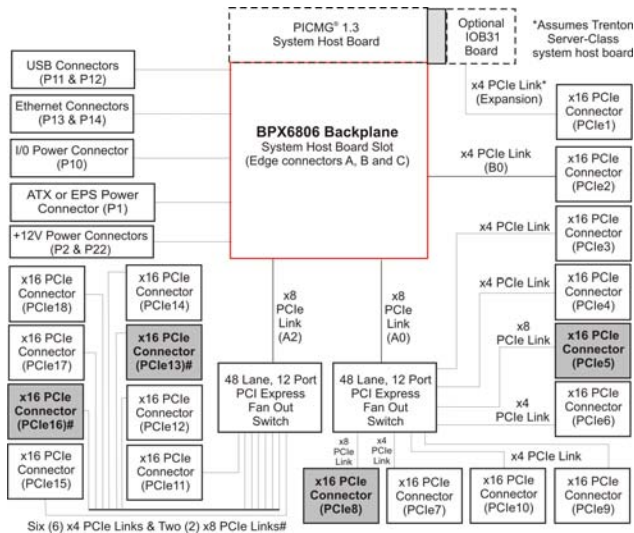




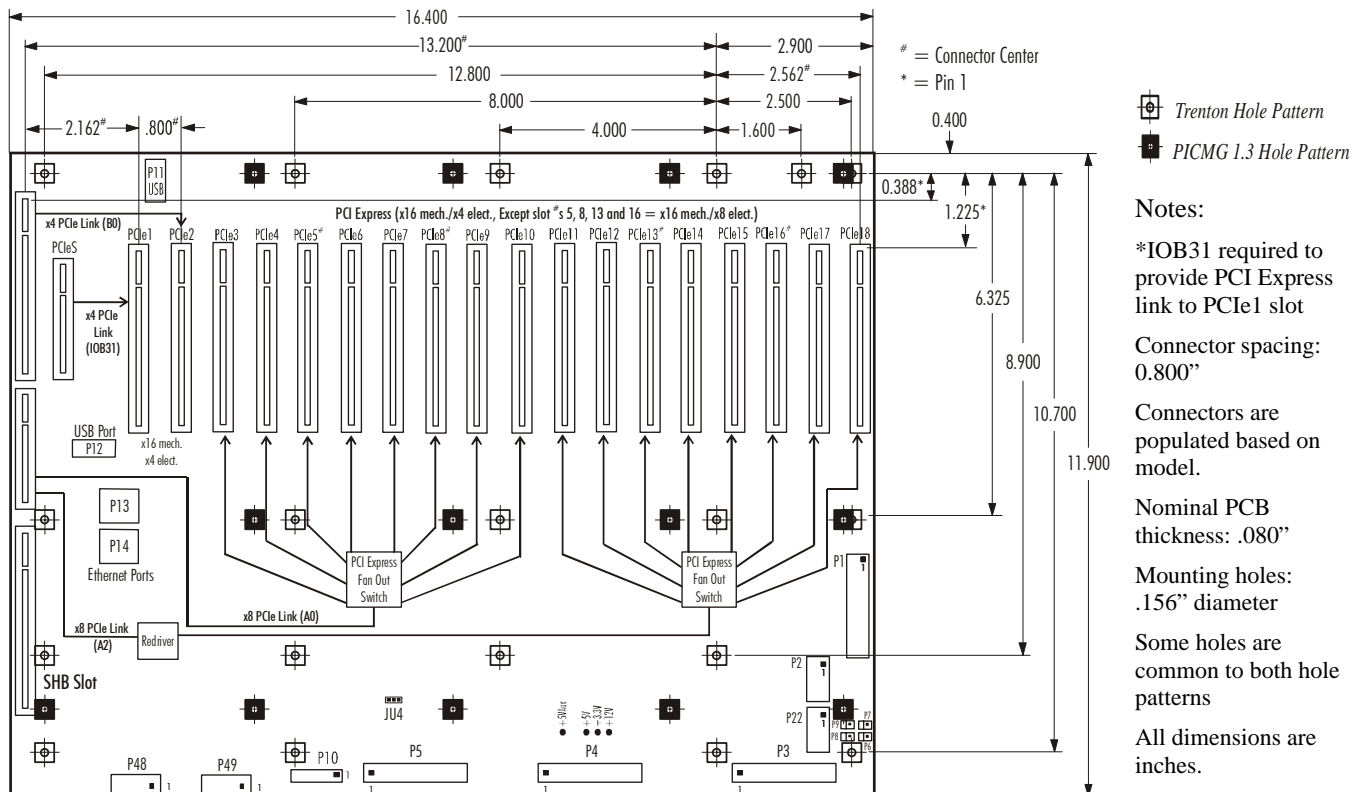
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## Technical Information – Jumpers and Connectors BPX6806 (6806) Server-Class PCI Express Backplane

### Block Diagram



### Layout Diagram – 6806-001, 6806-002, 6806-003 and 6806-004



Note:  
 \*\*Optional USB and Ethernet connectivity provided by PICMG 1.3 SHB. Not all SHBs support this capability.



