

**TRENTON  
SYSTEMS**  
Rugged Computers

**HDB8236  
Backplane**

## HDEC SERIES SMALL FORMAT BACKPLANE

### Host Four Separate Processor Boards In A 5U Chassis

#### Enhance System Design Flexibility

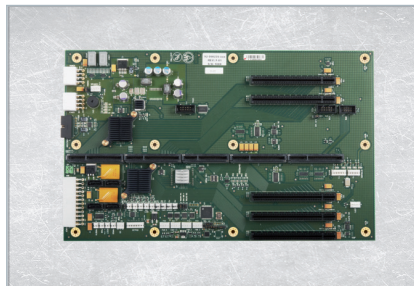
HDEC Series small format backplane supports one dual-processor HDEC Series SHB and up to five PCI Express option cards. Ideal for short-depth 5U chassis where you can fit two of these backplanes into the chassis. Also consider putting two of these backplanes into the THS4095 chassis which is a 4U, 26" depth chassis with a front mount power supply.

### PRODUCT DETAILS



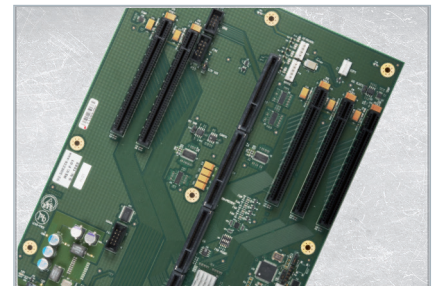
#### I/O CONNECTIONS

4-SATA 600, 2-USB3, 1-serial port,  
1-PS/2 mouse, 1-PS/2 keyboard,  
and 4 fan headers with fan speed



#### PCI EXPRESS 3.0

80 Lanes of PCIe 3.0 provided by the  
HDEC Series system host board



#### OPTION CARD SLOTS

The HDB8236 backplane four x16 &  
one x8 PCIe 3.0 option card slots.



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**Model Number**

HDB8236

**Form Factor**

HDEC Series small form factor backplane supports one dual-processor HDEC Series SHB and up five PCI Express option cards. All card slots are designed for the Gen3 PCIe electrical interface and are equipped with x16 PCIe mechanical connectors. Four of the card slots are driven with Gen3 PCI Express x16 electrical interfaces and the remaining slot supports a x8 PCIe electrical interface.

**Mechanical**

The nominal backplane thickness is 0.080"; however, the backplane mounting holes are recessed 0.018" on the bottom to provide an effective PCB thickness of 0.062" for use in the chassis design process.

**Size**

7.9"(201mm) x 12.9"(328mm) - large format

**Configuration**

Four x16 PCI Express and one x8 PCIe (all x16 mechanical) slots, and all card slots are PCIe Gen3 capable.

- **Note 1:** All backplane slots are driven with native PCIe 3.0 links direct from the two processors on a compatible, dual-processor HDEC Series system host board such as Trenton's HEP8225.
- **Note 2:** Backplane slots PCIe1, PCIe2, PCIe3 and PCIe5 are each driven with a dedicated x16 PCIe Gen3 link from one of the SHB's processors.
- **Note 3:** Backplane slot PCIe4 is driven with a dedicated x8 PCIe Gen3 link from one of the SHB's processors.
- **Note 4:** The PCIe1, PCIe3, and PCIe5 x16 PCIe interface card slots are optimum slot locations for accommodating double-wide PCIe plug-in cards such as the Tesla class of GPUs from NVIDIA.

**Card Slots**

4 – x16 PCI Express 3.0/2.0/1.1 electrical / x16 mech. connectors (card slots PCIe1, 2, 3, and 5)  
1 – x8 PCI Express 3.0/2.0/1.1 electrical / x16 mech. connector (card slots PCIe4)

**Connectors**

Available within Trenton HDEC Series system host board (HDB8236):

- 4 -SATA/600 system headers
- 1 – System fan header
- 1 – Clear CMOS header
- 1 – Alarm status headers for the FAN signals (backplane segment 2 location)
- 2 – USB3 interface system header connections
- 4 – ACPI control header (PSON, PWRBTN, RESET, PWRGD)
- 1 – I2C header allows access to all four segments

**Agency Approvals & Compliance**

Designed for UL60950 and CAN/CSA C22.2 No.60950-00, EN55022:1998 Class B, EN61000-4-2:1995, EN61000-4-3:1997, EN61000-4-4:1995, EN61000-4-5:1995, EN61000-4-6:1996, EN61000-4-11:1994

**Power Connectors**

- ATX/EPS power source – one right-angle or vertical 24-position ATX/EPS connector
- +12V AUX power source – two right-angle or vertical 8-position connectors
- Terminal block – one four-position terminal block for extended current applications

**Indicators**

- 2 – Eight segment LEDs for SHB POST code status
- 4 – System fan present LEDs
- 1 – System Host Board present LED
- 2 – Power regulator status LEDs for the 1V and 1.8V levels
- 4 – Incoming system power status LEDs for the 3.3V, 5V, 12V and 5V AUX supply levels
- +5V, +5V AUX, +12V, and +3.3V system power connection and status
- +1V, and +1.8V power regulator level and status

**Operating Temperature**

0°C to 50°C with standard cooling solution and 350LFM of continuous airflow

**Environmental**

Airflow: 350LFM continuous airflow

Storage Temp: -40° to 70°C

Humidity: 5% to 90% non-condensing

Trenton's HDB8237 is a lead free, RoHS compliant backplane.



