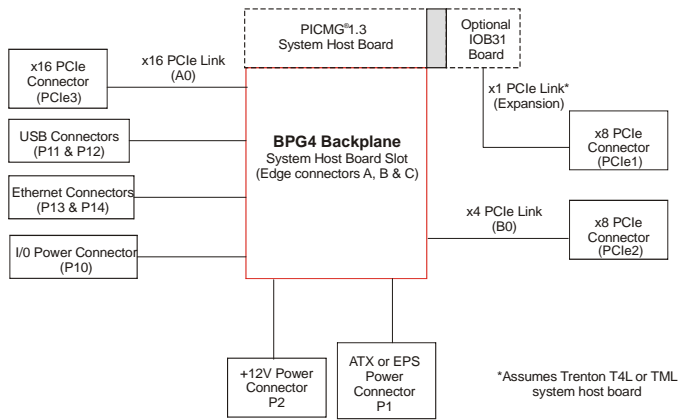




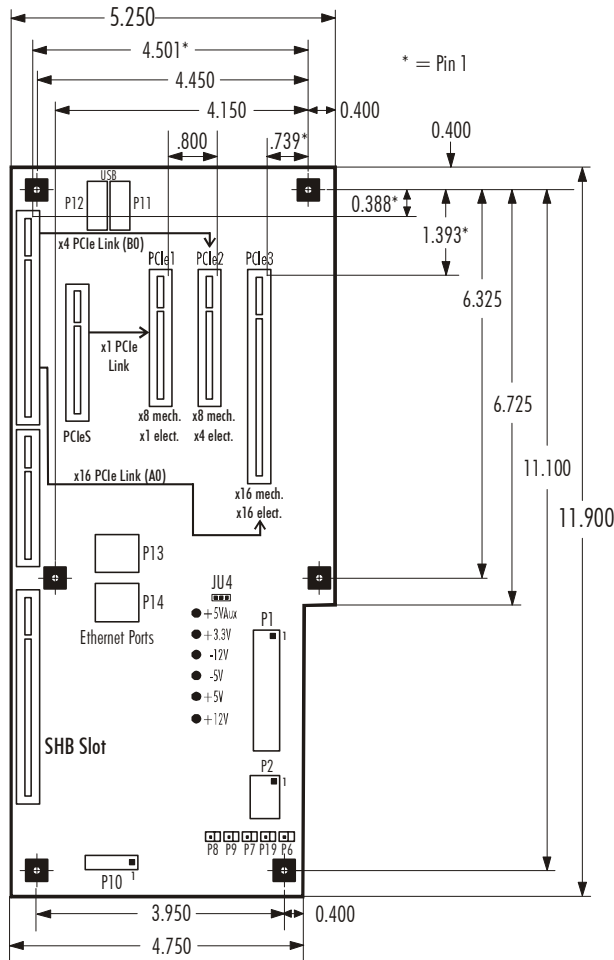
TRENTON Technology Inc.  
 2350 Centennial Drive • Gainesville, Georgia 30504  
 Sales (800) 875-6031 • Phone (770) 287-3100 • Fax (770) 287-3150

## Technical Information – Jumpers and Connectors BPG4 (6537) Small Form Factor PCI Express Backplane

### Block Diagram



### Layout Diagram – 6537



#### Notes:

- \*IOB31 Required to provide PCI Express link to PCIE1 slot
- \*\*Optional USB and Ethernet connectivity provided by PICMG 1.3 SHB. Not all SHBs support this capability.
- Connector spacing: 0.800"
- Nominal PCB thickness: .062"
- Mounting holes: .156" diameter
- All dimensions are inches.



**BPG4 (6537) Configuration Jumper**

The setup of the configuration jumper on the backplane is described below. \* indicates the default value of the jumper.

---

**NOTE:** For the two-position jumper (3-post), “RIGHT” and “LEFT” refer to positioning when the backplane is viewed with the slots at the top end of the backplane.

