

SFP-10GB-CW-47-100-CX-OPC

Calix® Compatible TAA Compliant 10GBase-CWDM SFP+ Transceiver (SMF, 1490nm, 100km, LC, DOM)

Features

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



Applications:

- 10x Gigabit Ethernet over CWDM
- 8x/10x Fibre Channel
- Access, Metro and Enterprise
- Mobile Fronthaul CPRI/OBSAI

Product Description

This Calix® Compatible SFP+ transceiver provides 10GBase-CWDM throughput up to 100km over single-mode fiber (SMF) using a wavelength of 1490nm 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.

CWDM Available Wavelengths

Wavelengths	Min.	Typ.	Max.
47	1465	1471	1477
49	1485	1491	1497
51	1505	1511	1517
53	1525	1531	1537
55	1545	1551	1557

Absolute Maximum Ratings

Parameter	Symbol	Min.	Typ.	Max.	Unit
Maximum Supply Voltage	Vcc	-0.5		4.0	V
Storage Temperature	Tstg	-40		85	°C
Operating Case Temperature	Tc	0	25	70	°C
Bit Error Rate	BER			10 ⁻¹²	
Data Rate	DR	1.2	10.3125	11.3	Gbps

Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Power Supply Voltage	Vcc	3.14	3.30	3.46	V	
Power Supply Current	Icc			550	mA	1
Power Consumption	PC			1.5	W	
Transmitter						
Input Differential Impedance	RIN		100		Ω	
Differential Data Input Swing	VIN,pp	120		1200	mV	
Transmit Disable Voltage	VD	2		Vcc	V	
Transmit Enable Voltage	VEN	Vee		Vee+0.8	V	
Receiver						
Differential Data Output Swing	VOUT,pp	640		1000	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	

Notes:

1. For the electrical power interface.

Optical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Notes
Transmitter						
Output Optical Power	P _{TX}	1.5		4	dBm	1
Optical Center Wavelength	λ_C	1465	1471	1477	nm	
Extinction Ratio	ER	9			dB	
Spectral Width (-20dB)	$\Delta\lambda$			0.6	nm	
Side-Mode Suppression Ratio	SMSR	30			dB	
Relative Intensity Noise	RIN			-128	dB/Hz	
Transmitter Dispersion Penalty	TDP			4	dB	
Transmitter Jitter						2
Launch Power of Off Transmitter	P _{off}			-30	dBm	1
Receiver						
Optical Center Wavelength	λ_C	1260		1620	nm	
Average Receive Power	P _{RX}	-25		-7	dBm	
Receiver Sensitivity @10.3Gbps	R _{X_SEN}			-25	dBm	1
Receiver Reflectance	T _{R_RX}			-27	dB	
LOS Assert	LOSA	-35			dBm	
LOS De-Assert	LOSD			-27	dBm	
LOS Hysteresis	LOSH	0.5			dB	

