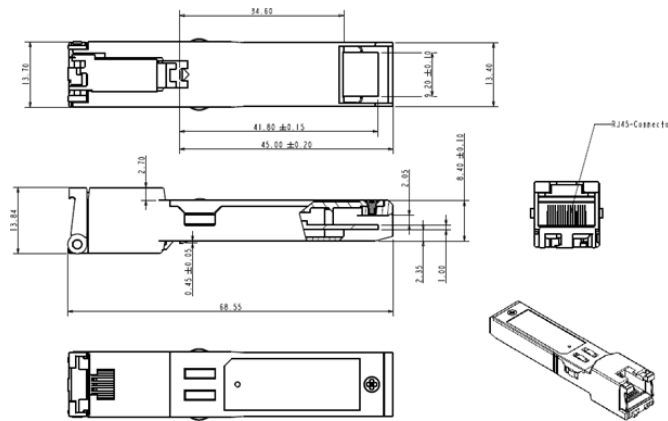


- Hot-plugable SFP Form Factor
- Up to 10Gbps Bi-directional Data Link
- Supports Links up to 30m using Cat 6a/7 Cables
- Low Power Dissipation (1.2W)
- Supports Full Duplex
- Compact RJ-45 Data Interface Connector
- Access to physical layer via 2-wire serial data bus
- Full Metal Case for Low EMI
- IP40 Aluminium Enclosure
- 0°C ~ +70°C Case Operating Temperature

Overview:

The PDT-SFP-01-10G-0003 is a high performance Small Form Pluggable (SFP) transceiver which is specifically designed for communications links that require 10Gbps data transfer using CAT 6a/7 cable over a distance of up to 30m. The device is also compatible with legacy Ethernet equipment using auto-negotiation techniques. This product negates the need for the installation of Fiber Cables at locations that require high speed over short distances. The modules provides standard serial ID information which can be accessed at address A0h via the 2 wire serial CMOS EEPROM protocol. The physical IC can also be accessed via 2 wire serial bus at address ACh. The device is ideal for creating trunking links with copper cable where it is not possible or practical to install fibre optic cables

Mechanical Data



Ordering Information

Model	Description	Part No
PDT-SFP-01-10G-0003	RJ-45 Module - 10Gbps - 30m	0020-00002

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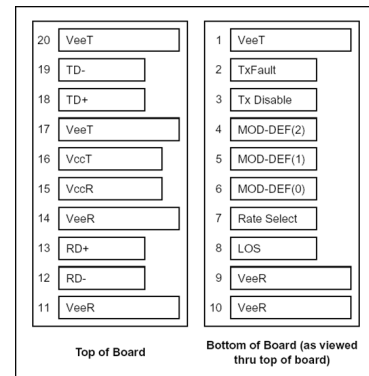


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Technical Data

Pin	Symbol	Description	Ref.
1	VEET	Transmitter Ground (Common with Receiver Ground)	8.1
2	TFAULT	Transmitter Fault. Not supported.	
3	TDIS	Transmitter Disable. Laser output disabled on high or open.	8.2
4	MOD_DEF(2)	Module Definition 2. Data line for Serial ID.	8.3
5	MOD_DEF(1)	Module Definition 1. Clock line for Serial ID.	8.3
6	MOD_DEF(0)	Module Definition 0. Grounded within the module.	8.3
7	Rate Select	No connection required	
8	LOS	Grounded	8.4
9	VEER	Receiver Ground (Common with Transmitter Ground)	8.1
10	VEER	Receiver Ground (Common with Transmitter Ground)	8.1
11	VEER	Receiver Ground (Common with Transmitter Ground)	8.1
12	RD-	Receiver Inverted DATA out. AC Coupled.	
13	RD+	Receiver Non-inverted DATA out. AC Coupled.	
14	VEER	Receiver Ground (Common with Transmitter Ground)	8.1
15	VCCR	Receiver Power Supply	
16	VCCT	Transmitter Power Supply	
17	VEET	Transmitter Ground (Common with Receiver Ground)	8.1
18	TD+	Transmitter Non-Inverted DATA in. AC Coupled.	
19	TD-	Transmitter Inverted DATA in. AC Coupled.	
20	VEET	Transmitter Ground (Common with Receiver Ground)	8.1



Pin Definitions

Notes:

8.1 - Circuit Ground is Connected to Chassis Ground

8.2 - PHY is disabled on TDIS>2.0V or Open, Enabled on TDIS<0.8V

8.3 - Should be pulled up with 4.7k-10k Ohms on host board to a voltage between 2.0V and 3.6V - MOD DEF(0) pulls line low to indicate module is plugged in

Environmental Specifications						
Parameter	Symbol	Min	Typ	Max	Units	Notes/Conditions
Operating Temperature	Top	0		70	°C	Case Temperature
Storage Temperature	Tsto	0		70	°C	Ambient Temperature

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+3.3V Volt Electrical Power Interface						
Parameter	Symbol	Min	Typ	Max	Units	Notes/Conditions
Supply Current	I _s			600	mA	1.2W max
Input Voltage	V _{cc}	3.13	3.3	3.47	V	Referenced to GND
Maximum Voltage	V _{max}			4	V	
Surge Current	I _{surge}			During Hot Plug Operation

+3.3V Electrical Interface

Low-Speed Signals, Electronic Characteristics					
Parameter	Symbol	Min	Max	Units	Notes/Conditions
SFP Output LOW	VOL	0	0.5	V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector
SFP Output HIGH	VOH	host_Vcc - 0.5	host_Vcc + 0.3	V	4.7k to 10k pull-up to host_Vcc, measured at host side of connector
SFP Input LOW	VIL	0	0.8	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector
SFP Input HIGH	VIH	2	Vcc + 0.3	V	4.7k to 10k pull-up to Vcc, measured at SFP side of connector

Low-Speed Signals - Electronic Characteristics

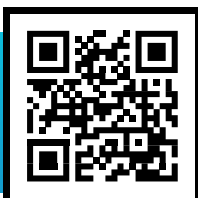
High-Speed Electrical Interface Transmission Line-SFP						
Parameter	Symbol	Min	Typ	Max	Units	Notes/Conditions
Line Frequency	f _L	10	125	1000	MHz	5-level encoding, per IEEE 802.3u
Tx Output Impedance	Z _{out} TX		100		Ohm	Differential for all Frequencies between 1MHz and 125MHz
Rx Input Impedance	Z _{in} RX		100		Ohm	Differential for all Frequencies between 1MHz and 125MHz

High-Speed Electrical Interface - Transmission Line-SFP

High-Speed Electrical Interface, Host-SFP						
Parameter	Symbol	Min	Typ	Max	Units	Notes/Conditions
Single ended data input swing	V _{insing}	180		1700	mV	Single ended
Single ended data output swing	V _{outsing}	350		850	mV	Single ended
Rise/Fall Time	T _r , T _f		175		psec	20% -80%
Tx Input Impedance	Z _{in}		50		Ohm	Single ended
Rx Output Impedance	Z _{out}		50		Ohm	Single ended

High-Speed Electrical Interface - Host-SFP

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