal / bus monitor operating modes
- ⇨ 2 remote terminal per channel
- ⇨ BC external trigger/SS flag
- ⇨ Comprehensive built-in self tests
- ⇨ PCI Express Mini Card Electromechanical Specification rev.1.2
- ⇨ Maximum power consumption of 4W
- ⇨ Driver and test software support for Windows, Linux and VxWorks
- ⇨ MIL-STD-810G environmental requirements compliant
- ⇨ Lockable connector for MIL-STD-1553B
- ⇨ Suitable for embedded and portable systems

HARDWARE OVERVIEW

Hardware Specifications

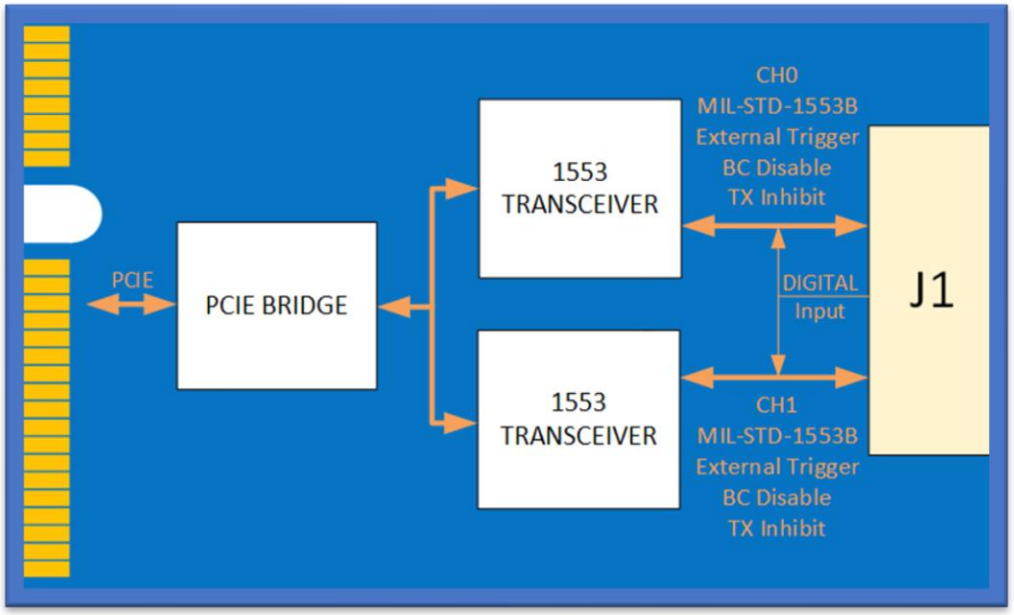
DE150100 is compliant with PCI Express Mini Card Electromechanical Specification rev.1.2 featuring full-size card dimensions but not meeting the height requirement. While the specification allows a maximum component height of 2.4 mm, the components on the DE150100 have a height of 8.63 mm.

Caution ESD can damage electronic components without adequate protection and may cause permanent damage to the device.

Caution DE150100 does not support hot-plug therefore do not insert or remove the device when motherboard power is on.

Block Diagram

Block diagram of DE150100 MPCIe MIL-STD-1553 Module 2Ch is shown below.

