BPX6719
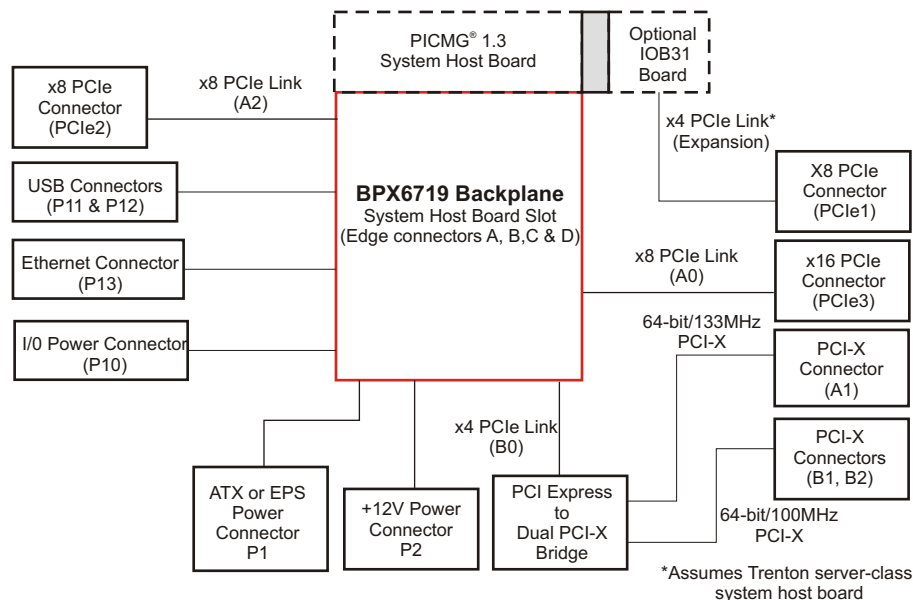## SMALL FORM FACTOR PCI EXPRESS® BACKPLANE

FEATURES

- **Small Form Factor (SFF) backplane supports one PICMG® 1.3 server-class system host board**
- **Three PCI Express® and three PCI-X option card slots**
- **PCIe card slot configurations: one PCIe x16 mechanical / x8 electrical and two PCIe x8 mechanical / x4 electrical***
- **PCI-X card slot configurations: one 64-bit/133MHz and two 64-bit/100MHz**
- **Optimized for use with Trenton high-performance PICMG 1.3 system host boards**
- **Two 10/100/1000Base-T backplane Ethernet ports****
- **Four USB 2.0 backplane I/O connections****
- **ATX/EPS, +12V AUX vertical and right-angle input power connector configuration options**
- **Five-year factory warranty**
- **Made in U. S. A.**

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BLOCK DIAGRAM:

x8 PCIe Connector (PCIe2)	x8 PCIe Link (A2)	PICMG® 1.3 System Host Board / Optional IOB31 Board
USB Connectors (P11 & P12)		BPX6719 Backplane System Host Board Slot (Edge connectors A, B,C & D)
Ethernet Connector (P13)		
I/0 Power Connector (P10)		

x4 PCIe Link* (Expansion) — X8 PCIe Connector (PCIe1)

x8 PCIe Link (A0) — x16 PCIe Connector (PCIe3)

64-bit/133MHz PCI-X — PCI-X Connector (A1)

x4 PCIe Link (B0) — PCI Express to Dual PCI-X Bridge — PCI-X Connectors (B1, B2)

64-bit/100MHz PCI-X

ATX or EPS Power Connector P1

+12V Power Connector P2

*Assumes Trenton server-class system host board

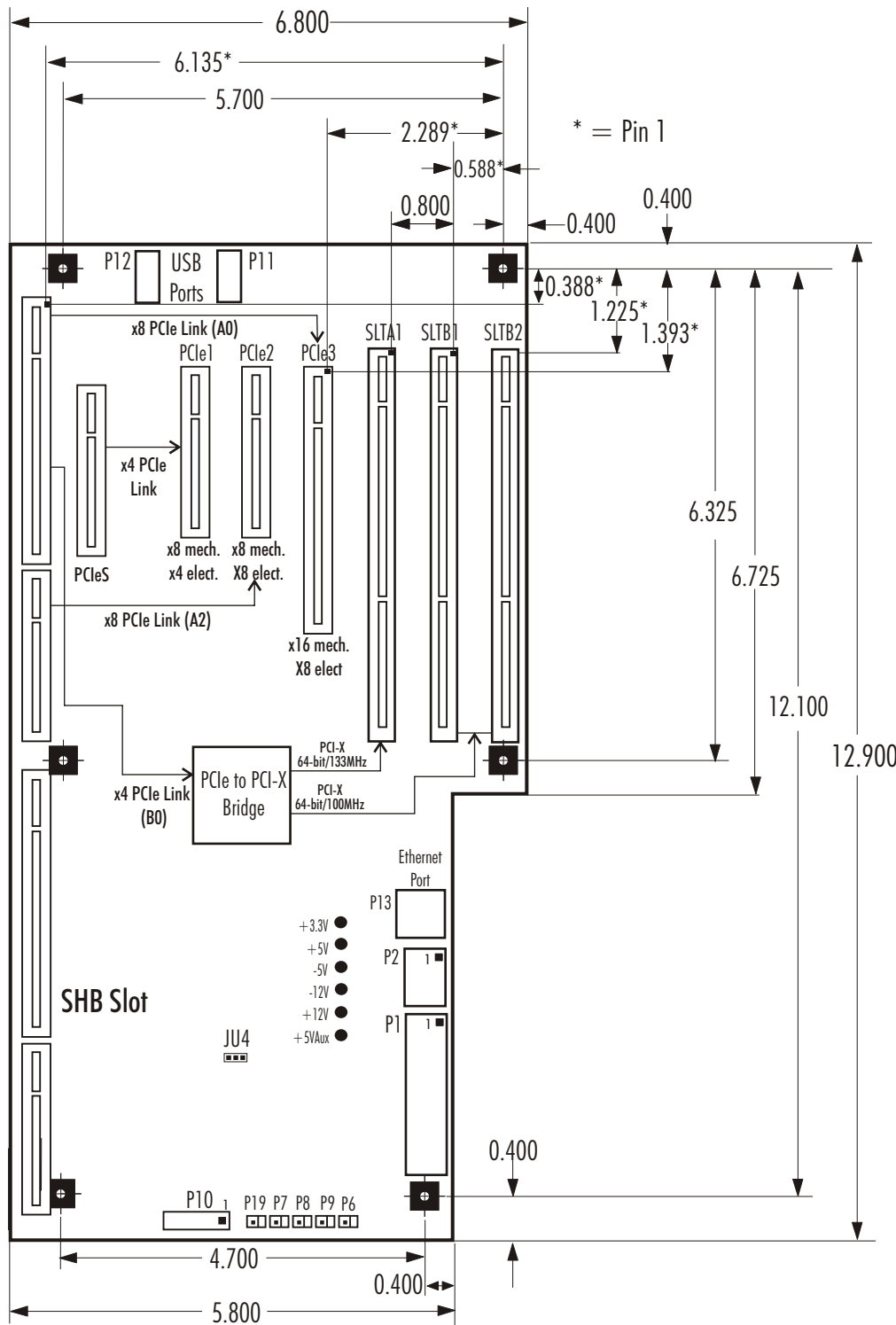### SMALL FORM FACTOR PCI EXPRESS BACKPLANE:

