SFP-10GB-50DW17-80-PRO

MSA and TAA Compliant 10GBase-DWDM 50GHz SFP+ Transceiver (SMF, 1563.86nm, 80km, DOM, 0 to 70C, LC)

Features

- SFF-8432 and SFF-8472 Compliance
- Duplex LC Connector
- Commercial Temperature 0 to 70 Celsius
- Single-mode Fiber
- Hot Pluggable
- Excellent ESD Protection
- Metal with Lower EMI
- RoHS Compliant and Lead Free

Applications:

- 10x Gigabit Ethernet over DWDM
- 8x/10x Fibre Channel
- Access and Enterprise

Product Description

This MSA Compliant SFP+ transceiver provides 10GBase-DWDM throughput up to 80km over single-mode fiber (SMF) using a wavelength of 1563.86nm via an LC connector. It is built to MSA standards and is uniquely serialized and data-traffic and application tested to ensure that they will integrate into your network seamlessly. Digital optical monitoring (DOM) support is also present to allow access to real-time operating parameters. This transceiver is Trade Agreements Act (TAA) compliant. We stand behind the quality of our products and proudly offer a limited lifetime warranty.

Proline's transceivers are RoHS compliant and lead-free.

TAA refers to the Trade Agreements Act (19 U.S.C. & 2501-2581), which is intended to foster fair and open international trade. TAA requires that the U.S. Government may acquire only "U.S. – made or designated country end products.

Rev. 022824

Wavelength Guide

Channel #	Center Wavelength (nm)	Channel #	Center Wavelength (nm)
18	1563.05	40	1545.32
19	1562.23	41	1544.53
20	1561.42	42	1543.73
21	1560.61	43	1542.94
22	1559.79	44	1542.14
23	1558.98	45	1541.35
24	1558.17	46	1540.56
25	1557.36	47	1539.77
26	1556.55	48	1538.98
27	1555.75	49	1538.19
28	1554.94	50	1537.40
29	1554.13	51	1536.61
30	1553.33	52	1535.82
31	1552.52	53	1535.04
32	1551.72	54	1534.25
33	1550.92	55	1533.47
34	1550.12	56	1532.68
35	1549.32	57	1531.90
36	1548.51	58	1531.12
37	1547.72	59	1530.33
38	1546.92	60	1529.55
39	1546.12	61	1528.77

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Storage Temperature	Tstg	-40		85	°C	
Operating Temperature	Tc	0		70	°C	
Supply Current	Icc		450	500	mA	1
Data Rate	DR	1.2	10.3125	11.3	Gbps	2
Maximum Supply Voltage	Vcc	-0.5		4.0	V	1
Bit Error Rate	BER			10^{-12}		

Notes:
1. For electrical power interface.
2. IEEE 802.3ae.

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.14	3.3	3.46	V	
Transmitter						
Input Differential Impedance	RIN		100			
Differential Data Input Swing	VIN,pp	300		850	mV	
Transmit Disable Voltage	VD	2		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee+0.8	V	
Receiver						
Differential Data Output Swing	VOUT,pp	300		850	mV	
Data Output Rise/Fall Time (20-80%)	Tr/Tf	28			ps	
LOS Fault	Vlosa	2		Host_Vcc	V	
LOS Normal	Vlosd	Vee		Vee+0.5	V	

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Output Optical Power	Ptx	0		4	dBm	1
Optical Center Wavelength	λC	λC-0.05	λC	λC+0.05		2
Extinction Ratio	ER	9			dB	
Spectral Width (-20dB)	Δλ			0.6	nm	
Side Mode Suppression Ratio	SMSR	30			dB	
Relative Intensity Noise	RIN			-128	dB/Hz	
Transmitter Dispersion Penalty	TDP			3.2	dB	
Launch Power of Off Transmitter	Poff			-30	dBm	1
Receiver						
Optical Center Wavelength	λC	1260		1620	nm	
Average Receive Power	Prx	-24		-7	dBm	
Receiver Sensitivity @10.3Gbps	S			-24	dBm	3
Receiver Reflectance	RR			-27	dB	
LOS Assert	LOSA	-35			dBm	
LOS De-Assert	LOSD			-27	dBm	
LOS Hysteresis	LOSH	0.5			dB	

Notes:

