SFP-10GE

10G Ethernet 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-SR/LR/LRM/LW Ethernet standard and are suitable for interconnections in 10G Ethernet environments.

The family covers a wide range of applications, with 850nm and 1310nm versions available for mulitimode fiber and 1310nm, 1550nm and CWDM versions are available for singlemode fiber.

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

- 10GBASE-SR/LR/LRM/LW/ER/ZR
- CWDM Systems

FEATURES

- Up to 300 m transmission at 850 nm on OM3, 2000 MHz*km
- Up to 80 km transmission at 1550nm and CDWM wavelengths
- Hot-Pluggable SFP footprint
- Duplex LC interface for fiber pair operation
- Small Form-Factor Pluggable (SFP) MSA compatible
- 18 CWDM wavelengths (λ): 1271 nm to 1611 nm
- SFF-8472 Digital Diagnostic Function
- Operating Case Temperature: Standard: 0°C to 70°C

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.

OPTICAL PARAMETERS

Part no.	Fiber type	Wavelength [nm]	Opt. Output Power [dBm]	Opt. Receiver Sensitivity [dBm]	Power Budget [dB]
SFP-10GE-SR	MM	850	-6 to -1	-10 to 0	4
SFP-10GE-LRM	MM	1310	-6 to -1	-10 to 0	4
SFP-10GE-LR	SM	1310	-6 to 1	-15 to 1	9
SFP-10GE-LR40	SM	1310	-1 to 4	-16 to 0	15
SFP-10GE-ER	SM	1550	-1 to 4	-16 to 0	15
SFP-10GE-ZR	SM	1550	0 to 5	-23 to -8	23

CWDM OPTICAL PARAMETERS

Part no.	Fiber type	Wavelength [nm]	Opt. Output Power [dBm]	Opt. Receiver Sensitivity [dBm]	Power Budget [dB]
SFP-10GE-ER-CxxL	SM	1271-1451	-2 to 3	-16 to 1	14
SFP-10GE-ER-Cxx	SM	1471-1611	-1 to 5	-16 to 0	15
SFP-10GE-ZR-Cxx	SM	1471-1611	0 to 5	-24 to -8	24

ORDERING INFORMATION

Part no.	Description
SFP-10GE-SR	SFP+, 10G Ethernet, 850nm, MM, DDM, 4dB, (300m for OM3 2000 MHz*km, 82m for OM2 500MHz*km, and 33 m for OM1 200MHz*km MMF)
SFP-10GE-LRM	SFP+, 10G Ethernet, 1310nm, MM, DDM, 4dB, (220m for OM3 2000 MHz*km, 220m for OM2 500MHz*km, and 220 m for OM1 200MHz*km MMF), requires EDC at host board
SFP-10GE-LR	SFP+, 10G Ethernet, 1310nm, SM, DDM, 9dB, 10km
SFP-10GE-LR40	SFP+, 10G Ethernet, 1310nm, SM, DDM, 15dB, 40km
SFP-10GE-ER	SFP+, 10G Ethernet, 1550nm, SM, DDM, 15dB, 40km
SFP-10GE-ZR	SFP+, 10G Ethernet, 1550nm, SM, DDM, 23dB, 80km

CWDM ORDERING INFORMATION

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

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

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