The PCI Express® link design of the Trenton BPX6719 backplane supports PICMG® 1.3 server-class SHBs. Card slots PCIe2 and PCIe3 are both connected directly to the SHB and driven with x8 PCIe electrical links. PCIe3 is a x16 mechanical slot and is an ideal slot for high-end PCI Express graphics cards. The PCIe1 slot is driven by a x4 electrical link delivered to the card slot via an IOB31 module installed on the SHB and both PCIe1 and PCIe2 are x8 mechanical slots. The backplane also includes one 64-bit/133MHz and two 64-bit/100MHz PCI-X card slots. The PCI-X slots are capable of supporting universal, 64 or 32-bit PCI cards.

APPLICATION EXAMPLES:

A system design that needs a small form factor backplane that can fit inside a tight location within a machine such as a medical diagnostic unit or a silicon wafer processing machine are typical applications for the Trenton BPX6719 backplane. COTS option card support for up to three PCIe and three PCI-X/PCI cards simultaneously is the ideal application scenario for the BPX6719 backplane. The backplane design offers a good blend of serial PCI Express and parallel PCI-X/PCI interconnect technology that eliminates any service interruptions caused by future technology transitions of COTS option card technology.

BACKPLANE MODEL: BPX6719

MODEL#	MODEL NAME	DESCRIPTION
6719-004	BPX6719-EPS	Vertical ATX/EPS and +12V AUX connectors
6719-007	BPX6719-CRA	Right-angle ATX/EPS and +12V AUX connectors

BPX6719 LAYOUT:

Layout dimensions and labels:

6.800
6.135*
5.700
2.289*
0.588*
0.800
0.400
0.400
0.388*
1.225*
1.393*
6.325
6.725
12.100
12.900
4.700
0.400
5.800
0.400

* = Pin 1

P12 USB Ports P11

x8 PCIe Link (A0)

PCIe1 PCIe2 PCIe3 SLTA1 SLTB1 SLTB2

x4 PCIe Link

x8 mech. x4 elect. x8 mech. X8 elect.

PCIeS

x8 PCIe Link (A2)

x16 mech. X8 elect

x4 PCIe Link (B0)

PCIe to PCI-X Bridge

PCI-X 64-bit/133MHz
PCI-X 64-bit/100MHz

Ethernet Port

P13

+3.3V
+5V
-5V
-12V
+12V
+5VAux

P2

P1

SHB Slot

JU4

P10 P19 P7 P8 P9 P6

ENVIRONMENTAL SPECIFICATIONS:#

Operating Temp.: 0° C. to 60° C
Storage Temp.: -20° 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 BPX6719 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 specific standard numbers.

The Trenton BPX6719 backplane is designed for UL60950 and CAN/CSA C22.2 No. 60950-00.

Engineering Notes:
All power connectors are shown in the layout drawings. The connectors are populated based on model.
Nominal PCB thickness: 0.062"
Connector spacing: .800" centers
To find the center of a PCI-X/PCI option card connector to the left of the reference dimension hole, add 0.150" to the pin 1 location dimension.
To find the center of a PCI Express option card connector and the SHB slot add 0.049" to the pin 1 location dimension.
Mounting holes: 0.156" diameter
All dimensions are inches.
*PCIe1 slot functionality requires an IOB31 installed on the SHB
** Optional USB and Ethernet connectivity provided by the PICMG 1.3 System Host Board. Not all SHBs support this capability.

Product Photo Note: The photo of the 6719 backplane shown on page one is a provided for illustrative purposes only. Actual connector locations are illustrated in the backplane layout drawings and on the Trenton website.

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