Optospan

SFP+ 300m transceiver | 10G SR Ethernet

Datasheet

SFP+ Optical Transceiver Product Features

SPP-81D-M300T85

- 10GBASE-SR/SW Ethernet 5.1dB SFP+
- 300m SR SFP+ for MMF @ 10Gbps
- 850nm VCSEL+PIN Laser 300m SFP+
- 0°C - 70°C Temperature - Extended/Industrial Available
- 2-Wire Interface Digital Diagnostic Monitoring (SFF-8724)
- Hot-swappable for SFP+ LC ports
- OptoSpan 1 year standard warranty
- Use with Finisar, Avago, JDSU & networks not requiring OEM compatibility
- Compliant with SFF-8431, SFF-8432
- RoHS compliant

* For OEM Compatibility, use Platinum Series Part# PSPP-81DT85M300

Applications

- 10GBASE-SR @ 10.31Gbps
- 10 Gigabit Ethernet
- Fibre Channel 8x
- Fibre Channel 4x

Description

OptoSpan SPP-81D-M300T85 is a Duplex 10GBASE-SR/SW Ethernet 10G Ethernet / 8G FC SFP+ transceiver designed for long distance optical communications up to 300m with signaling rates up to 10Gbps.

OptoSpan 10Gb Standard optical transceivers are compatible with many brands such as Finisar, Avago, JDSU and network environments that do not require any special compatibility. For networks that require special OEM compatibility, such as CISCO, BROCADE, JUNIPER, ALCATEL, HP, NORTEL, EMC, QLOGIC and other OEMs, consider OptoSpan Platinum OEM Series transceiver model# PSPP-81DT85M300.

All OptoSpan long-reach SFP+ s are ROHS compliant, allow for real-time diagnostic monitoring as per SFF-8472 and designed to meet Multi-Source Agreement (MSA) standards for Duplex transceivers with LC interface.

Optical Budget Calculation for 300m SFP+ Optical Transceiver

SPP-81D-M300T85	Distance: 300m				Fiber: 850nm MMF	
	Tx Min dBm	Tx Max dBm	Rx Min dBm	Rx Max dBm	Link Attenuation dB	Power Budget dB
Product Specifications	-6	-1	-11.1	-1		
Optical Calculation Results			-7.99	-2.99	1.99	5.1

General Specifications

Parameter	Unit	Min.	Typ.	Max
Absolute Maximum Ratings				
Maximum Supply Voltage	V	-0.5		3.6
Storage Temperature	ºC	-40		+85
Case Operating Temperature	ºC	0		+70
Recommended Operating Condition				
Supply Voltage	V	3.15	3.3	3.45
Supply Current	mA			300
Data Rate	Gbps	0.6		10.31

Electrical Characteristics

Parameter	Unit	Min.	Typ.	Max
Transmitter				
Differential Input Voltage Swing	mVpp	150		1200
Input Differential Impedance	ohm	85	100	115
Transmit Disable Voltage - High	V	2		Vcc+0.3
Transmit Disable Voltage - Low	V	0		0.8
Transmit Fault Voltage - High	V	2		Vcc+0.3
Transmit Fault Voltage - Low	V	0		0.8
Receiver				
Differential Output Voltage Swing	mVpp	350		700
Differential Output Impedance	ohms	85	100	115
LOS Output Voltage - High	V	2		Vcc+0.3
LOS Output Voltage - Low	V	0		0.8

Optical Characteristics

Parameter	Unit	Min.	Typ.	Max
Transmitter				
Output Optical Power	dBm	-6		-1
Optical Extinction Ratio	dB	3.0	5.0	
Optical Wavelength	nm	840	850	860
Spectral Width	nm			0.45
Side Mode Suppression Ratio	dB			
Receiver				
Optical Center Wavelength	nm	840	850	860
Receiver Sensitivity @ 10.3	dBm	-11.1		-1
LOS DE-Assert	dBm			-12.5
LOS Assert	dBm	-25		

Laser Safety

This is a class 1 Laser Product according to IEC 60825-1:1993:+A1:1997+A2:2001. This product complies with 21 CFR 1040.10 and 1040 except for deviations pursuant to Laser Notice No. 50, dated July 26, 2001.

