

## LO-SP-10G-ZR

### 10Gb/s 1550nm SFP+ Transceiver

#### Product Features

- Hot-pluggable SFP+ footprint
- Supports 9.5 to 10.3Gb/s bit rates
- Power dissipation < 1.5W
- Single 3.3V power supply
- Maximum link length of 80km
- 1550nm EML transmitter, APD photo-detector
- Duplex LC connector
- Power dissipation < 1.5W
- Built-in digital diagnostic functions
- Case temperature range: 0°C to 70°C



#### Applications

- 10GBASE-ZR/ZW 10G Ethernet

#### Ordering information

Part Number	Product Description
LO-SP-10G-ZR	SFP+ ZR 10Gbs 1550nm LC DDM SMF 80km

### Absolute Maximum Ratings

Parameter	Symbol	Minimum	Maximum	Units
Storage Temperature	T <sub>st</sub>	-40	85	°C
Supply Voltage	V <sub>cc</sub>	-0.5	4	V
<b>Operating Relative Humidity</b>	<b>RH</b>	5	85	%
<b>Receiver Damage Threshold</b>	-	4	-	dBm

### Recommended Operating Conditions

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating Case Temperature	T <sub>c</sub>	0	-	70	°C
Ambient Humidity	HA	5	-	85	%
Supply Voltage	V <sub>cc</sub>	3.14	3.3	3.46	V
Power Supply Current	ICC	-	-	450	mA

### Transceiver Electrical Characteristics

Transmitter						
Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Input Differential Impedance	Z <sub>IN</sub>	-	100	-	Ω	-
Differential Data Input Swing	V <sub>IN</sub>	300	-	700	mV	-
Transmit Disable Voltage	V <sub>DIS</sub>	2	-	V <sub>cc</sub>	V	-
Transmit Enable Voltage	V <sub>EN</sub>	V <sub>ee</sub>	-	V <sub>ee</sub> +0.8	V	-
Receiver						
Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Differential Data Output Swing	V <sub>DR</sub>	400	-	850	mV <sub>p-p</sub>	-
LOS Output Voltage-High	V <sub>LOSH</sub>	V <sub>ee</sub>	-	V <sub>ee</sub> +0.8	V	-
LOS Output Voltage-Low	V <sub>LOSL</sub>	2	-	V <sub>cc</sub> HOST	V	-

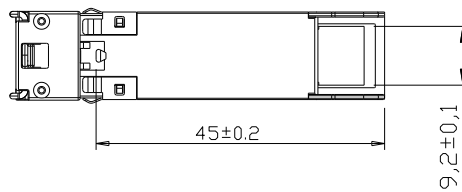
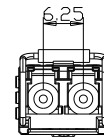
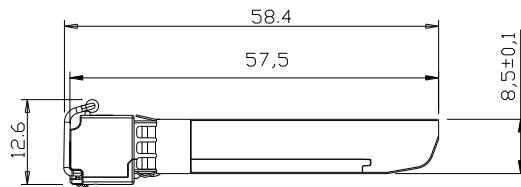
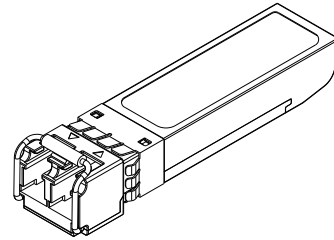
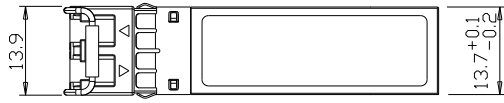
### Transmitter Optical Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Center Wavelength Range	$\lambda_c$	1530	1550	1565	nm	-
Side-Mode Suppression Ratio	SMSR	30	-	-	dB	-
Extinction Ratio	ER	6	-	-	dB	-
Average Launched Power	$P_o$	0	-	5	dBm	-
Dispersion Penalty	TDP	-	-	3.0	dB	-
Optical Rise/Fall Time	$T_r/t_f$	-	100	260	ps	-
Output Eye Mask			Compliant with IEEE 0802.3ae			

### Receiver Optical Characteristics

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Center Wavelength	$\lambda_c$	1270	-	1610	nm	-
Receiver Sensitivity	$R_{sen}$	-	-	-22	dBm	-
Input Saturation Power (Overload)	$P_{sat}$	0.5	-	-	dBm	-
LOS De-Assert	$LOS_D$	-	-	-23	dBm	-
LOS Assert	$LOS_A$	-28	-	-	dBm	-
LOS Hysteresis	-	0.5	-	-	dB	-

Mechanical specifications



Units in mm