## **BPX6806 (6806-001, 6806-002, 6806-003 and 6806-004) 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. *

## **BPX6806 (6806-001) Connectors**

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

**P1 - ATX/EPS Power Connector**  
 24 pin vertical dual row, Molex #44206-002

<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 vertical dual row, Molex #44206-0005

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



## **BPX6806 (6806-001) Connectors (Continued)**

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

2 pin vertical single row header, Amp #640456-2

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

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

2 pin vertical single row header, Amp #640456-2

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

### **P8 - Reset Connector**

2 pin vertical single row header, Amp #640456-2

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

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

2 pin vertical single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRGD
2	+5V

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

20 pin vertical dual row header, Molex #87831-2020

<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	PERSON#
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



## **BPX6806 (6806-001) Connectors (Continued)**

### **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 right angle shielded RJ-45 connector, Molex #43860-0025

<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 right angle shielded RJ-45 connector, Molex #43860-0025

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

### **P22 - +12V Power Connector**

8 pin vertical dual row, Molex #44206-0005

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



## **BPX6806 (6806-002) Connectors**

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

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

2 pin vertical single row header, Amp #640456-2

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

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

2 pin vertical single row header, Amp #640456-2

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

### **P8 - Reset Connector**

2 pin vertical single row header, Amp #640456-2

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

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

2 pin vertical single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRGD
2	+5V

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

20 pin vertical dual row header, Molex #87831-2020

<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	PSO#
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



## **BPX6806 (6806-002) Connectors (Continued)**

### **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 right angle shielded RJ-45 connector, Molex #43860-0025

<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 right angle shielded RJ-45 connector, Molex #43860-0025

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

### **P48 - DC Return Extended-Current Connector**

5 pin right angle, Amp# 193839-4

<u>Pin</u>	<u>Signal</u>
1	Gnd
2	Gnd
3	Gnd
4	Gnd
5	Gnd

### **P49 - DC Extended-Current Connector**

5 pin right angle, Amp# 193839-4

<u>Pin</u>	<u>Signal</u>
1	+3.3V
2	+3.3V
3	+3.3V
4	+3.3V
5	+12V



## **BPX6806 (6806-003) Connectors**

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

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

24 pin vertical dual row, Molex #44206-002

<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	PSO#
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 vertical dual row, Molex #44206-0005

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

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

2 pin vertical single row header, Amp #640456-2

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

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

2 pin vertical single row header, Amp #640456-2

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

### **P8 - Reset Connector**

2 pin vertical single row header, Amp #640456-2

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

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

2 pin vertical single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRGD
2	+5V



## **BPX6806 (6806-003) Connectors (continued)**

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

20 pin vertical dual row header, Molex #87831-2020

<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 right angle shielded RJ-45 connector, Molex #43860-0025

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



### **BPX6806 (6806-003) Connectors (continued)**

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

8 pin right angle shielded RJ-45 connector, Molex #43860-0025

Pin    Signal

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

**P22 - +12V Power Connector**

8 pin vertical dual row, Molex #44206-0005

Pin    Signal                      Pin    Signal

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

**P48 - DC Return Extended-Current Connector**

5 pin right angle, Amp# 193839-4

Pin    Signal

1	Gnd
2	Gnd
3	Gnd
4	Gnd
5	Gnd

**P49 - DC Extended-Current Connector**

5 pin right angle, Amp# 193839-4

Pin    Signal

1	+3.3V
2	+3.3V
3	+3.3V
4	+3.3V
5	+12V



## **BPX6806 (6806-004) Connectors**

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

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

24 pin vertical dual row, Molex #44206-002

<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 vertical dual row, Molex #44206-0005

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

### **P3 - Terminal Block Connector**

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

20 Amps per circuit

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



## **BPX6806 (6804-004) Connectors (continued)**

### **P4 - Terminal Block Connector**

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

<u>Pin</u>	<u>Signal</u>
1	+12V
2	+12V
3	+5V
4	+3.3V
5	+3.3V
6	Gnd
7	Gnd
8	Gnd
9	Gnd
10	Gnd

### **P5 - Terminal Block Connector**

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

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

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

2 pin vertical single row header, Amp #640456-2

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

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

2 pin vertical single row header, Amp #640456-2

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

### **P8 - Reset Connector**

2 pin vertical single row header, Amp #640456-2

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



## **BPX6806 (6804-004) Connectors (continued)**

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

2 pin vertical single row header, Amp #640456-2

<u>Pin</u>	<u>Signal</u>
1	PWRGD
2	+5V

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

20 pin vertical dual row header, Molex #87831-2020

<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	PSO#
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 right angle shielded RJ-45 connector, Molex #43860-0025

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



**BPX6806 (6804-004) Connectors (continued)**

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

8 pin right angle shielded RJ-45 connector, Molex #43860-0025

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

**P22 - +12V Power Connector**

8 pin vertical dual row, Molex #44206-0005

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

**Trenton Server-Class SHB Optional Backplane I/O Support**

TRENTON SHB	ETHERNET			USB							
	LAN0	LAN1	LAN2	USB0	USB1	USB2	USB3	USB4	USB5	USB6	USB7
NLT/NLI <sup>1</sup>	-	-	n/a	-	-	X	X	n/a	n/a	n/a	n/a
SLT/SLI <sup>1</sup>	-	-	n/a	-	-	X	X	n/a	n/a	n/a	n/a
MCX-series <sup>2</sup>	-	-	X	-	-	-	-	X	X	X	X

<sup>1</sup> Requires factory build option.

<sup>2</sup> LAN2 is a 10/100/1000BASE-T Ethernet interface when using a MCX-series SHB

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

**BPX6806 Maximum Power Delivery For Power Connector Configurations**

The following table illustrates the maximum current delivery possible with each available BPX6806 power connector configuration.

<b>Connector Configuration</b>	<b>3.3V Total Current Delivery (A)</b>	<b>5V Total Current Delivery (A)</b>	<b>GND Total Current Delivery (A)</b>	<b>12V Total Current Delivery (A)</b>
-001 (P1, P2, P22)	24	30	96	60
-002 (P48, P49)	120	0	150	30
-003 (P1, P2, P22, P48, P49)	144	30	246	90
-004 (P1, P2, P22, P3, P4, P5)	136	50	396	200