PIN Layout

11	VEeR	VEeR 10
12	RD-	RS1 9
13	RD+	RX_LOS 8
14	VEeR	RS0 7
15	VccR	MOD-ABS 6
16	VccT	SCL 5
17	VEeT	SDA 4
18	TD+	TX_DISABLE 3
19	TD-	TX_FAULT 2
20	VEeT	VEeT 1

TOWARD HOST ←

TOWARD BEZEL →

10

TOWARD HOST ←

BOTTOM OF BOARD AS VIEWED FROM TOP THROUGH BOARD

1

11

TOP VIEW OF BOARD

20
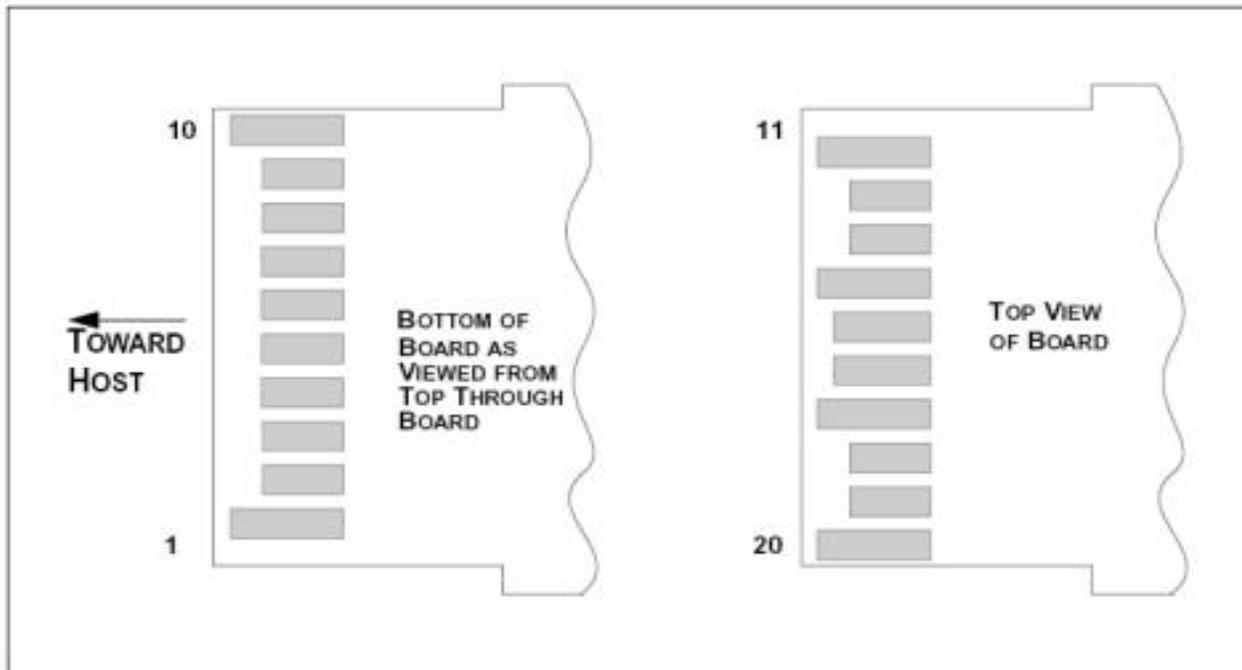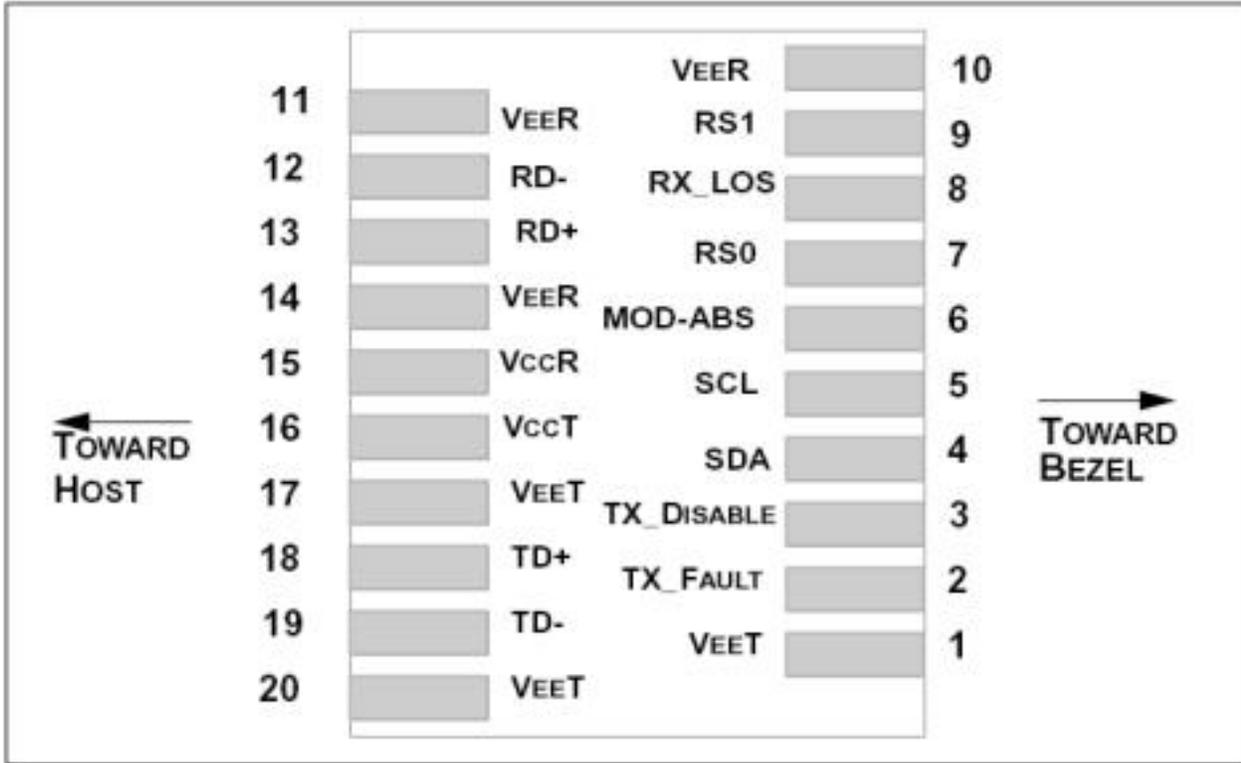
PIN Functions

