

Performance Technologies

ZT 4806

Rear Transition Module

User's and System Integrator's Guide



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1050 Southwood Drive
San Luis Obispo, CA 93401

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Performance Technologies, Inc., reserves its right to change product specifications without notice.

Symbols and Conventions in this Manual

The following symbols appear in this document:



Caution: There is risk of equipment damage. Follow the instructions.



Warning: Hazardous voltages are present. To reduce the risk of electrical shock and danger to personal health, follow the instructions.

Electrostatic Discharge



Caution: Electronic components on printed circuit boards are extremely sensitive to static electricity. Ordinary amounts of static electricity generated by your clothing or work environment can damage the electronic equipment. It is recommended that anti-static ground straps and anti-static mats are used when installing the board in a system to help prevent damage due to electrostatic discharge.

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This section provides a brief introduction to the ZT 4806 Rear Transition Module (RTM). It includes a product definition, a list of product features, a “Faceplate” figure, a functional block diagram, and a description of each block.

See Section 2, “Configuration,” for configuration details and Section 3, “Specifications,” for complete power and temperature requirements, as well as connector locations, descriptions, and pinout tables.

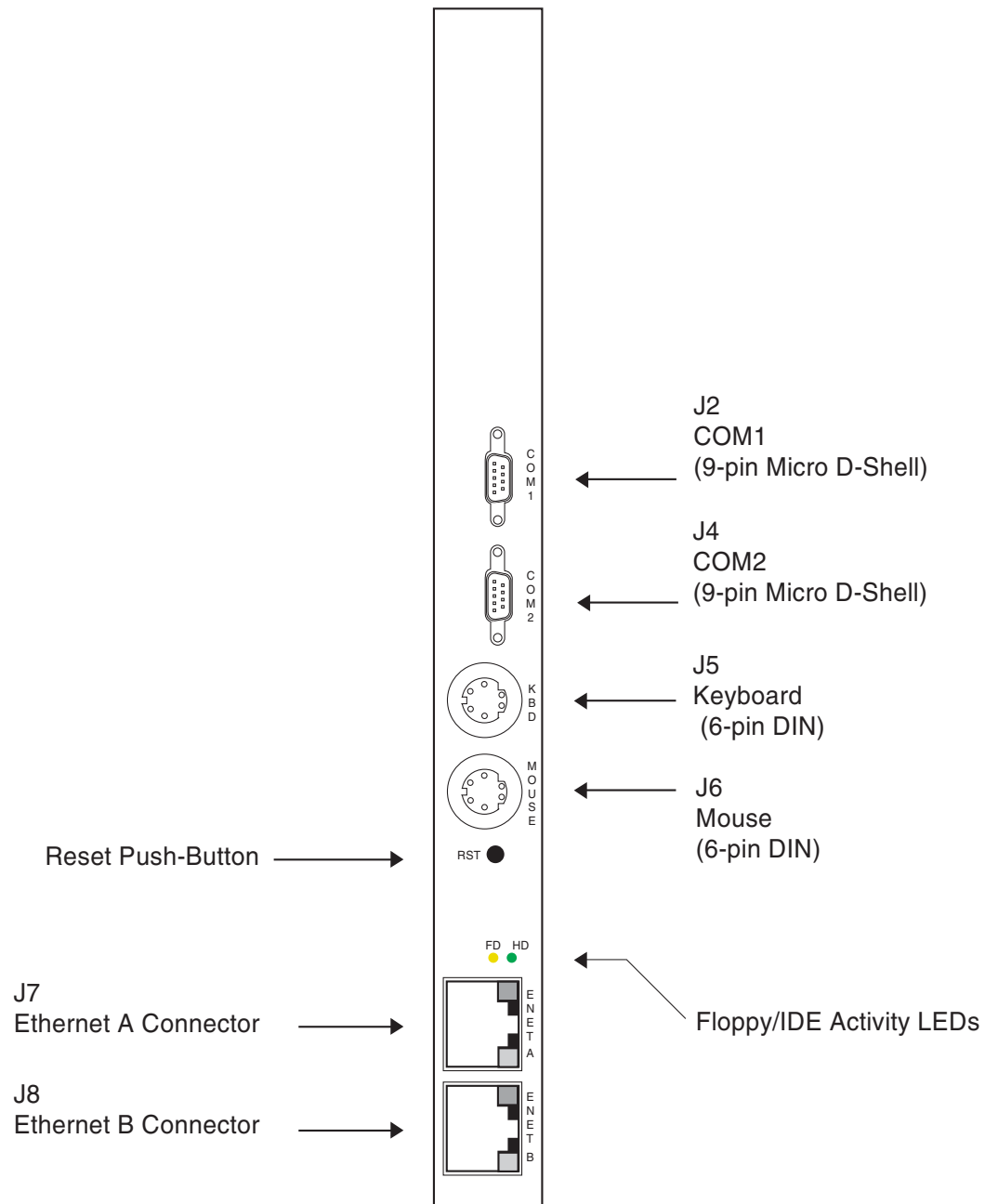
1.1 Product Definition

The ZT 4806 is a single slot, 6U rear-panel transition board providing rear-panel access to the I/O functions of specific Performance Technologies processor boards. The ZT 4806 is designed to function in the rear-panel slot of a CompactPCI® system that accepts 6U boards (such as a ZT 5087 enclosure).

1.2 Features

- Rear-panel interface connectors for host:
 - COM 1 micro-miniature (MDSM) DB-9 serial
 - COM 2 micro-miniature (MDSM) DB-9 serial
 - PS/2 Keyboard
 - PS/2 Mouse
 - Ethernet A
 - Ethernet B (in non-High Availability systems only)
- Internal interfaces (i.e., not on the faceplate):
 - Floppy Interface
 - IDE Interface (Host secondary channel only)
- Rear-panel Reset switch
- Rear-panel LEDs indicate:
 - Floppy drive active
 - IDE drive active

