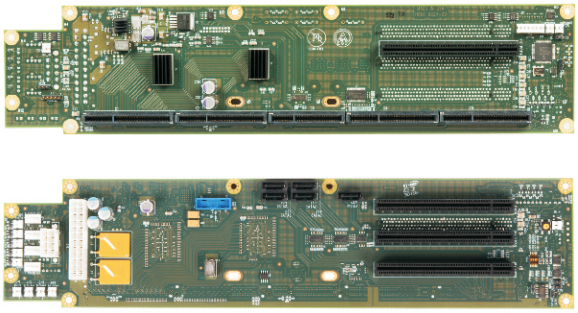
HDB8227

HDEC® Series 2U BUTTERFLY FORMAT BACKPLANE



FEATURES

- 2U Butterfly format backplane supports one HDEC® system host board
- Switchless backplane design lowers data latency and overall system cost
- Ideal for dual-processor Trenton HEP8225 HDEC Series system host boards
- Direct PCI Express GEN3 links to the SHB's processors from each plug-in option card slot maximizes data throughput speeds
- Supports industry standard PCI Express® 3.0, 2.0 and 1.1 option cards
- Four x16 PCI Express mechanical card slots
- PCIe GEN3 card slot electrical configuration: four x16
- Two USB 3.0 and five SATA/600 system I/O connections
- Built-in system fan control maximizes system longevity
- Five-year factory warranty
- Made in U. S. A.

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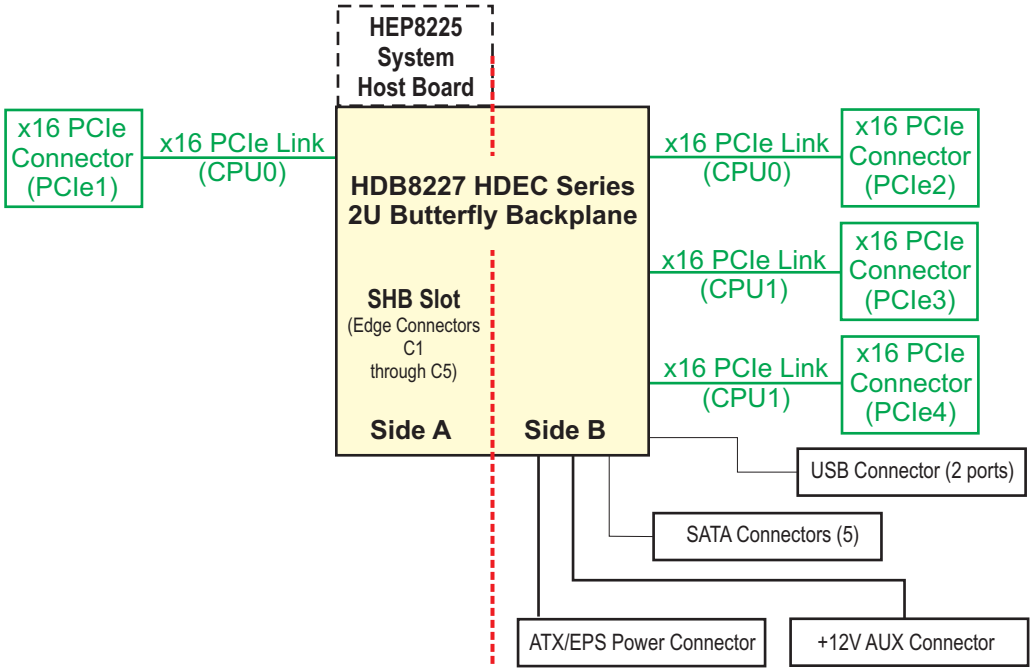
BLOCK DIAGRAM:



HDEC SERIES 2U BUTTERFLY BACKPLANE:

The HDB8227 is a 2U butterfly form factor midsize backplane compatible with HDEC Series system host boards such as the Trenton Systems' HEP8225. The HDB8227 utilizes sixty-four (64) of the eighty (80) available native PCI Express GEN3 links from the HEP8225 SHB to provide direct interface support for up to four (4) x16 PCIe 3.0 standard plug-in cards. The HDEC Series PCI Express link architecture enables a completely switchless backplane design that virtually eliminates data latency between the system's PCIe option cards and the host processors on the system host board. Automatic PCIe link negotiation is fully supported enabling system support for a wide variety of plug-in PCI Express cards including GPUs. The HDB8227 backplane has an ATX/EPS and a 12V AUX vertical power connector to meet system power demands.

APPLICATION EXAMPLES:

The butterfly form factor mechanical design of the HDB8227 enables this HDEC Series backplane to drop into virtually any standard 2U rackmount computer chassis. Expanded system I/O connections are supported by the backplane in conjunction with a compatible HDEC Series SHB like Trenton's HEP8225. The placement of the SHB slot on the backplane and the deployment of various system I/O connectors enables simplified system cabling. The ability of the backplane to automatically support either PCI Express 3.0, 2.0 or 1.1 cards builds an element of scalability into any system design. The backplane enhances system design flexibility by supporting the many different types of standard, plug-in PCI Express option cards used in medical diagnostics, military/aerospace, video wall controllers and communication systems.

