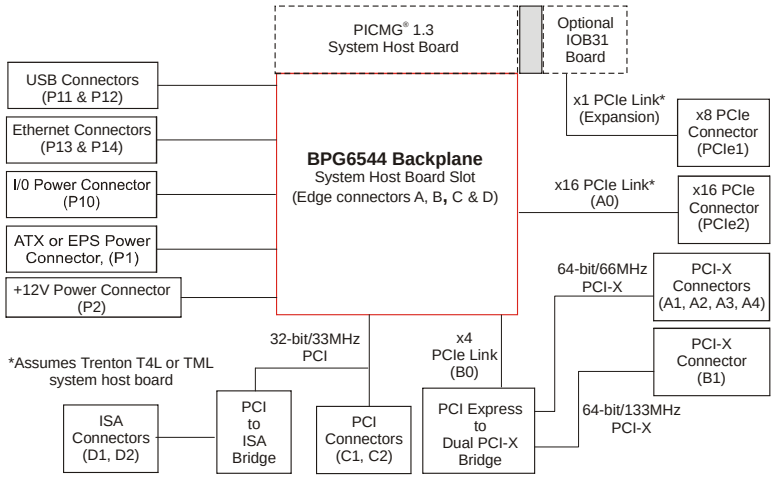
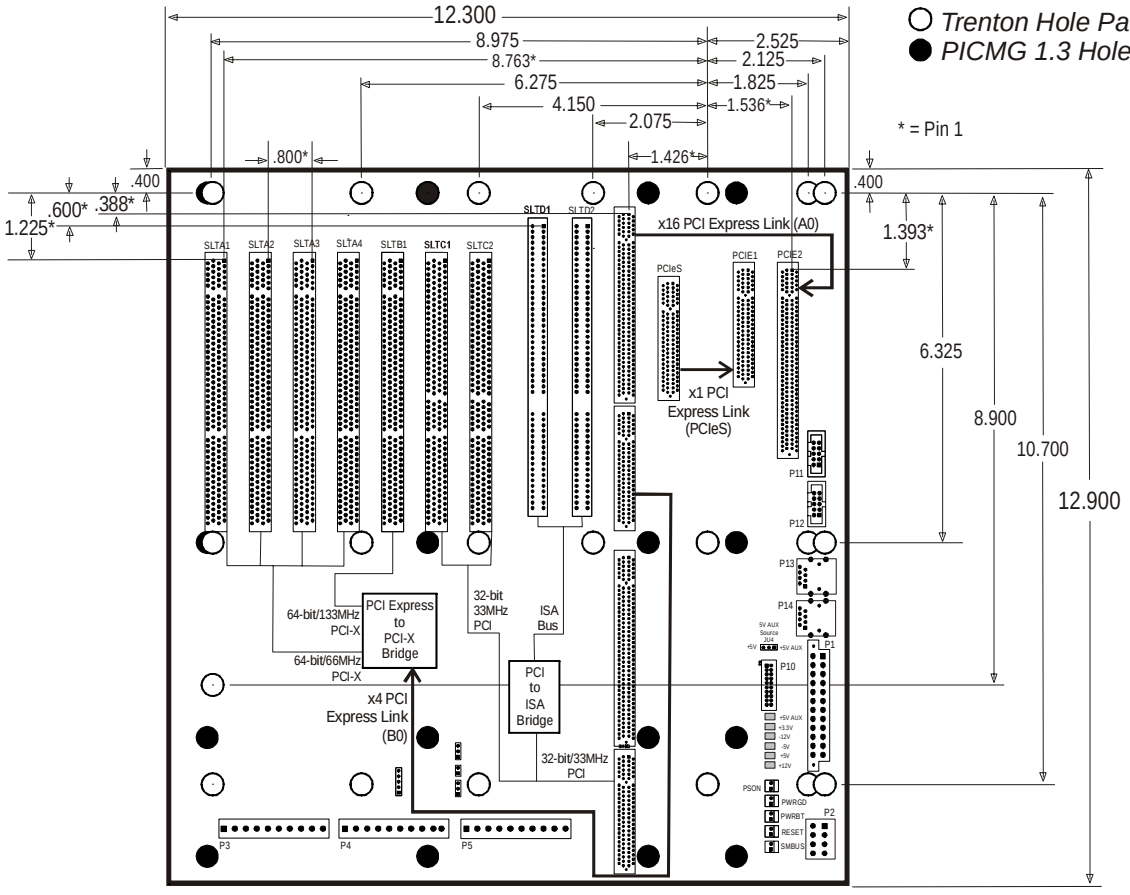
TRENTON Technology Inc.
2350 Centennial Drive • Gainesville, Georgia 30504
Sales (800) 875-6031 • Phone (770) 287-3100 • Fax (770) 287-3150

Technical Information – Jumpers and Connectors
BPG6544 (6544) Graphics-Class PCI Express Backplane

Block Diagram



Layout Diagram – 6544



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: .080”

Mounting holes: .156” diameter

Connectors are populated based on model.

Some holes are common to both hole patterns

All dimensions are inches.

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

BPG6544 (6544) 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.

Jumper	Description
JU4	**+5V Auxiliary Voltage** 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. *

BPG6544 Connectors

The connectors available on the BPG6544 vary depending on the version of the backplane you have. Connectors for the 6544-003 and 6544-004 are defined below.