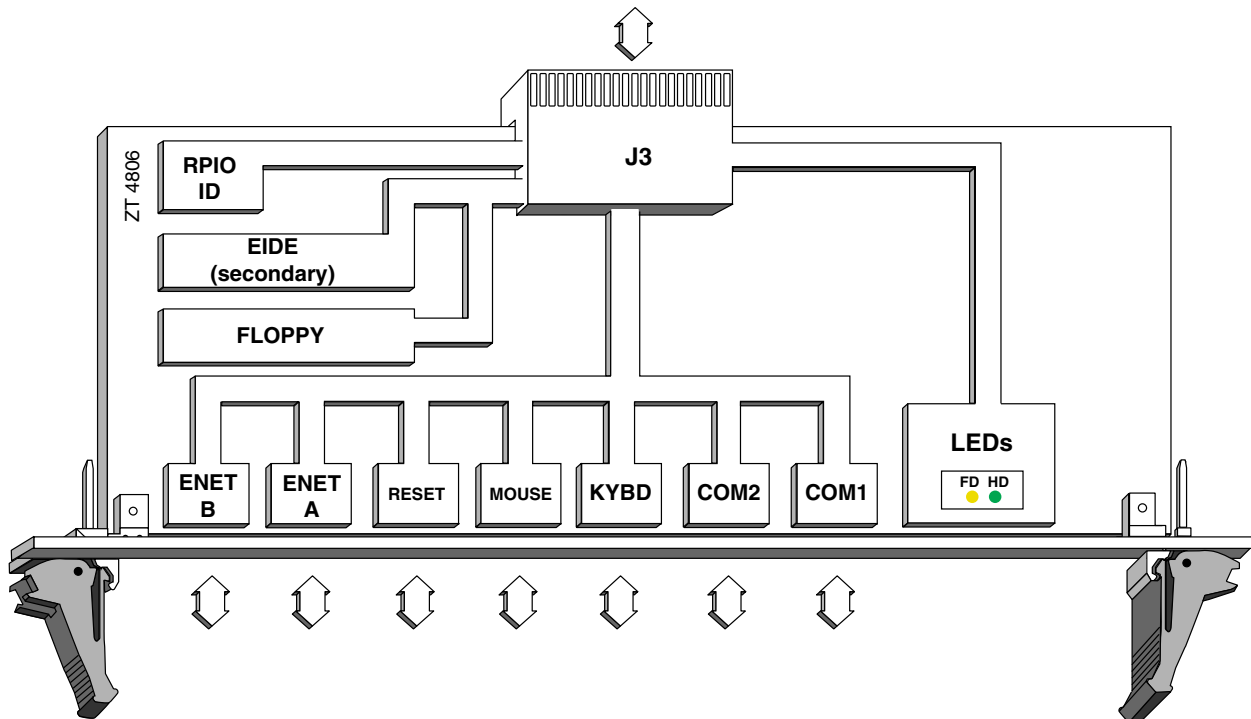
Figure 1. Faceplate



1.3 Functional Blocks

Below is a functional block diagram of the ZT 4806. The following topics provide overviews of the functional blocks.

Figure 2. Functional Block Diagram



Rear-Panel I/O

The ZT 4806 transitions I/O signals from the processor board for rear-panel use via a 95-pin, 2 mm x 2 mm, female connector (J3).

Dual Ethernet Channels

The ZT 4806 transitions the processor board's Ethernet channels A and B for rear-panel access. Both 10 Mbit/s and 100 Mbit/s Ethernet protocols are provided through each of two RJ-45 rear-panel connectors.

Serial I/O

The ZT 4806's two serial port connectors, J2 (COM1) and J4 (COM2), provide an alternative means of accessing the processor board's COM1 and COM2 serial ports. The optional ZT 90248 adapter cable is available for use with J2 and J4. Contact [Performance Technologies](#) for more information.

Reset Switch

The ZT 4806 features a reset push-button switch (RST) on the faceplate. When RST is pressed, a System Reset is issued to the host processor board to force the processor to restart program execution. No local debounce is implemented.

EIDE Interface

The ZT 4806 provides access to the processor board's secondary EIDE channel through an internal connector (J9), a 40-pin 0.1" vertical header.

Floppy Drive Interface

The ZT 4806 provides access to the processor board's floppy controller through an internal connector (J10), a 34-pin 0.1" vertical header.



Caution: Do not connect the floppy drive directly to system power. Floppy disks in the drive may become corrupted. Power the floppy drive from the host processor board. This causes the floppy drive power and control lines to become active at the same time, thereby maintaining signal integrity. For development purposes floppy power may be sourced from J11.

PS/2 Keyboard Port

The ZT 4806 provides a PS/2 style keyboard port (J5) that duplicates the processor board's keyboard connector. Either the ZT 4806 keyboard port or the processor board keyboard connector, but not both, may be used at any one time.

PS/2 Mouse Port

The ZT 4806 provides a PS/2 style mouse port (J6) that duplicates the processor board's mouse connector. Either the ZT 4806 mouse port or the processor board mouse connector, but not both, may be used at any one time.

LED Indicators

As shown in the “Faceplate” figure, the ZT 4806 provides two LEDs indicating the following:

- Floppy access (yellow, labeled as FD)
- IDE access (green, labeled as HD)

A third, unused, red LED also appears on the faceplate.

This section lists the cuttable traces on the ZT 4806.

2.1 Cuttable Trace Definitions

The ZT 4806 includes several cuttable traces (zero Ω shorting resistors) listed in the “ZT 4806 Cuttable Trace Definitions” table below. Only CT 9 and CT10 are user configurable.