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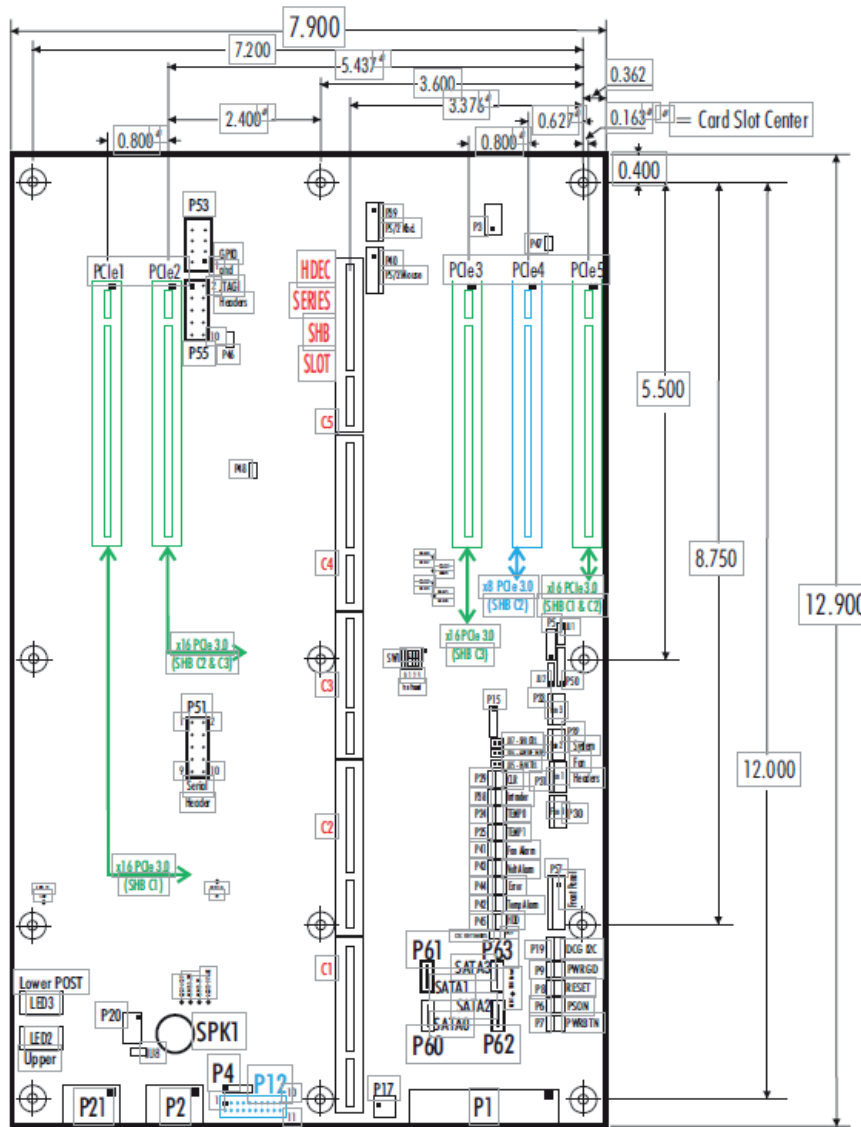
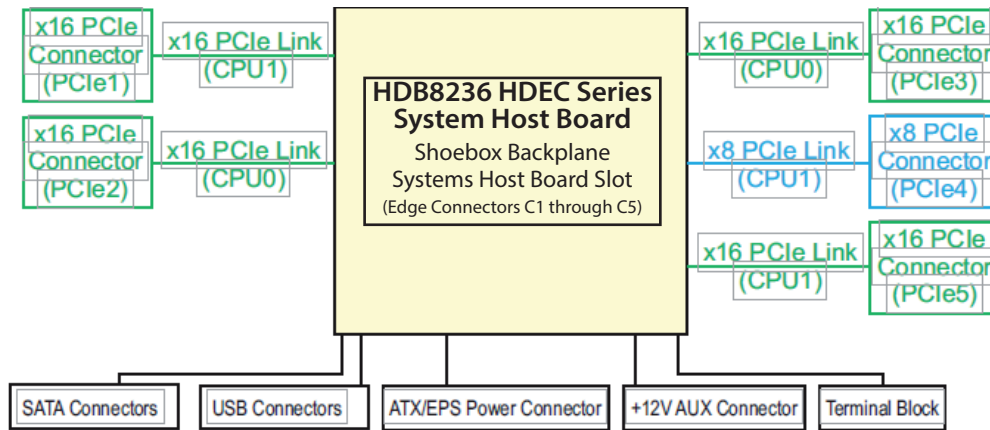
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# BLOCK DIAGRAM

# HDB8236 BACKPLANE



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