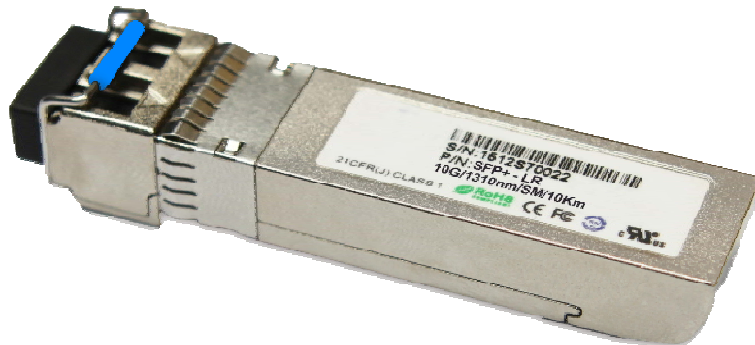


## 10GBASE-LR SFP+ 1310nm



### Brief Introduction

SFP+ is the Enhanced Small-Factor Pluggable

VCHUNG 10Gbps 10GBase-LR SMF Single-Mode 1310nm 10km transceiver is small form factor pluggable module for serial optical data communications such as IEEE 802.3ae 10GBASE-LR/LW. It is with the SFP+ 20-pin connector to allow hot plug capability. This module is designed for single mode fiber and operates at a nominal wavelength of 1310 nm. The transmitter section uses a 1310nm multiple quantum well DFB laser and is a class 1 laser compliant according to International Safety Standard IEC-60825. The receiver section uses an integrated In GaAs detector preamplifier (IDP) mounted in an optical header and a limiting post-amplifier IC.

### Features

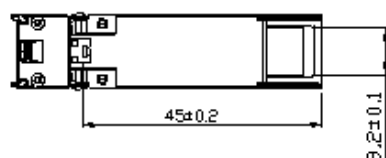
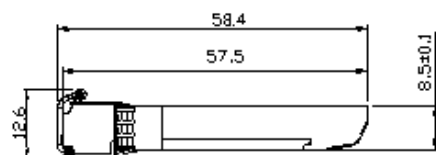
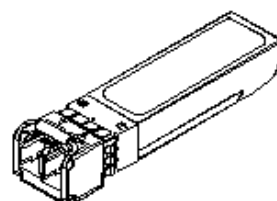
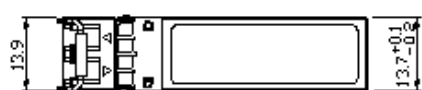
1. Operating data rate up to 11.1Gbps
2. 1310nm DFB-LD Transmitter
3. Distance up to 10km
4. Single 3.3V Power supply and TTL Logic Interface
5. Duplex LC Connector Interface, Hot Pluggable
6. Compliant with MSA SFP+ Specification SFF-8431
7. Compliant with IEEE 802.3ae 10GBASE-LR/LW
8. Power Dissipation < 1.0W
9. Built-in Digital Diagnostic Function

### Applications

1. Ethernet
2. Fiber Channel

**Specifications** (Ambient Operating Temperature -5°C to +70°C, Vcc =3.3 V)

Parameter	Symbol	Min.	Typ.	Max.	Units
<b>Transmitter Section</b>					
Center Wavelength	lo	1290	1310	1330	nm
Side-Mode Suppression Ratio	SMSR	35	-	-	dB
Average Output Power	Po	-6	-	+0.5	dBm
Extinction Ratio	Er	3.5	-	-	dB
Dispersion Penalty				3.2	dB
Relative Intensity Noise	RIN <sub>12OMA</sub>			-128	dB/Hz
Total jitter	Tj	IEEE 802.3ae			
<b>Receiver Section</b>					
Center Wavelength	lo		1310		nm
Receiver Sensitivity	Rsen			-13	dBm
Stressed Sensitivity	Rsen			-13.5	dBm
Receiver Overload	Rov	-3			dBm
Return Loss		12			dB
LOS Assert	LOS <sub>A</sub>	-28			dBm
LOS Dessert	LOS <sub>D</sub>			-14	dBm
LOS Hysteresis		0.5		4	



Units in mm