Pin #	Name - Description
1	Transmitter Ground
2	Transmitter Fault Indication
3	Transmitter Disable
4	Module Definition 2
5	Module Definition 1
6	Module Definition 0
7	RX Rate Select
8	Loss of Signal
9	TX Rate Select (LVTTL).
10	Receiver Ground
11	Receiver Ground
12	Inv. Receiver Ground
13	Received Data Out
14	Receiver Ground
15	Receiver Power
16	Transmitter Power
17	Transmitter Ground
18	Transmit Data In
19	Inv. Transmit Data In
20	Transmitter Ground
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Mechanical Layouts
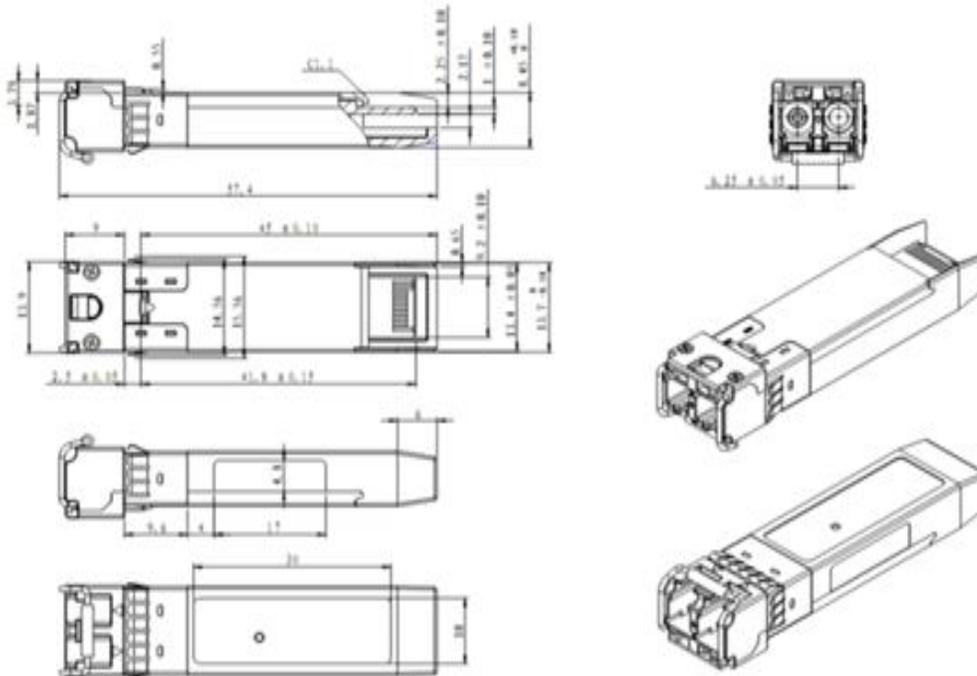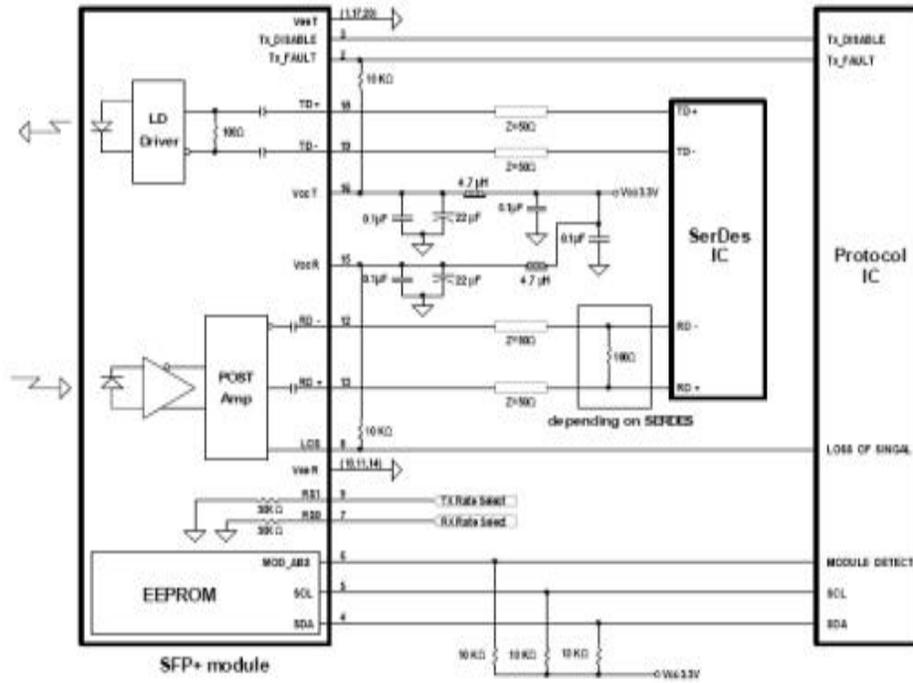
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