SFP+ 10GBASE-ZR Transceiver, 80KM Reach

EN- SFP10G-ZR

EN- SFP10G-ZRI

Description

E.C.I.NETWORKS's SFP10G-ZR series are SFP+ modules for duplex optical data communications such as 10GBASE-ZR and 10GBASE-ZW. This module is designed for Single-mode fiber and operates at a nominal wavelength of 1550nm.

Features

- Hot-pluggable SFP footprint
- Duplex LC connector
- Distance up to 80KM for single mode fiber
- Metal enclosure for lower EMI
- Excellent ESD protection
- Single 3.3V power supply
- Low power dissipation <1.5W
- **Built-in digital diagnostic functions**
- Compliant with MSA SFP+ Specification SFF-8431
- Compliant with SFF-8472 Rev11.0
- GR-253-CORE compliant
- RoHS Compliant
- ITU-T G.959,G.691 compliant
- Temperature-stabilized EML transmitter and APD ROSA

Applications

- 10GBASE-ZR /10GBASE-ZW
- 10G Fibre Channel
- SONET OC-192 /SDH STM-64

Ordering information

Part Number	Description	Data Rate	Wavelength	Distance
EN-SFP10G-ZR-xx	SFP+ 10GBASE-ZR SMF, **Commercial Temperature (0-+70 °C)**	10G	1550nm	80KM
EN-SFP10G-ZRI-xx	SFP+ 10GBASE-ZR SMF, **Industrial Temperature (-45 -+85 °C)**	10G	1550nm	80KM

Product Selection

xx: Refers to vendor compatibility
I: I refers to Industrial Temperature where applicable
Per example:
EN-SFP10G-ZR-EZ refers to Commercial Temperature, and compatible with Evertz,
EN-SFP10G-ZRI-JREX refers to Industrial Temperature, and compatible with Juniper EX Series

** Please note pricing is same for most of the NEMs including Cisco, Juniper, F5, Fortinet, except HP, Evertz. There is an additional charge

Compatibility; Tested and Proven

- Proven Compatibility and Interoperability with; Cisco, Juniper, ALCATEL-LUCENT, ADVA, Brocade, CIENA, Huawei, PacketLight, Transmode, NEtInsight, ToyoTech, etc.
- Test and Visibility equipment such as; IXIA, GIGAMON, VSS, SPIRENT, JDSU, XENA, EXFO, etc.

Compliance

All our products come with Built-in digital diagnostic functions DDM Compliant with SFF-8472 Rev12 and Compliant with the MSA SFF SPECIFIACTIONS.

Regulatory Compliance

- ESD to the Electrical PINs: compatible with MIL-STD-883E Method 3015.7
- ESD to the LC Receptacle: compatible with IEC 61000-4-2 GR-1089-CORE
- Immunity compatible with IEC 61000-4-3
- EMI compatible with FCC Part 15 Class B EN55022 Class B (CISPR 22B) VCCI Class B
- Laser Eye Safety compatible with FDA 21CFR 1040.10 and 1040.11 EN60950, EN (IEC) 60825-1,2
- RoHS compliant with 2002/95/EC 4.1&4.2 2005/747/EC

Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Maximum Supply Voltage	Vcc	-0.5		+4.0	V	
Storage Temperature	TS	-40		+85	°C	
Operating Humidity	RH	5		95	%	

Recommended Operating Conditions

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Power Supply Voltage	Vcc	3.13	3.30	3.47	V	
Power Supply Current	Icc	-	-	750	mA	
Case Operating Temperature	Tc	-5	-	+70	°C	
9/125um G.652 SMF	Lmax	-	-	80	km	

Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Ref.
Transmitter						
Input differential impedance	Rin	85	100	115	Ω	1
Differential data input swing	Vin,pp	120	600	850	mV	
TX Disable-High	-	2	-	Vcc+0.3	V	
TX Disable-Low	-	Vee	-	Vee+ 0.8	V	
TX Fault-High	-	2	-	Vcc+0.3	V	
TX Fault-Low	-	Vee	-	Vee+0.8	V	
Receiver						
Single ended data output swing	Vout, pp	350	400	700	mV	
LOS-High	-	2		Vcc+0.3	V	
LOS-Low	-	Vee		Vee+0.8	V	

