

LO-SP-10G-LR

10Gb/s 1310nm SFP+ Transceiver

Product Features

- SFP+ package with LC connector
- 1310nm DFB Laser and PIN photo detector
- Up to 10km transmission on SMF
- Power dissipation < 1W
- LVPECL compatible data input/output interface
- Low EMI and excellent ESD protection
- Laser safety standard IEC-60825 compliant
- Compatible with RoHS
- Compatible with SFF8472



Applications

- Ethernet

Ordering information

Part Number	Product Description
LO-SP-10G-LR	SFP+ LR 10Gbs 1310nm LC DDM SMF 10km (DFB+PIN)

Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	T _{st}	-40	85	°C
Supply Voltage	V _{cc}	0	3.6	V
Operating Relative Humidity	RH	0	85	%

Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating Case Temperature	T _c	-5		70	°C
Supply Voltage	V _{cc}	3.15		3.45	V
Data Rate PER Channel	-	-	10.3125	-	Gb/s

Transceiver Electrical Characteristics

Transmitter							
Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes	
Input Differential Impedance	Z _{IN}	90	100	110	Ω	-	
Differential Data Input Swing	V _{IN}	180	-	700	mV	-	
TX_FAULT	Transmitter Fault	V _{OH}	2.0	-	V _{CCHOST}	V	-
	Normal Operation	V _{OL}	0	-	0.8	V	-
TX_DISABLE	Transmitter Disable	V _{IH}	2.0	-	V _{CCHOST}	V	-
	Transmitter Enable	V _{IL}	0	-	0.8	V	-
Receiver							
Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes	
Output Differential Impedance	Z _O	-	100	-	Ω	-	
Differential Data Output Swing	V _{OUT}	300	-	800	mV	-	
RX_LOS	Loss of signal (LOS)	V _{OH}	2.0	-	V _{CCHOST}	V	-
	Normal Operation	V _{OL}	0	-	0.8	V	-

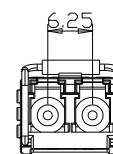
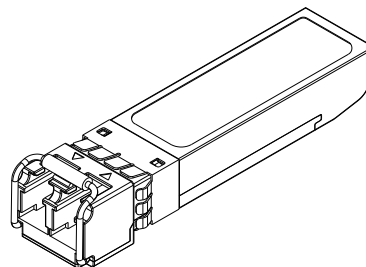
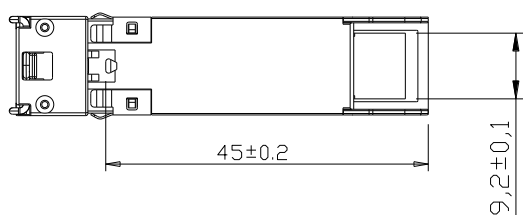
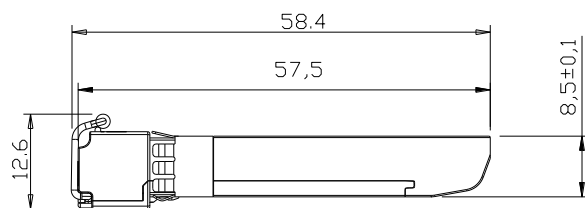
Transmitter Optical Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Center Wavelength Range	λ_c	1290	1310	1330	nm	-
Side-Mode Suppression Ratio	SMSR	35	-	-	dB	-
Extinction Ratio	ER	3.5	-	-	dB	-
Average Output Power	Po	-5	-	0.5	dBm	-
Dispersion Penalty	TDP	-	-	3.2	dB	-
Relative Intensity Noise	RIN ₂ OMA	-	-	-128	dB/Hz	-
Total jitter			IEEE 802.3ae			

Receiver Optical Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Center Wavelength	λ_c	-	1310	-	nm	-
Receiver Sensitivity	Rsen	-	-	-14.5	dBm	-
Stressed Sensitivity	Rsen	-	-	-13.5	dBm	-
Optical Return Loss	ORL	12	-	-	dB	-
LOS De-Assert	LOS _D	-	-	-19	dBm	-
LOS Assert	LOS _A	-25	-	-	dBm	-
LOS Hysteresis	-	0.5	-	4	dB	-

Mechanical specifications



Units in mm