

25Gb/S SFP28 CWDM Transceiver

P/N: TSFP28-BC1FxxG



Product Features

- 25.78 Gbps serial optical interface
- 1310nm series CWDM DFB transmitter
And PIN PD receiver
- Superior eye performances
- Up to 10km on 9/125 um SMF
- 0°C to 70°C case temperature operating range

Application

- 25G GE LR
- eCPRI , CPRI
- Ethernet Switches
- High-speed Servers
- High-performance Computing Clusters

Absolute Maximum Rating

Parameter	Min	Max	Unit	Note
Storage Temperature	-40	85	°C	
Relative Humidity	0	85	%	

Recommended Operating Conditions

Parameter	Min	Typical	Max	Unit	Note
Case Operating Temperature	0		70	°C	
Power Supply Voltage	3.15	3.3	3.45	V	
Data Rate per Channel		25.78125		Gbps	
Bit Error Rate			5E(-5)		
Link Distance			10	km	

Electrical Characteristics

Parameter	Min	Typical	Max	Unit	Note
Transceiver Electrical Characteristics					
TRx Power Consumption			1	W	
Supply Current			400	mA	

Optical Characteristics

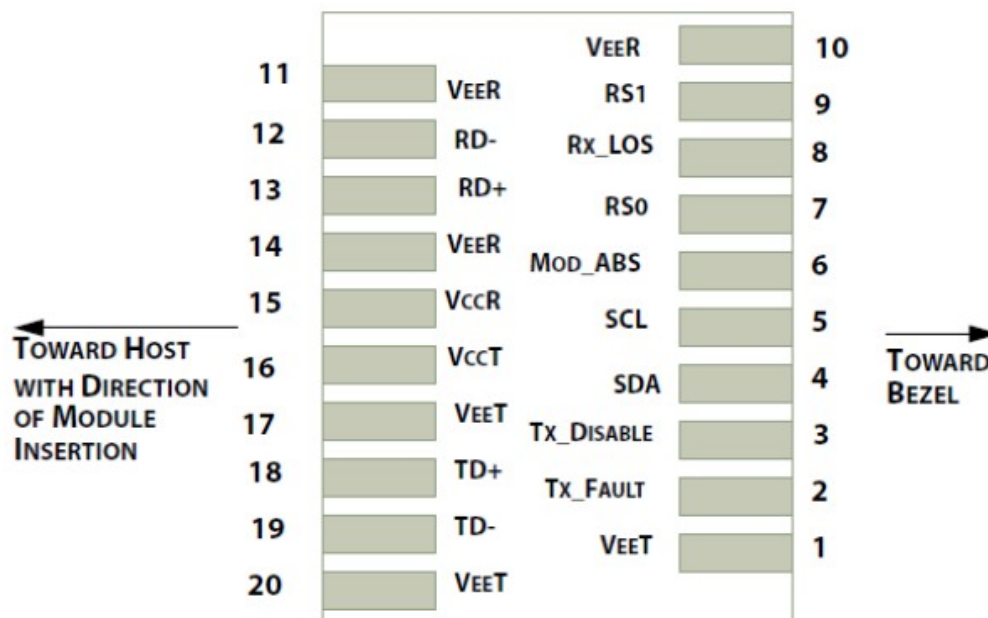
Parameter	Symbol	Min	Typical	Max	Unit	Note
Transmitter Optical Characteristics						
Transmission Wavelength	λ	$\lambda-6.5$	λ	$\lambda+6.5$	nm	1
Side Mode Suppression Ratio	SMSR	30			dB	
Average Optical Power 25.78Gb/s	P_{avg}	-7.0		3.0	dBm	
Transmitter and Dispersion Penalty	TDP			3	dB	
Optical Modulation Amplitude, each lane	OMA	-4		2.5	dBm	
Average Launch Power of OFF Transmitter	P_{off}			-20	dBm	
Extinction Ratio	ER	3.5			dB	

Optical Return Loss Tolerance	TOL			20	dB	
Transmitter Reflectance	R _T			-12	dB	
Receiver Optical Characteristics						
Optical Center Wavelength	λ	1260		1370	nm	
Damage Threshold		3.5			dBm	
Receive Power Overload				3.5	dBm	
Receiver reflectance				-12	dB	
Receiver sensitivity (OMA)	S _{OMA}			-11.3	dBm	
LOS Assert	LOS _A			-17	dBm	
LOS De-Assert	LOS _D	-30			dBm	
LOS Hysteresis		0.5			dB	