Table 1. Cuttable Trace Definitions

CT#	Default	Description
CT1	Out	Reserved
CT2	Out	Reserved
CT3	Out	Reserved
CT4	Out	Reserved
CT5	Out	Reserved
CT7	Out	Reserved
CT8	Out	Reserved
CT9	In	Connect Floppy Activity LED to MTR0
CT10	Out	Connect Floppy Activity LED to MTR1
CT11	Out	Reserved
CT12	Out	Reserved
CT13	Out	Reserved
CT14	Out	Reserved
CT15	Out	Reserved

Section 3

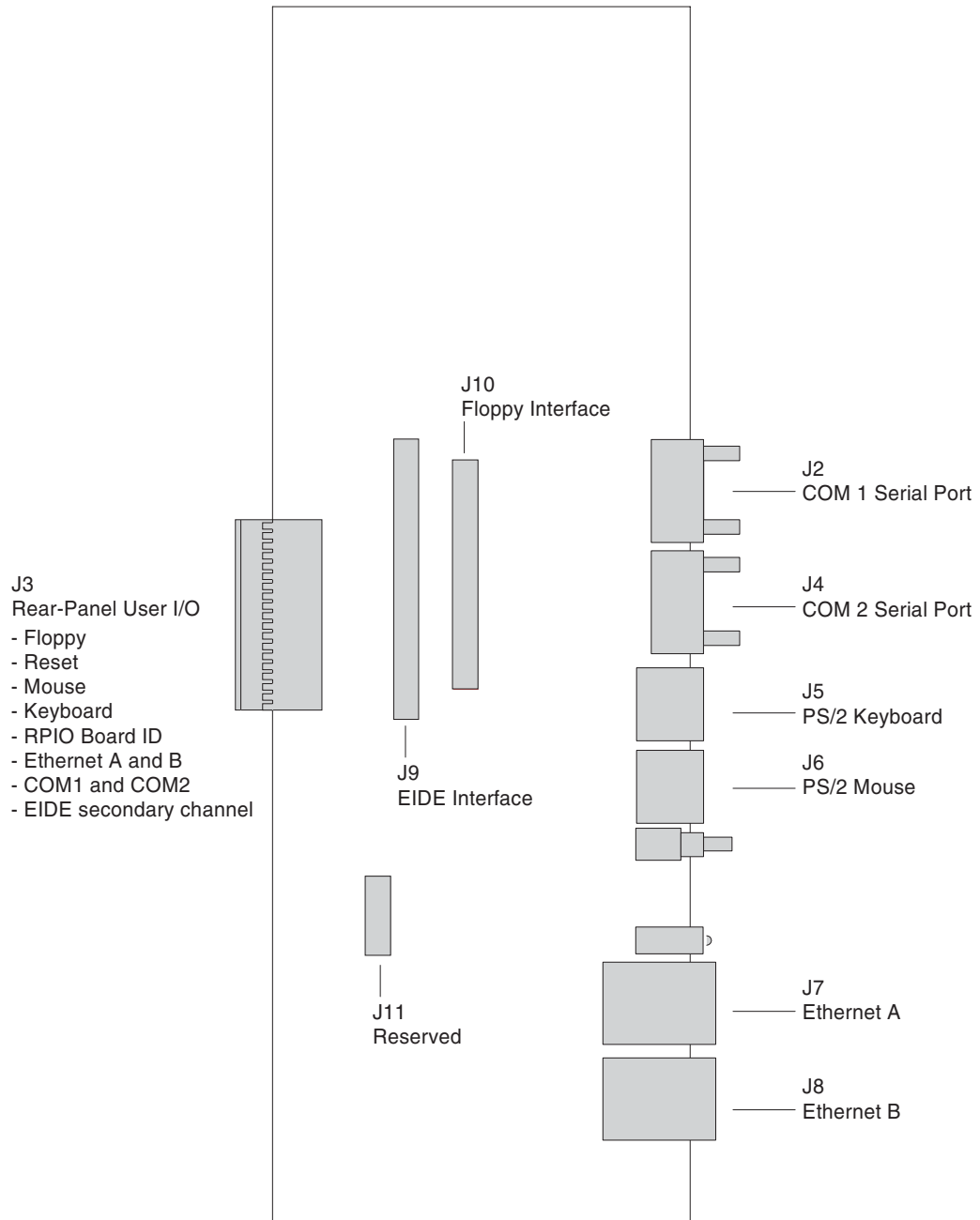
Connectors

As shown in the “Connector Locations” figure, the ZT 4806 includes several connectors to interface to application-specific devices. A brief description of each connector is given in the “ZT 4806 Connector Assignments” table below. A detailed description and pinout for each connector is given in the following topics.