HDEC SERIES BACKPLANE MODEL: HDB8227

MODEL#	MODEL NAME	DESCRIPTION
8227-038	HDB8227-CST	HDEC Series SHB compatible backplane with one ATX/EPS, and one +12V AUX vertical power connector

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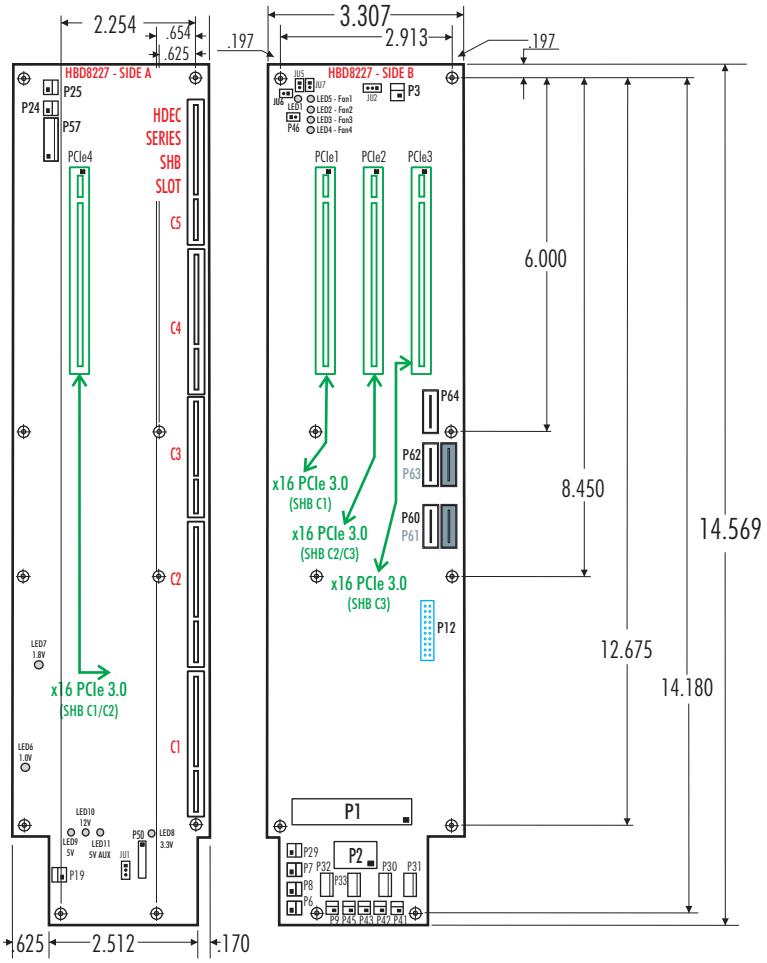
HDB8227 BACKPLANE LAYOUT & MOUNTING HOLE PATTERN DIMENSIONS:



SUGGESTED TRENTON HDEC SERIES SHB:

DUAL PROCESSOR SYSTEM HOST BOARD: HEP8225

ENVIRONMENTAL SPECS.:#

Operating Temp.: 0° C to 60° C
Storage Temp.: -40° C to 70° C
Humidity: 5% to 90%, non-condensing

#Environmental specifications for system host boards / single board computers are usually lower than those of the backplane. Check with your SHB/SBC vendor.

The Trenton HDB8227 is a lead-free, RoHS compliant backplane.

This backplane is designed to meet worldwide EMI emissions requirements, CE conformity and immunity standards. Contact Trenton for the specific standard numbers this product.

The Trenton HDB8227 backplane is designed for UL60950 and CAN/CSA C22.2 No. 60950-00.

ENGINEERING NOTES:

1. The power connectors are shown in the layout drawing represents backplane model number 8227-038.
2. Mounting holes: 0.156" diameter
3. Nominal PCB thickness: 0.062"
4. All dimensions are inches.
5. The PCI Express 3.0 links on this HDEC Series backplane are driven directly from the HDEC Series system host board. PCIe 3.0 link re-timers are used to ensure single integrity between the SHB and each plug-in PCIe option card.
6. PCIe electrical interface key for the option card slots:
   Green = Slot driven with a x16 PCIe 3.0 link from the HEP8225 SHB

SYSTEM I/O CONNECTIONS AVAILABLE ON THE HDB8227 HDEC SERIES BACKPLANE:

The HDB8227 supports many of the system I/O interfaces brought down to the backplane via the edge card fingers on the HDEC Series system host board. Use the following backplane connectors to ensure the most efficient system I/O wiring possible for the 2U rackmount computer systems.

HDB8227 Connector	Function	HDB8227 Connector	Function
P1	ATX/EPS power inputs from system supply	P12	USB3.0 header for Port0/Port1front panel interfaces
P2	+12V AUX power inputs from system supply	P24 - P25	System temperature sensor interfaces
P30 - P33	System fan connectors (4)	P60 - P64	SATA/600 interfaces for HDD/SDDs (5)

ADDITIONAL SYSTEM INTERFACE CONNECTIONS, JUMPERS and LEDS:

There are a number of additional connectors, jumpers, and LEDs available on the HDB8228 that are designed to simplify cable routing in an embedded computer system and aid in system operation.

Connector	Function
P6	PSON
P8	RESET
P9	PWRGD
P7	PWRBTN
P29	Clear CMOS
P41	Fan Alarm LED
P42	TEMP Alarm
P43	Voltage Alarm
P44	HDD_LED
P46	3.3V AUX Slot EN

Jumper	Function
JU5	Fan Ctrl Enable
JU6	Four-wire FANs
JU7	SHB Fan Control

LEDs	Function
1	SHB Present
2 - 5	Sys. Fans.
6	1v Pwr. Reg. Gd.
7	1.8v Pwr. Reg. Gd.
8	+3.3V Supply
9	+5V Supply
10	+12V Supply
11	+5V AUX

Product Photo Note: The photo of the HDB8227 backplane is a provided for illustrative purposes only. Actual connector and mounting locations are illustrated in the backplane layout drawing.

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