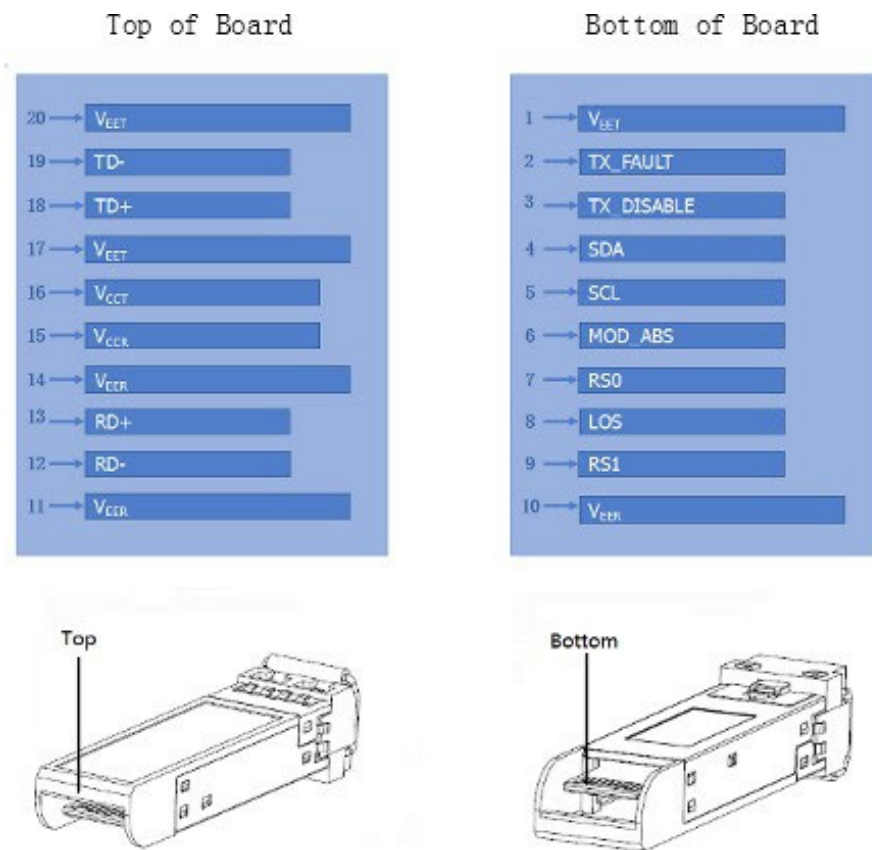
Pin Descriptions

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 disabled on “high” or “open.”	2
4	SDA	2-Wire Serial Interface Data.	3
5	SCL	2-Wire Serial Interface Clock.	3
6	MOD_ABS	Module Absent. Grounded within the module.	3
7	RS0	No Connection Required.	
8	LOS	Loss of Signal Indication. “Logic 0” indicates normal operation.	4
9	RS1	No Connection Required.	1
10	VeeR	Receiver Ground (Common with Transmitter Ground).	1
11	VeeR	Receiver Ground (Common with Transmitter Ground).	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).	1
15	VccR	Receiver Power Supply.	
16	VccT	Transmitter Power Supply.	
17	VeeT	Transmitter 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 Ground (Common with Receiver Ground).	1

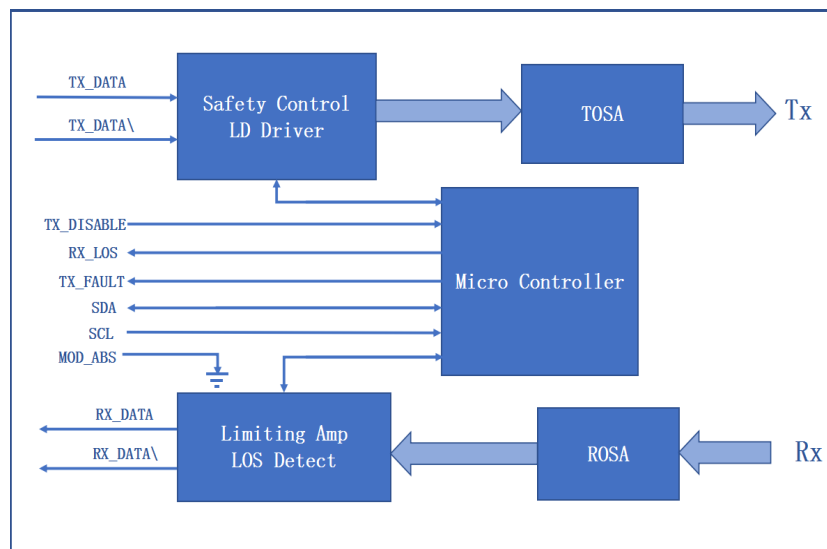
Notes:

1. The circuit ground is isolated from the chassis ground.
2. Disabled: TDIS>2V or open, enabled: TDIS<0.8V.
3. Should be pulled up with 4.7k Ω to 10k Ω on the host board to a voltage between 2V and 3.6V.
4. LOS is an open collector output.

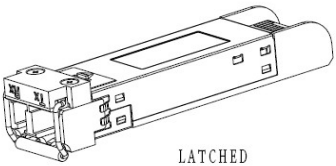
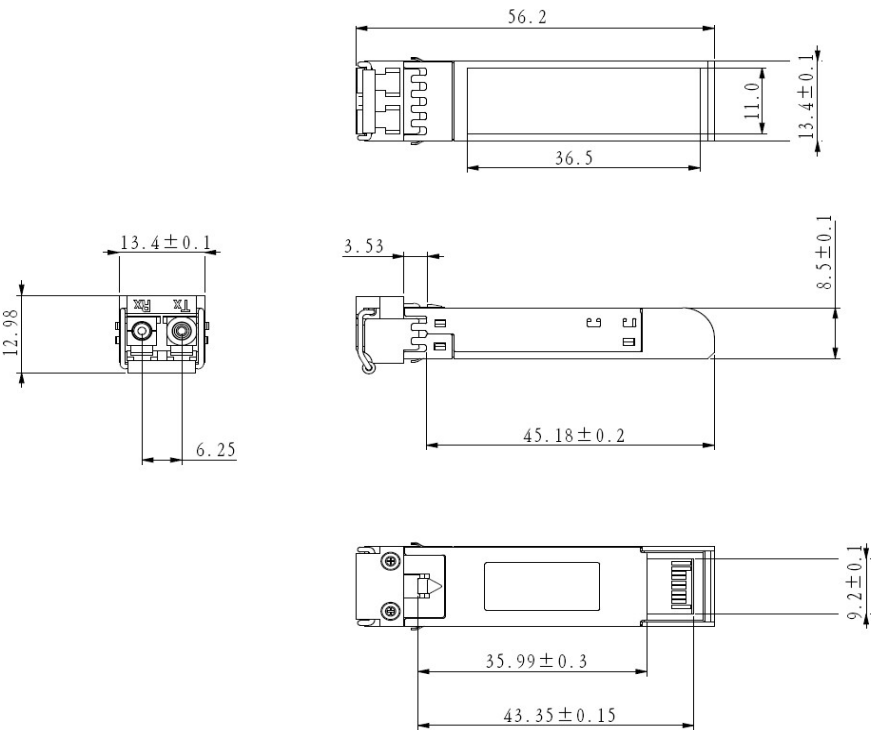
Electrical Pad Layout



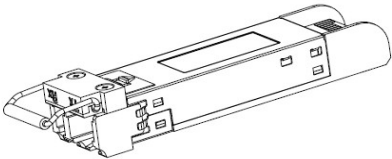
Block Diagram of Transceiver



Mechanical Specifications



LATCHED



UNLATCHED