Table 2. Connector Assignments

Connector	Function
J1	Not Loaded
J2	COM1 Serial Port (9-pin, D-Shell)
J3	Rear-Panel User I/O Connector (95-pin 2 mm x 2 mm, female)
J4	COM2 Serial Port (9-pin, D-Shell)
J5	PS/2 Keyboard Connector (6-pin, DIN)
J6	PS/2 Mouse Port Connector (6-pin, DIN)
J7	Ethernet Connector A (8-pin, RJ-45)
J8	Ethernet Connector B (8-pin, RJ-45)
J9	EIDE Connector (40-pin)
J10	Floppy Drive Connector (34-pin)
J11	Reserved

Figure 3. Connector Locations



3.1 Backplane Connectors

J3 (Rear-Panel User I/O Connector)

J3 is a 95-pin, 2 mm x 2 mm, female connector (AMP 646488-1 or equivalent) transitioning I/O signals from the processor board for rear-panel use. See the “J3 Rear-Panel User I/O Interface Pinout” table below for pin definitions.

Table 3. J3 Rear-Panel User I/O Connector Pinout

Pin #	Z	A	B	C	D	E	F
19	(GND)	PWRGD	IOCS16#	IORDY	SMALRT#	IRQ15	GND
18	(GND)	SMDATA	SMCLK	CS3S#	CS1S#	RPID	GND
17	(GND)	DD15	DD14	DD13	DD12	EJECT#	GND
16	(GND)	DD11	DD10	DD9	DD8	SDDAK#	GND
15	(GND)	DA0	DA1	J3VCC	DA2	SDDRQ	GND
14	(GND)	DD7	DD6	DD5	DD4	SDIOW#	GND
13	(GND)	DD3	DD2	DD1	DD0	SDIOR#	GND
12	(GND)	DR0#	MSEN0	MTR0#	INDEX#	WDATA#	GND
11	(GND)	DR1#	DSKCHG#	MTR1#	DENSL	RDATA#	GND
10	(GND)	WP#	HDSEL#	DIR#	TRK0#	STEP#	GND
9	(GND)	WGATE#	RXA-	GND	HSLED	NC	GND
8	(GND)	GND	RXA+	J3VCC	CTB	NC	GND
7	(GND)	RXB-	GND	TXB-	CTA	GND	GND
6	(GND)	RXB+	GND	TXB+	GND	TXA-	GND
5	(GND)	NC	MSDAT	SPKR	KBDAT	TXA+	GND
4	(GND)	PRST#	MSCLK	J3VCC	KBCLK	S1RXD	GND
3	(GND)	S1CTS	S1RTS	S1DSR	S1DCD	S1TXD	GND
2	(GND)	S2RIN	S2DTR	S1RIN	S1DTR	S2RXD	GND
1	(GND)	S2CTS	S2RTS	S2DSR	S2DCD	S2TXD	GND
Pin #	Z	A	B	C	D	E	F

3.2 Faceplate Connectors

J2, J4 (COM1, COM2 Serial Ports)

J2 and J4 are 9-pin Micro D-shell connectors (ITT/Cannon MDSM-9PE-Z10-VR25 or equivalent) providing rear-panel interfaces to the processor board's COM1 and COM2 serial channels. See the "J2/J4 COM1/COM2 Serial Ports Pinout" table below for pin definitions.

Table 4. J2, J4 (COM1, COM2 Serial Ports) Pinout

Pin #	Function	Pin #	Function	Pin #	Function
1	DCD	4	DTR	7	RTS
2	RXD	5	GND	8	CTS
3	TXD	6	DSR	9	RIN

J5 (Keyboard Connector)

J5 is a 6-pin D-shell connector (AMP 749180-1 or equivalent) transitioning the processor board's keyboard signals for rear-panel access. See the "J5 Keyboard Connector Pinout" table below for pin definitions.