---

<u>Jumper</u>	<u>Description</u>
<b>JU4</b>	<b>+5V Auxiliary Voltage</b>
	Install on the LEFT if +5V auxiliary voltage is provided by the standard +5V supply. This option is used for systems which do not have either an ATX or EPS standard power input. This mode provides the necessary +5V for the SHB’s +5VAUX signal lines. Sleep mode recovery is not supported using non-ATX/EPS power supplies.
	Install on the RIGHT if +5V auxiliary voltage is provided by a separate +5VAUX signal input pin. This enables the necessary SHB power signaling and allows recovery from sleep mode. This option is used for ATX or EPS standard power supplies. *

**BPG4 (6537) Connectors**

The connectors available on the BPG4 vary depending on the version of the backplane you have. Connectors for the 6537-007 (right angle connectors) and 6537-008 (straight- in/vertical connectors) are defined below.

**BPG4 (6537-007) Connectors**

---

**NOTE:** Pin 1 on the connectors is indicated by the square pad on the PCB.

---

**P1 - ATX/EPS Power Connector**  
 24 pin right angle dual row header, Amp #794516-1

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Gnd	15	Gnd
4	+5V	16	PSON#
5	Gnd	17	Gnd
6	+5V	18	Gnd
7	Gnd	19	Gnd
8	PWRGD	20	-5V
9	+5VAUX	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	Gnd



### **BPG4 (6537-007) Connectors (continued)**

**P2 - +12V Power Connector**

8 pin right angle mini fit JR, Molex #39-30-0080

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Gnd	5	+12V
2	Gnd	6	+12V
3	Gnd	7	+12V
4	Gnd	8	+12V

**P6 - Power-On Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PSON#
2	Gnd

**P7 - Power Button Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRBT#
2	Gnd

**P8 - Reset Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	SHB_RST#
2	Gnd

**P9 - Power Good Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRGD
2	Gnd

**P10 - I/O Power Connector**

20 pin right angle dual row header, Molex #87833-2020

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Gnd	2	+12V
3	IPMB_DA	4	Gnd
5	IPMB_CL	6	+5V
7	SMDAT	8	+5VAUX
9	SMCLK	10	+3.3V
11	PWRBT#	12	PSON#
13	Gnd	14	SHB_RST#
15	PWRGD	16	+5VAUX
17	Gnd	18	+5VAUX
19	Gnd	20	-12V



### **BPG4 (6537-007) Connectors (continued)**

#### **P11 - Universal Serial Bus (USB) Connector**

8 pin dual row header, Molex #702-46-0801  
(+5V fused with self-resetting fuses)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+5V-USB0	2	+5V-USB1
3	USB0-	4	USB1-
5	USB0+	6	USB1+
7	Gnd-USB0	8	Gnd-USB1

#### **P12 - Universal Serial Bus (USB) Connector**

8 pin dual row header, Molex #702-46-0801  
(+5V fused with self-resetting fuses)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+5V-USB2	2	+5V-USB3
3	USB2-	4	USB3-
5	USB2+	6	USB3+
7	Gnd-USB2	8	Gnd-USB3

#### **P13 - 10/100/1000Base-T Ethernet Connector - LAN 0**

8 pin shielded RA RJ-45 connector, Molex #43202-8919

<u>Pin</u>	<u>Signal</u>
1	TRP1+
2	TRP1-
3	TRP2+
4	TRP3+
5	TRP3-
6	TRP2-
7	TRP4+
8	TRP4-

#### **P14 - 10/100/1000Base-T Ethernet Connector - LAN 1**

8 pin shielded RA RJ-45 connector, Molex #43202-8919

<u>Pin</u>	<u>Signal</u>
1	TRP1+
2	TRP1-
3	TRP2+
4	TRP3+
5	TRP3-
6	TRP2-
7	TRP4+
8	TRP4-

#### **P19 - System Management Bus Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	SMB Clock
2	SMB Data



## **BPG4 (6537-008) Connectors**

### **P1 - ATX/EPS Power Connector**

24 pin dual row mini fit JR, Molex #39-29-6248

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+3.3V	13	+3.3V
2	+3.3V	14	-12V
3	Gnd	15	Gnd
4	+5V	16	PSON#
5	Gnd	17	Gnd
6	+5V	18	Gnd
7	Gnd	19	Gnd
8	PWRGD	20	-5V
9	+5VAUX	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	+3.3V	24	Gnd