Note:

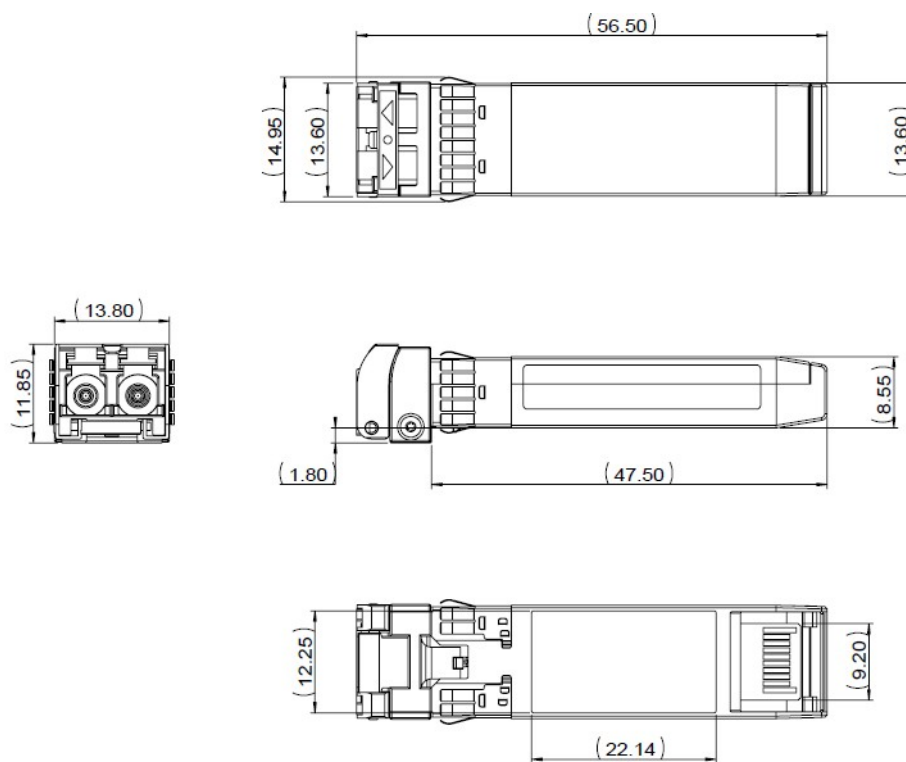
- The center wavelength (λ_c) are 1271nm, 1291nm, 1311 nm and 1331nm over the case operating temperature (T_c)

Module Pad Assignments and Descriptions



Pin	Logic	Symbol	Description	Notes
1		VeeT	Module Trasmitter Ground	
2	LVTTL-O	TX_Fault	Module Trasmitter Fault	
3	LVTTL-I	TX_Dis	Trasmitter Disable;Turns off Trasmitter laser output	
4	LVTTL-I/O	SDA	2-Wire Serial Interface Data Line	
5	LVTTL-I	SCL	2-Wire Serial Interface Clock	
6		MOD_DEF0	Module Definition,Grounded in the module	
7	LVTTL-I	RS0	Receiver Rate Select	
8	LVTTL-O	RX_LOS	Receiver Loss of Signal Indication Active LOW	
9	LVTTL-I	RS1	Transmitter Rate Select(not used)	
10		VeeR	Module Receiver Ground	
11		VeeR	Module Receiver Ground	
12	CML-O	RD-	Receiver Inverted Data Output	
13	CML-O	RD+	Receiver Data output	
14		VeeR	Module Receiver Ground	
15		VccR	Module Receiver 3.3 V Supply	
16		VccT	Module Receiver 3.3 V Supply	
17		VeeT	Module Transmitter Ground	
18	CML-I	TD+	Transmitter Non-Inverted Data Input	
19	CML-I	TD-	Transmitter Inverted Data Input	
20		VeeT	Module Transmitter Ground	

Mechanical Design Diagram



Unit: mm

Order Information

Model Name	Bail Color	Center Wavelength
TSFP28-BC1F27G	Gray	1271 nm
TSFP28-BC1F29G	Violet	1291 nm
TSFP28-BC1F31G	Blue	1311nm
TSFP28-BC1F33G	Green	1331nm
TSFP28-BC1F35G	Blue	1351nm
TSFP28-BC1F37G	Blue	1371nm