BPG6544 (6544-003) Connectors

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

P1 - ATX/EPS Power Connector
24 pin dual row header, Molex #44206-0007

Pin	Signal	Pin	Signal
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

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

BPG6544 (6544-003) Connectors (continued)

P2 - +12V Power Connector

4 pin mini fit JR, Molex #39-29-3046

Pin	Signal	Pin	Signal
1	Gnd	3	+12V
2	Gnd	4	+12V

P3 - Terminal Block Connector

10 position terminal block, Amp #1-796949-0
20 Amps per circuit

Pin	Signal
1	+5V
2	+5V
3	+5V
4	+5V
5	Gnd
6	Gnd
7	+12V
8	+12V
9	+12V
10	+12V

P4 - Terminal Block Connector

10 position terminal block, Amp #1-796949-0
20 Amps per circuit

Pin	Signal
1	Gnd
2	+3.3V
3	+3.3V
4	+3.3V
5	+3.3V
6	+3.3V
7	+3.3V
8	+3.3V
9	Gnd
10	Gnd

P5 - Terminal Block Connector

10 position terminal block, Amp #1-796949-0
20 Amps per circuit

Pin	Signal
1	Gnd
2	Gnd
3	Gnd
4	Gnd
5	Gnd
6	Gnd
7	Gnd
8	Gnd
9	Gnd
10	Gnd

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

BPG6544 (6544-003) Connectors (continued)

P6 - Power-On Connector
2 pin single row header, Amp #640456-2

Pin	Signal
1	PSON#
2	Gnd

P7 - Power Button Connector
2 pin single row header, Amp #640456-2

Pin	Signal
1	PWRBT#
2	Gnd

P8 - Reset Connector
2 pin single row header, Amp #640456-2

Pin	Signal
1	SHB_RST#
2	Gnd

P9 - Power Good Connector
2 pin single row header, Amp #640456-2

Pin	Signal
1	PWRGD
2	Gnd

P10 - I/O Power Connector
20 pin dual row header, Molex #87831-2020

Pin	Signal	Pin	Signal
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_IN
17	Gnd	18	+5VAUX_IN
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)

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

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

BPG6544 (6544-003) Connectors (continued)

P12 - Universal Serial Bus (USB) Connector
8 pin dual row header, Molex #702-46-0801
(+5V fused with self-resetting fuses)

Pin	Signal	Pin	Signal
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 RJ-45 connector, Molex #43202-8919

Pin	Signal
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 RJ-45 connector, Molex #43202-8919

Pin	Signal
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

Pin	Signal
1	SMB Clock
2	SMB Data

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

BPG6544 (6544-004) Connectors

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

P1 - EPS Power Connector

24 pin dual row header, Molex #44206-0007

Pin	Signal	Pin	Signal
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 right angle mini fit JR, Molex #35318-0820

Pin	Signal	Pin	Signal
1	Gnd	5	+12V
2	Gnd	6	+12V
3	Gnd	7	+12V
4	Gnd	8	+12V

P3 - Terminal Block Connector

10 position terminal block, Amp #1-796949-0

20 Amps per circuit

Pin	Signal
1	+5V
2	+5V
3	+5V
4	+5V
5	Gnd
6	Gnd
7	+12V
8	+12V
9	+12V
10	+12V

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

BPG6544 (6544-004) Connectors (continued)

P4 - Terminal Block Connector

10 position terminal block, Amp #1-796949-0
20 Amps per circuit

Pin	Signal
1	Gnd
2	+3.3V
3	+3.3V
4	+3.3V
5	+3.3V
6	+3.3V
7	+3.3V
8	+3.3V
9	Gnd
10	Gnd

P5 - Terminal Block Connector

10 position terminal block, Amp #1-796949-0
20 Amps per circuit

Pin	Signal
1	Gnd
2	Gnd
3	Gnd
4	Gnd
5	Gnd
6	Gnd
7	Gnd
8	Gnd
9	Gnd
10	Gnd

P6 - Power-On Connector

2 pin single row header, Amp #640456-2

Pin	Signal
1	PSON#
2	Gnd

P7 - Power Button Connector

2 pin single row header, Amp #640456-2

Pin	Signal
1	PWRBT#
2	Gnd

P8 - Reset Connector

2 pin single row header, Amp #640456-2

Pin	Signal
1	SHB_RST#
2	Gnd

P9 - Power Good Connector

2 pin single row header, Amp #640456-2

Pin	Signal
1	PWRGD
2	Gnd

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

BPG6544 (6544-004) Connectors (continued)

P10 - I/O Power Connector

20 pin dual row header, Molex #87831-2020

Pin	Signal	Pin	Signal
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_IN
17	Gnd	18	+5VAUX_IN
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)

Pin	Signal	Pin	Signal
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)

Pin	Signal	Pin	Signal
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 RJ-45 connector, Molex #85508-0001

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

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

BPG6544 (6544-004) Connectors (continued)

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

8 pin shielded RJ-45 connector, Molex #85508-0001

Pin	Signal
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

Pin	Signal
1	SMB Clock
2	SMB Data

Trenton SHB Optional Backplane I/O Support For the BPG6544

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[1, 4]	-	-	X	-	-	-	-	X	X	X	X
T4L[1,2]	-	-	X	-	-	-	-	X	X	X	X
TML[1,2]	-	-	X	-	-	-	-	X	X	X	X
MCG-series[3]	-	-	X	-	-	-	-	X	X	X	X

[1] LAN2 is a 10/100BASE-T Ethernet interface when using the TQ9, T4L or TML
[2] Backplane routings of USB interfaces 4 & 5 are factory build options on the T4L and TML
[3] LAN2 is a 10/100/1000BASE-T Ethernet interface when using a MCG-series SHB
[4] 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.