### **P2 - +12V Power Connector**

8 pin mini fit JR, Molex #39-29-3086

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Gnd	5	+12V
2	Gnd	6	+12V
3	Gnd	7	+12V
4	Gnd	8	+12V

### **P6 - Power-On Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PSON#
2	Gnd

### **P7 - Power Button Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRBT#
2	Gnd

### **P8 - Reset Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	SHB_RST#
2	Gnd

### **P9 - Power Good Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRGD
2	Gnd



## **BPG4 (6537-008) Connectors (continued)**

### **P10 - I/O Power Connector**

20 pin right angle dual row header, Molex #87833-2020

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	Gnd	2	+12V
3	IPMB_DA	4	Gnd
5	IPMB_CL	6	+5V
7	SMDAT	8	+5VAUX
9	SMCLK	10	+3.3V
11	PWRBT#	12	PSON#
13	Gnd	14	SHB_RST#
15	PWRGD	16	+5VAUX
17	Gnd	18	+5VAUX
19	Gnd	20	-12V

### **P11 - Universal Serial Bus (USB) Connector**

8 pin dual row header, Molex #702-46-0801  
(+5V fused with self-resetting fuses)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+5V-USB0	2	+5V-USB1
3	USB0-	4	USB1-
5	USB0+	6	USB1+
7	Gnd-USB0	8	Gnd-USB1

### **P12 - Universal Serial Bus (USB) Connector**

8 pin dual row header, Molex #702-46-0801  
(+5V fused with self-resetting fuses)

<u>Pin</u>	<u>Signal</u>	<u>Pin</u>	<u>Signal</u>
1	+5V-USB2	2	+5V-USB3
3	USB2-	4	USB3-
5	USB2+	6	USB3+
7	Gnd-USB2	8	Gnd-USB3

### **P13 - 10/100/1000Base-T Ethernet Connector - LAN 0**

8 pin shielded RA RJ-45 connector, Molex #43202-8919

<u>Pin</u>	<u>Signal</u>
1	TRP1+
2	TRP1-
3	TRP2+
4	TRP3+
5	TRP3-
6	TRP2-
7	TRP4+
8	TRP4-



**BPG4 (6537-008) Connectors (continued)**

**P14 - 10/100/1000Base-T Ethernet Connector - LAN 1**

8 pin shielded RA RJ-45 connector, Molex #43202-8919

<u>Pin</u>	<u>Signal</u>
1	TRP1+
2	TRP1-
3	TRP2+
4	TRP3+
5	TRP3-
6	TRP2-
7	TRP4+
8	TRP4-

**P19 - System Management Bus Connector**

2 pin single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	SMB Clock
2	SMB Data

**Trenton SHB Optional Backplane I/O Support For the BPG4**

TRENTON SHB	ETHERNET			USB							
	LAN 0	LAN 1	LAN 2	USB 0	USB 1	USB 2	USB 3	USB 4	USB 5	USB 6	USB 7
TQ9 <sup>1,4</sup>	-	-	X	-	-	-	-	X	X	X	X
T4L <sup>1,2</sup>	-	-	X	-	-	-	-	X	X	X	X
TML <sup>1,2</sup>	-	-	X	-	-	-	-	X	X	X	X
MCG-series <sup>3</sup>	-	-	X	-	-	-	-	X	X	X	X

<sup>1</sup> LAN2 is a 10/100BASE-T Ethernet interface when using the TQ9, T4L or TML

<sup>2</sup> Backplane routings of USB interfaces 4 & 5 are factory build options on the T4L and TML

<sup>3</sup> LAN2 is a 10/100/1000BASE-T Ethernet interface when using a MCG-series SHB

<sup>4</sup> USB interfaces 4, 5, 6 and 7 are logical USB interfaces 8, 9, 10 and 11 on the TQ9 system host board

Note: The letter X indicates an interface connection routed to SHB edge connector C for use on the backplane.

**Connector Configuration Illustrated For The BPG4**

MODEL#	MODEL NAME	DESCRIPTION
6537-007	BPG4-CRA	ATX/EPS right-angle connectors
6537-008	BPG4-CST	ATX/EPS vertical connectors