

# SFP-10GE CWDM

## 10G Ethernet CWDM SFP+ Family

### DESCRIPTION

The SFP-10GE transceiver family are small form factor pluggable modules for bi-directional serial optical data communications such as 10GBASE Ethernet. The modules are compliant to the SFP+ MSA and are hot pluggable. Digital diagnostic functions are available via an I2C serial bus specified in the SFP MSA SFF-8472. The modules meet the requirements of the IEEE 802.3 10GBASE-ER/ZR Ethernet standard and are suitable for interconnections in 10G Ethernet environments.

The transceivers can also be used for a wide range of other protocols and bitrates between 600 Mbps and 11.1 Gbps.

CWDM modules operate at nominal Coarse Wavelength Division Multiplexing (CWDM) wavelengths. Eighteen center wavelengths are available from 1271 nm to 1611 nm with each step being 20 nm. The CWDM characteristics are fully compliant to the wavelength parameters specified in ITU standards G.694.2 and G.695.

### APPLICATIONS

- CWDM Systems
- 10G Ethernet
- 10G Fibre Channel
- OTN OTU2/OTU2e
- SDH STM-64
- Other protocols such as CPRI, OBSAI, SMPTE SDI

### FEATURES

- Up to 100 km transmission on singlemode fiber <sup>1</sup>
- 18 CWDM wavelengths ( $\lambda$ ): 1271 nm to 1611 nm
- Data Rate 0.6 - 11.1 Gbps
- Hot-Pluggable SFP footprint
- Duplex LC interface for fiber pair operation
- Small Form-Factor Pluggable (SFP) MSA compatible
- SFF-8472 Digital Diagnostics Monitoring
- Operating case temperature: Standard: 0°C to 70°C

**FIBERWORKS**

### LASER SAFETY

This transceiver is a Class 1 laser product. It complies with IEC-60825 and FDA 21 CFR 1040.10 and 1040.11. The transceiver must be operated within the specified temperature and voltage limits. The optical ports of the module need to be terminated with an optical connector or a dust plug.

<sup>1</sup> Valid for 10.3125Gbps

**OPTICAL PARAMETERS**

Part no.	Fiber type	Wavelength [nm]	Opt. Output Power [dBm]	Opt. Receiver Sensitivity [dBm] <sup>1</sup>	Power Budget [dB]
SFP-10GE-ER-CxxL	SM	1271-1451	-1 to 5	-16 to 0	15
SFP-10GE-ER-Cxx	SM	1471-1611	-1 to 5	-16 to 0	15
SFP-10GE-ZR-CxxL	SM	1271-1451	0 to 5	-24 to -8	24
SFP-10GE-ZR-Cxx	SM	1471-1611	0 to 5	-24 to -8	24
SFP-10GE-eZR-Cxx	SM	1471-1611	1 to 5	-25 to -8	26

**ORDERING INFORMATION**

Part no.	Description
SFP-10GE-ER-CxxL	SFP+, 10G Ethernet, CWDM low-band, SM, 15dB, 30km
SFP-10GE-ZR-CxxL	SFP+, 10G Ethernet, CWDM low-band, SM, 24dB, 40-60km

C27 = CWDM 1271 nm  
 C29 = CWDM 1291 nm  
 C31 = CWDM 1311 nm  
 C33 = CWDM 1331 nm

C35 = CWDM 1351 nm  
 C37 = CWDM 1371 nm  
 C39 = CWDM 1391 nm  
 C41 = CWDM 1411 nm

C43 = CWDM 1431 nm  
 C45 = CWDM 1451 nm

Part no.	Description
SFP-10GE-ER-Cxx	SFP+, 10G Ethernet, CWDM, SM, 15dB, 40km
SFP-10GE-ZR-Cxx	SFP+, 10G Ethernet, CWDM, SM, 24dB, 80km
SFP-10GE-eZR-Cxx	SFP+, 10G Ethernet, CWDM, SM, 26dB, 100km

C47 = CWDM 1471 nm  
 C49 = CWDM 1491 nm  
 C51 = CWDM 1511 nm

C53 = CWDM 1531 nm  
 C55 = CWDM 1551 nm  
 C57 = CWDM 1571 nm

C59 = CWDM 1591 nm  
 C61 = CWDM 1611 nm

<sup>1</sup> Valid for 10.3125Gbps