Table 5. J5 Keyboard Connector Pinout

Pin#	Function	Pin#	Function
1	KBDAT	4	VCC (PTC)
2	No Connect	5	KBCLK
3	GND	6	No Connect

J6 (Mouse Port Connector)

J6 is a 6-pin PS/2 mouse port connector (AMP 749180-1 or equivalent). See the “J6 Mouse Port Connector Pinout” table below for pin definitions.

Table 6. J6 Mouse Port Connector

Pin#	Function	Pin#	Function
1	MSDAT	4	VCC (PTC)
2	No Connect	5	MSCLK
3	GND	6	No Connect

J7, J8 (Ethernet A, B Connectors)

J7 (ENET A) and J8 (ENET B) are RJ-45 connectors (Stewart SI-40231) transitioning the processor board's Ethernet signals to the rear panel. Depending on the application's Ethernet requirements (front panel/rear-panel access; HA/non-HA system), configuration of switches on the processor board may be necessary. See the processor board manual for details. See the “J7/J8 Ethernet A/B Connectors Pinout” table for pin definitions.

NOTES:

- 1) J8 ENET B is not available in a High Availability system.
- 2) The two LEDs located inside the ZT 4806's RJ-45 connectors are non-functional.

Table 7. J7, J8 (Ethernet A, B Connectors) Pinout

Pin#	Function	Pin#	Function
1	TX+	5	GND
2	TX-	6	RX-
3	RX+	7	GND
4	GND	8	GND

3.3 Internal Connectors

J9 (EIDE Connector)

J9 is an internal (i.e., not on the faceplate) 40-pin male connector (unshrouded 0.25" square posts on 0.1" 2 x 20 grid) providing access to the processor board's secondary EIDE channel. See the "J9 EIDE Connector Pinout" table below for pin definitions.

Table 8. J9 EIDE Connector Pinout

Pin #	Function	Pin #	Function
1	PWRGD	21	SDDRQ
2	GND	22	GND
3	DD7	23	SDIOW#
4	DD8	24	GND
5	DD6	25	SDIOR#
6	DD9	26	GND
7	DD5	27	IORDY
8	DD10	28	10K PULL UP
9	DD4	29	SSDAK#
10	DD11	30	N/C
11	DD3	31	IRQ15
12	DD12	32	ISAIO16#
13	DD2	33	DA1
14	DD13	34	N/C
15	DD1	35	DA0
16	DD14	36	DA2
17	DD0	37	CS1S#
18	DD15	38	CS3S#
19	GND	39	IDELED#
20	N/C	40	GND

J10 (Floppy Drive Connector)

J10 is an internal (for example, not on the faceplate) 34-pin male connector (unshrouded 0.25" square posts on 0.1" 2 x 17 grid) providing access to the processor board's floppy signals. See the "J10 Floppy Drive Connector Pinout" table below for pin definitions.



Caution: Do not connect the floppy drive directly to system power. Floppy disks in the drive may become corrupted. Power the floppy drive from the host processor board. This causes the floppy drive power and control lines to become active at the same time, thereby maintaining signal integrity. For development purposes floppy power may be sourced from [J11](#).

Table 9. J10 Floppy Drive Connector Pinout

Pin #	Function	Pin #	Function
1	GND	18	DIR#
2	DENSL	19	GND
3	GND	20	STEP#
4	N/C	21	GND
5	GND	22	WDATA#
6	MSEN0	23	GND
7	GND	24	WGATE#
8	INDEX#	25	GND
9	GND	26	TRK0#
10	MTR0#	27	GND
11	GND	28	WP#
12	DR1#	29	GND
13	GND	30	RDATA#
14	DR0#	31	GND
15	GND	32	HDSEL#
16	MTR1#	33	GND
17	GND	34	DSKCHG#

J11 (Reserved)

J11 is an internal (not on the faceplate) 5-pin male connector (unshrouded 0.025" square posts on a 0.1" 1 x 5 grid) providing access to the ZT 4804 local isolated SMBus signals. VCC and Logic Ground are also provided. Note that VCC may or may not be switched from a host Hot Swap processor board, depending on the backplane used. The VCC pin (pin 5) is fused for 1A DC. See the "J11 Reserved Connector Pinout" table below for pin definitions.