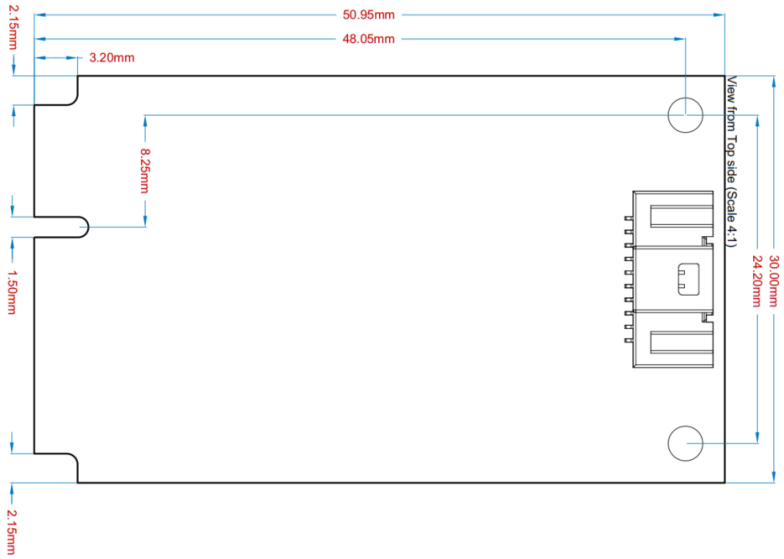


Block Diagram of DE150100

Electrical

Parameter	Symbol	Min	Typical	Max	Unit
Power Supply Requirements					
Operating voltage 3.3V	+3.3V	3.135	3.3	3.465	V
Power supply current 3.3V	+3.3V				
Idle		TBD	TBD	TBD	mA
100% transmitter duty cycle		TBD	TBD	TBD	mA
Digital Inputs					
Input voltage high	V_{IH}	2	—	—	V
Input voltage low	V_{IL}	—	—	0.8	V
Receiver					
Input resistance (Differential)	R_{IN}	20	—	—	kΩ
Input capacitance (Differential)	C_{IN}	—	—	5	pF
Input level (Differential)	V_{IN}	—	—	9	V_{P-P}
Input common mode voltage	V_{ICM}	-10	—	10	V_{-pk}
Transmitter					
Output voltage (Direct coupled, 35Ω load)	V_{OUT}	6.6	—	9	V_{P-P}
Output voltage (Transformer coupled, 70Ω load)	V_{OUT}	20	—	27	V_{P-P}
Output resistance	R_{OUT}	10	—	—	kΩ
Output capacitance	C_{OUT}	—	—	15	pF

Physical



Board Dimensions of DE150100

Environmental

Parameter	Condition	Value
Operating humidity	Relative, non-condensing	10% - 90%
Storage humidity	Relative, non-condensing	5% - 95%
Operating temperature	—	-40°C - 85°C
Storage temperature	—	-55°C - 105°C

SIGNAL CONNECTIONS

PCIe Mini Card System Connector Pinout

Pin	Name	Pin	Name
1	WAKE#	2	+3.3V
3	COEX1 (NC)	4	GND
5	COEX2 (NC)	6	+1.5V (NC)
7	CLKREQ#	8	UIM_PWR (NC)
9	GND	10	UIM_DATA (NC)
11	REFCLK_N	12	UIM_CLK (NC)
13	REFCLK_P	14	UIM_RESET (NC)
15	GND	16	UIM_VPP (NC)
17	RESERVED	18	GND
19	RESERVED	20	W_DISABLE# (NC)
21	GND	22	PERST#

23	PER0_N	24	+3.3V
25	PER0_P	26	GND
27	GND	28	+1.5V (NC)
29	GND	30	SMB_CLK
31	PET0_N	32	SMB_DATA
33	PET0_P	34	GND
35	GND	36	USB_D_N (NC)
37	GND	38	USB_D_P (NC)
39	+3.3V	40	GND
41	+3.3V	42	LED_WWAN# (NC)
43	GND	44	LED_WLAN# (NC)
45	RESERVED	46	LED_WPAN# (NC)
47	RESERVED	48	+1.5V (NC)
49	RESERVED	50	GND
51	RESERVED	52	+3.3V

J1 Connector Pinout

Pin	Name	Pin	Name
1	CH0_BUSA_P	2	CH0_BUSB_P
3	CH0_BUSA_N	4	CH0_BUSB_N
5	GND	6	GND
7	CH1_BUSA_P	8	CH1_BUSB_P
9	CH1_BUSA_N	10	CH1_BUSB_N
11	GND	12	GND
13	TRIG_SS_CH0	14	TRIG_SS_CH1
15	BC_DIS_CH0	16	BC_DIS_CH1
17	TX_INH_CH0	18	TX_INH_CH1
19	DIGITAL_IN	20	GND

Connector Product Numbers

Connector	Product Number	MFG
J1 connector	2035662007	Molex
J1 mating connector	5011892010	Molex
J1 mating connector pin	5011937000	Molex

J1 Connector

Contact

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