



# *Light Optics*

*Building a brighter future*

## **LO-XP-10G-SR**

10Gbps SFP+ Optical Transceiver, 300m Reach

### **Features**

- ◆ Optical interface compliant to IEEE 802.3ae 10GBASE-SR
- ◆ Electrical interface compliant to SFF-8431
- ◆ Hot Pluggable
- ◆ 850nm VCSEL transmitter, PIN photo-detector
- ◆ Maximum link length of 300m on 2000MHz/km MMF
- ◆ Operating case temperature: 0 to 70°C
- ◆ Low power consumption
- ◆ All-metal housing for superior EMI performance
- ◆ Advanced firmware allow customer system encryption information to be stored in transceiver
- ◆ Cost effective SFP+ solution, enables higher port densities and greater bandwidth

### **Applications**

- ◆ 10GBASE-SR at 10.3125Gbps
- ◆ 10GBASE-SW at 9.953Gbps
- ◆ Other optical links

### **Ordering information**

<b>Part Number</b>	<b>Product Description</b>
LO-SP-10G-SR	SFP+ SR 10Gbps 850nm LC DDM MMF 300m



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## Absolute maximum rating

Parameters	Symbol	Min.	Max.	Unit
Power Supply Voltage	V <sub>CC</sub>	0	+3.6	V
Storage Temperature	T <sub>c</sub>	-40	+85	°C
Operating Case Temperature	T <sub>c</sub>	-5	+75	°C
Relative Humidity	RH	5	95	%
RX Input Average Power	P <sub>max</sub>	-	0	dBm

## Recommended operating environment

Parameter	Symbol	Min.	Typical	Max	Unit
Power Supply Voltage	V <sub>CC</sub>	3.135	3.300	3.465	V
Operating Case Temperature	T <sub>c</sub>	0	25	70	°C

## Optical characteristics

Parameter	Symbol	Min.	Typical	Max	Unit	Notes
<b>Transmitter</b>						
Center Wavelength	$\lambda_t$	840	850	860	nm	
RMS spectral width	P <sub>m</sub>	-	-	Note 1	nm	
Average Optical Power	P <sub>avg</sub>	-6.5	-	-1	dBm	
Extinction Ratio	ER	3.5	-	-	dB	
Transmitter Dispersion Penalty	TDP	-	-	3.9	dB	
Relative Intensity Noise	R <sub>in</sub>	-	-	-128	dB/Hz	
Optical Return Loss Tolerance		-	-	12	dB	
<b>Receiver</b>						
Center Wavelength	$\lambda_r$	840	850	860	nm	
Receiver Sensitivity	P <sub>sens</sub>	-	-	-11.1	dBm	
Stressed Sensitivity in OMA		-	-	-7.5	dBm	
Los function	Los	-30	-	-12	dBm	
Overload	P <sub>in</sub>	-	-	-1.0	dBm	
Receiver Reflectance		-	-	-12	dB	



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## Electrical characteristics

Parameter	Symbol	Min.	Typical	Max	Unit	Notes
Data Rate		-	10.3125	-	Gbps	
Power Consumption		-	600	800	mW	
<b>Transmitter</b>						
Single Ended Output Voltage Tolerance		-0.3	-	4.0	V	
C common mode voltage tolerance		15	-	-	mV	
Tx Input Diff Voltage	VI	180		1200	mV	
Tx Fault	VoL	-0.3		0.4	V	
Data Dependent Input Jitter	DDJ			0.10	UI	
Data Input Total Jitter	TJ			0.28	UI	
<b>Receiver</b>						
Single Ended Output Voltage Tolerance		-0.3	-	4.0	V	
Rx Output Diff Voltage	Vo	300		850	mV	
Rx Output Rise and Fall Time	Tr/Tf	30			ps	
Total Jitter	TJ			0.70	UI	
Deterministic Jitter	DJ			0.42	UI	

## Mechanical