1. Average.
2. λ = specified ITU grid wavelength.
3. Measured with the PRBS $2^{31}-1$ test mode and BER<10^{-12}.

Pin Descriptions

Pin	Symbol	Name/Description	Notes
1	VeeT	Transmitter Ground. Common with Receiver Ground.	1
2	Tx_Fault	Transmitter Fault.	
3	Tx_Disable	Transmitter Disable. Laser output disables on "high" or "open."	2
4	SDA	2-Wire Serial ID Interface Data Line.	3
5	SCL	2-Wire Serial ID Interface Clock Line.	3
6	MOD_ABS	Module Absent. Grounded within the module.	3
7	RSO	Rate Select 0. Not used.	
8	LOS	Loss of Signal Indication. "Logic 0" indicates normal operation.	4
9	RS1	Rate Select 1. Not used.	1
10	VeeR	Receiver Signal Ground. Common with Transmitter Ground.	1
11	VeeR	Receiver Signal Ground. Common with Transmitter Ground.	1
12	RD-	Inverse Received Data Out. AC Coupled.	
13	RD+	Non-Inverted Receiver Data Out. AC Coupled.	
14	VeeR	Receiver Signal Ground. Common with Transmitter Ground.	1
15	VccR	Receiver Power Supply.	
16	VccT	Transmitter Power Supply.	
17	VeeT	Transmitter Signal Ground. Common with Receiver Ground.	1
18	TD+	Transmitter Non-Inverted Data In. AC Coupled.	
19	TD-	Transmitter Inverted Data In. AC Coupled.	
20	VeeT	Transmitter Signal Ground.	1

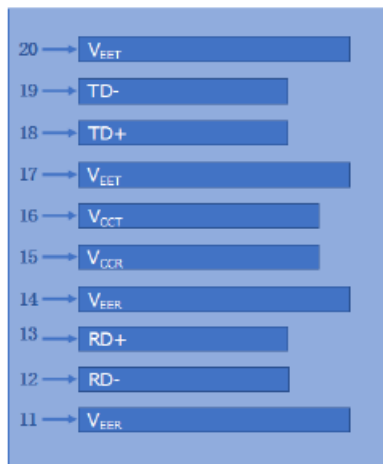**Notes:**

1. Circuit ground is isolated from the chassis ground.
2. Disabled: Tdis>2V or open. Enabled: Tdis<0.8V.
3. Should be pulled up with 4.7kΩ to 10kΩ on the host board to a voltage between 2V and 3.46V.
4. LOS is open collector output.