Table 10. J11 Reserved Connector Pinout

Pin	Function
1	Logic Ground
2	SMB Clock
3	SMB Data
4	SMB Alert
5	VCC

Specifications

This section describes the electrical, environmental, and mechanical specifications of the ZT 4806 RTM. It includes connector descriptions and pinouts, as well as illustrations of the board dimensions and connector locations.

4.1 Electrical Specifications

Power Requirements	Minimum	Typical	Maximum
Supply Voltage, VCC	4.75 V	5.00 V	5.25 V
Supply Current, VCC = 5.0 V	0 mA	—	200 mA

Power is supplied to an external keyboard and mouse via J5 and J6, respectively.

4.2 Environmental Specifications

- Operating Temperature: 0° to +65° Celsius
- Storage Temperature: -40° to +85° Celsius
- Relative Humidity: < 95% at 40° Celsius, non-condensing
- MTBF: > 24.9 years at 40° Celsius
- MTTR: 3 min (based on hot-swap board replacement) plus system startup

4.3 Mechanical Specifications

The topics listed below provide the following mechanical specifications:

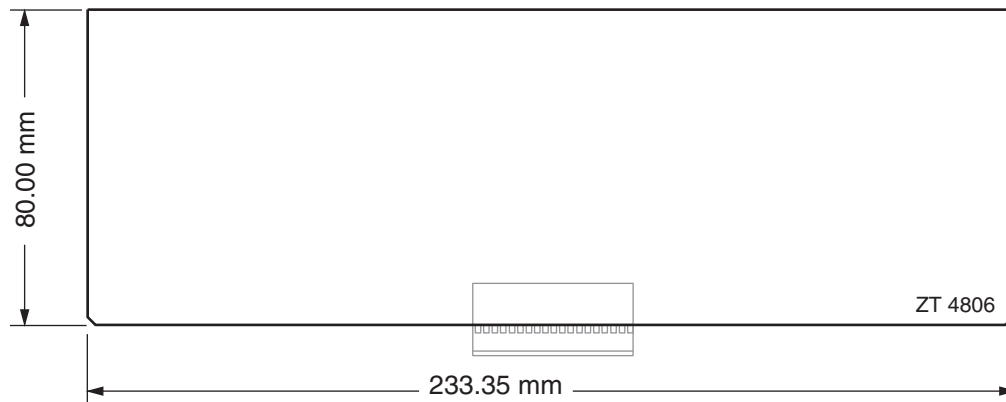
- Board dimensions and weight
- Connectors (including connector locations, descriptions, and pinouts)

Board Dimensions and Weight

Mechanical dimensions for the ZT 4806 are shown in the “Board Dimensions” illustration and outlined below.

- Board Length: 80 mm (3.150 inches)
- Board Width: 233.35 mm (9.187 inches)
- Board Thickness: 1.6 mm (0.063 inches)
- Board Weight: 182 grams (6.45 ounces)

Figure 4. Board Dimensions



Connectors

The ZT 4806 includes several connectors to interface to application-specific devices. A detailed description and pinout for each connector is given in Section 3, “[Connectors](#).”

Section

5

In Case of Difficulty

If you encounter difficulty in using this Performance Technologies product, you can contact our support personnel in several ways. Please have the product model and serial number handy before contacting Product Support.

Internet

www.pt.com

Email

support@pt.com

Describe your problem in detail. Please include your return email address and telephone number.

FAX

(805) 541-5088

Mark your FAX "Attention: Product Support." Describe your problem in detail. Please include your return FAX number and telephone number.

Telephone

(805) 541-0488

Request Product Support. Our offices are open between 8:00 am and 5:00 pm Pacific Time, Monday through Friday.

If you are located outside North America, we encourage you to contact the local Performance Technologies distributor or agent for support. Many of our distributors or agents maintain technical support staffs.

Performance Technologies

1050 Southwood Drive
San Luis Obispo, CA 93401 USA