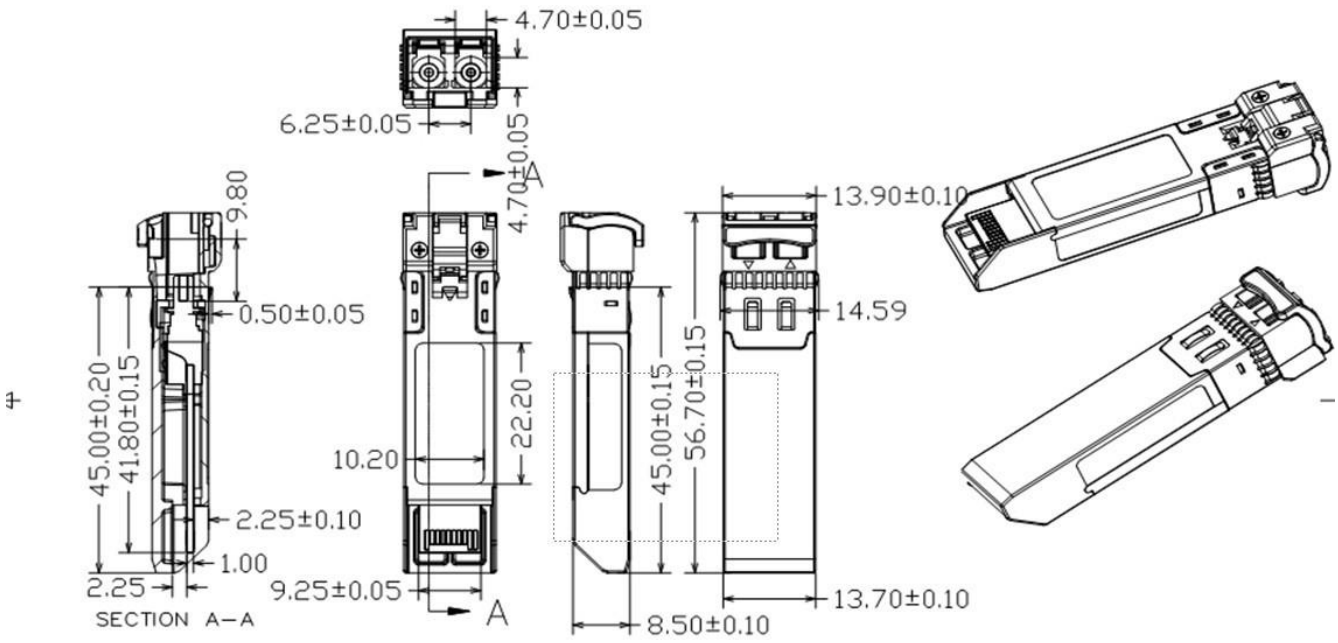
Notes:

1. AC coupled.

Optical Characteristics

TYPE	SFP+-ZR
INTERFACE	Singlemode
WAVELENGTH TX	1550nm
WAVELENGTH RX	1550nm
DISTANCE	80km
POWERBUDGET (DB)	23dB
PROTOCOLS	10Gigabit Ethernet, 8Gigabit Fibre Channel, STM64
BANDWIDTH FROM	8.500Gbit/s
BANDWIDTH TO	11.100Gbit/s
LASER	EML
RECEIVER TYPE	APD
CONNECTOR	LC
WAVELENGTH TX MIN.	1530nm
WAVELENGTH TX MAX.	1565nm
WAVELENGTH RX MIN.	1260nm
WAVELENGTH RX MAX.	1600nm
TRANSMIT MIN.	-0dBm
TRANSMIT MAX.	5.00dBm
RECEIVE MIN.	-24dBm
RECEIVE MAX. (RECEIVER OVERLOAD)	-7dBm
TEMPERATURE (MIN)	0/-45°C
TEMPERATURE (MAX)	70/85°C
TYPE OF DDM / DOM	internal
EXTINCTION RATIO	4.50dB

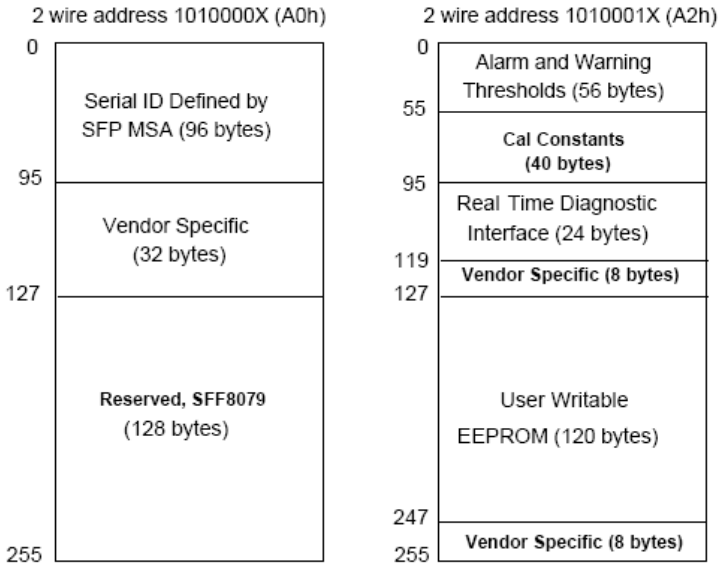
Mechanical Specifications



EN-SFP10G-ZR

EEPROM Information

EEPROM memory map specific data field description is as below:



Digital Diagnostic Monitoring Interface

The digital diagnostic monitoring interface also defines another 256-byte memory map in EEPROM, which makes use of the 8 bit address 1010001X (A2h). Five transceiver parameter values are monitored. The following table defines the monitored parameter's accuracy.

Parameter	Range	Accuracy	Calibration
Temperature	0 to +70°C (C)	±3°C	Internal
Voltage	2.97 to 3.63V	±3%	Internal
Bias Current	0 to 100mA	±10%	Internal
TX Power	0 to +4dBm	±2dB	Internal
RX Power	-24 to -8dBm	±2dB	Internal

Notice:

ECI Networks reserves the right to make changes to or discontinue any optical link product or service identified in this publication, without notice, in order to improve design and/or performance. Applications that are described herein for any of the optical link products are for illustrative purposes only.

For further information

Office: 1-800-967-1672
Fax : 1-855-201-7283
mailto:sales@ecin.ca

600, Boul. de Maisonneuve West
Office 1700
Montréal, QC H3A 3J2
www.ecin.ca