PMC-HPDI32B-COS

32 Bit Change of State Board
With RS422/RS485 Transceivers

The PMC-HPDI32B-COS is a 32-bit parallel Change of State Detection board featuring high speed RS485 interface transceivers. The Change of State detection is can be customized to ignore specific bits and to provide an interrupt after a specified number of change of state events have occurred. The board will also function as a simple Logic Analyzer with a configurable trigger value and mask. The sample rate for both Change of State and Logic Analyzer is programmable from 20MHz down to 300Hz.

Received values are buffered in an 8K deep on-board FIFO which is easily accessed by the integrated a DMA Controller. After the DMA is initialized and started, the host CPU will be free to proceed with other duties and need to respond only to interrupts. The DMA controller is capable of transferring data to host memory using D32 transfers; whereas the FIFO memory provides a means for continuous transmission of data without interrupting the DMA or requiring intervention from the host CPU.

Features Include:

- Selectable Change-Of-State or Logic Analyzer Operation.
- Bitwise Programmable Mask for COS Detection and Logic Analyzer Trigger
- 20 MHz Base Sample rate with Programmable Clock Divider.
- Programmable Event Counter for Change of State Events.
- Programmable Logic Analyzer Trigger
- Output Data Port that can be driven onto the cable on byte wide boundaries.
- A variety of device drivers are available, including VxWorks, Windows, and Linux.

General Standards Corporation
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Power Requirements (@25° C):

- +5.0 VDC at 1.5 Amps Max (typical 1.2 Amps)
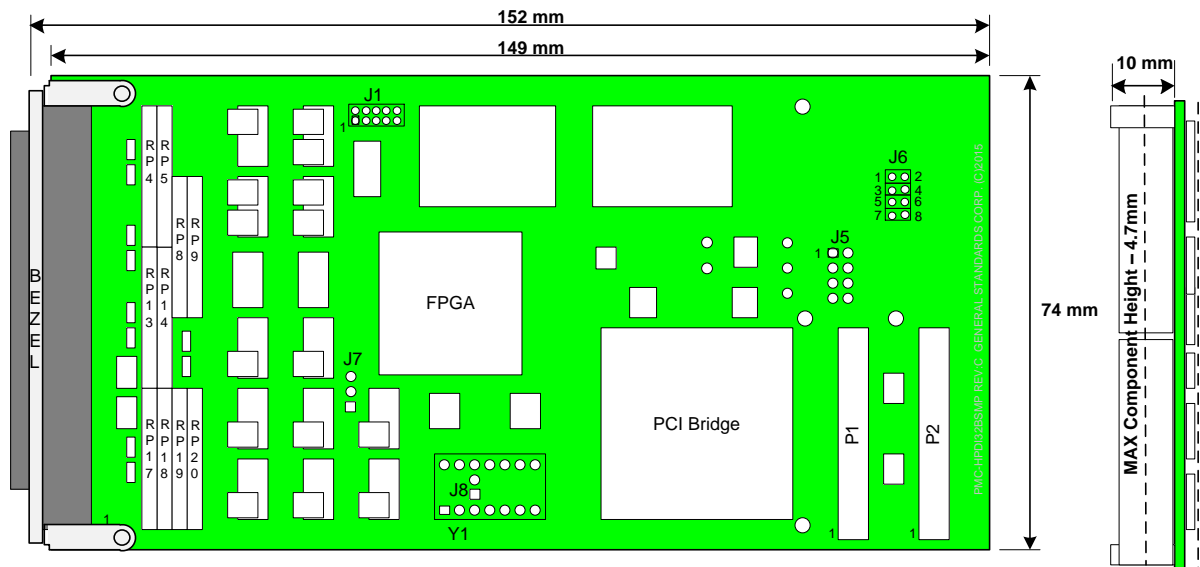- Typical Total Power Dissipation: ~6W

PMC Compatibility:

- Conforms to PCI Specification 2.1, with D32 read/write transactions.
- Supports "plug-n-play" initialization.
- Single multifunction interrupt
- Supports DMA transfers as bus master.

Physical Characteristics:

Conforms to PMC Specification
- Length: 149.00 mm (5.866")
- Width: 74.0 mm (2.913")
- Height: 10 mm (0.394")

Environmental Specifications:

Ambient Temperature Range:	Operating:	0° to +70° C (Commercial Option)
		-40° to +85° C (Industrial Option)
	Storage:	-40° to +85° C
Relative Humidity:	Operating:	0 to 80%, non-condensing
	Storage:	0 to 95%, non-condensing
Altitude:	Operation to 10,000 ft	

Cooling Requirements:

Conventional air-cooling, 200 LPFM

Ordering Information:

PMC-HPDI32B-COS - <Temperature>

| Option	Valid Selections	Description
Temperature	<blank>	0°C to +70°C – Commercial (Standard)
	I	-40°C to +85°C – Industrial

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High Performance Bus Interface Solutions

System I/O Connections:

User I/O Connector:	80 pin IO connector (female)
Part Number:	Robinson Nugent P50E-080-P1-SR1-TG
Mating Connector:	Robinson Nugent P50E-080-S-TG (50 mil twisted pair)
	Robinson Nugent P25E-080-S-TG (25 mil non-twisted pair)

Pin 40   Pin 1

Pin 80   Pin 41

PCB
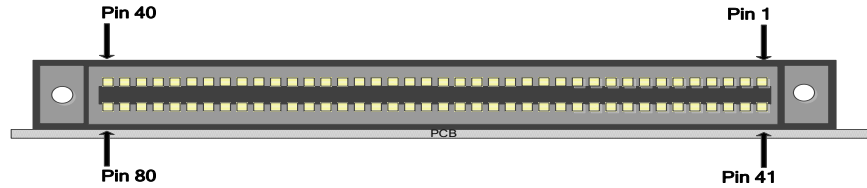
Pin #	Signal Name	Pin #	Signal Name
1	Unused	41	D12p
2	Unused	42	D12n
3	CMD0p	43	D13p
4	CMD0n	44	D13n
5	CMD1p	45	D14p
6	CMD1n	46	D14n
7	CMD2p	47	D15p
8	CMD2n	48	D15n
9	CMD3p	49	D16p
10	CMD3n	50	D16n
11	CMD4p	51	D17p
12	CMD4n	52	D17n
13	TX_ENABLEp	53	D18p
14	TX_ENABLEn	54	D18n
15	RX_ENABLEp	55	D19p
16	RX_ENABLEn	56	D19n
17	D0p	57	D20p
18	D0n	58	D20n
19	D1p	59	D21p
20	D1n	60	D21n
21	D2p	61	D22p
22	D2n	62	D22n
23	D3p	63	D23p
24	D3n	64	D23n
25	D4p	65	D24p
26	D4n	66	D24n
27	D5p	67	D25p
28	D5n	68	D25n
29	D6p	69	D26p
30	D6n	70	D26n
31	D7p	71	D27p
32	D7n	72	D27n
33	D8p	73	D28p
34	D8n	74	D28n
35	D9p	75	D29p
36	D9n	76	D29n
37	D10p	77	D30p
38	D10n	78	D30n
39	D11p	79	D31p
40	D11n	80	D31n

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