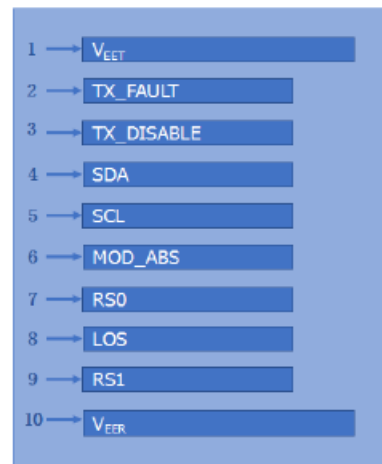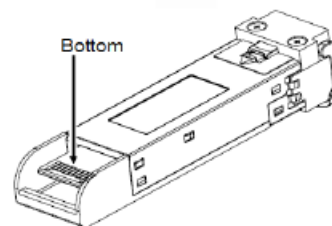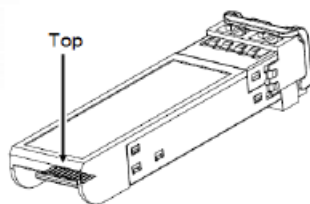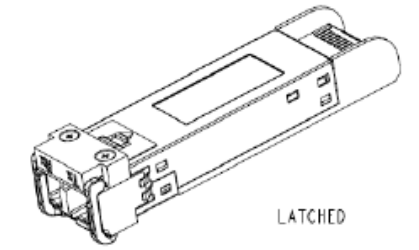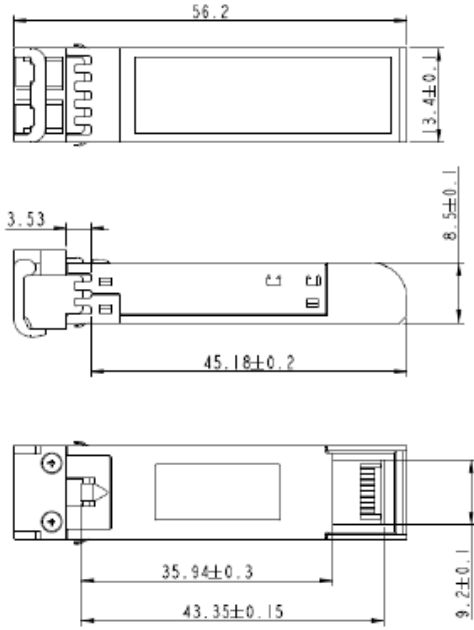**Block Diagram of Transceiver**
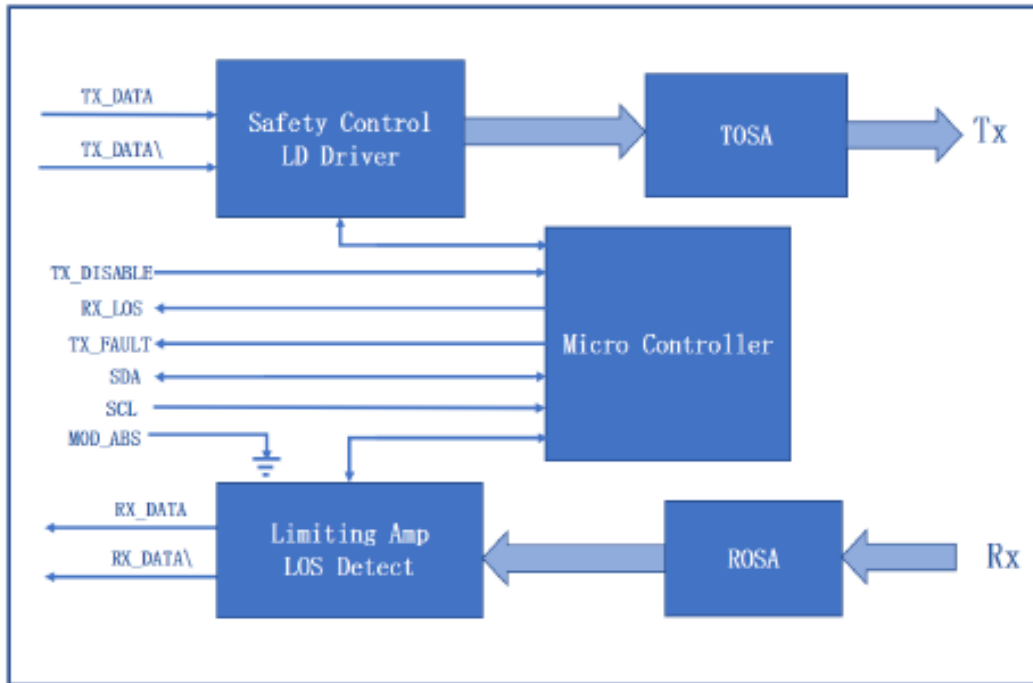
Electrical Pad Layout

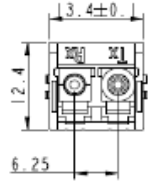| Top of Board		Bottom of Board
20 → V_{EET}		1 → V_{EET}
19 → TD-		2 → TX_FAULT
18 → TD+		3 → TX_DISABLE
17 → V_{EET}		4 → SDA
16 → V_{CCT}		5 → SCL
15 → V_{CCR}		6 → MOD_ABS
14 → V_{EER}		7 → RS0
13 → RD+		8 → LOS
12 → RD-		9 → RS1
11 → V_{EER}		10 → V_{EER}

Top of Board

Bottom of Board

Top

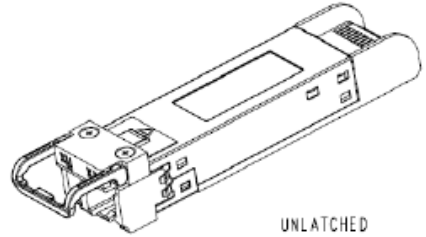Bottom

Mechanical Specifications

About Us:

Proline Options is one of North America's leading providers of transceivers and high speed cabling. With a reputation for quality, tested products that cover the connectivity spectrum, Proline Options has a solution for you regardless of the specification.

At Proline Options, every product is tested in its intended application - never batch or spec tested only. We run bandwidth, distance and IOS network tests. We have documented an impressive 0.03% failure rate over the last 10 years. To continue this rate of success we invest millions annually in our own on-site testing lab.

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