

# SO-XFP-ZR-CXX

XFP, 10G Multirate, CWDM, DDM, 24dB, 80km, 1470nm-1610nm (8ch)

## OVERVIEW

The SO-XFP-ZR-Cxx is a versatile CWDM transceiver supporting a wide range of traffic formats. The distance performance is in accordance with the industry ZR/ZW-standard, providing a bridgeable distance of up to 80km for 10GbE-LAN (10GBASE-ZR) and 10GbE-WAN (10GBASE-ZW) services.

The transceiver is available in 8 CWDM wavelength versions, spanning from 1270nm to 1610nm in accordance with the G.694.2 standard. This transceiver provides digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification.

## TECHNICAL DATA

<b>Technology</b>	CWDM XFP
<b>Transmission media</b>	SM (2x LC)
<b>Typical reach</b>	80 km @ 1470~1550 nm 70 km @ 1550~1610 nm
<b>Nominal wavelength</b>	1470 nm - 1610 nm 8ch
<b>Interface standards</b>	10GBASE-ZR 10GBASE-ZW 1200-SM-LL-L 10G FC
<b>Bit rate range</b>	9.95 - 11.1 Gbps
<b>Protocols</b>	Eth: 10GbE-LAN 10GbE-WAN
	OTN: OTU2e OTU2
	SDH/SONET: STM-64/OC-192
	FC: 10G FC
	CPRI: Opt 8 (10.1376 Gbps)
<b>Power budget</b>	14 - 24.0 dB
<b>Dispersion tolerance</b>	1600 ps/nm
<b>Dispersion penalty</b>	1dB
<b>Temperature range</b>	-5°C to +70°C
<b>Power consumption</b>	< 2.5W

<b>Transmitter data</b>	Output power:	Min: 0.0 dBm Max: +4.0 dBm
	Tx wavelength:	1270 - 1610 nm in 20nm steps (G.694.2)
<b>Receiver data</b>	Minimum input power:	-24.0 dBm <sup>1)</sup>
	Overload (max power):	-10 dBm
	Wavelength range:	1260 - 1620 nm
<b>DDM</b>		Yes
<b>MSA compliance</b>		SFF-8431 SFF-8432 SFF-8472

<sup>1)</sup> @ 10.3Gbps

### Regulatory compliance

<b>EMC CE</b>	EN 55022:2010 EN 55024:2010
<b>UL/Safety</b>	UL 60950-1
<b>FCC</b>	47 CFR PART 15 OCT, 2013
<b>RoHS</b>	RoHS 6
<b>TUV</b>	EN 60950-1:2006+A11+A1+A12+A2 EN 60825-1:2014 EN 60825-2:2004+A1+A2

<b>Storage temp.</b>	-40°C to +85°C
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Note! See "Definitions" below.

Note: 10GBASE-ZR/ZW is an industry standard defined only at 1550 nm. The standard is referred to from bridgeable distance perspective for the other wavelengths within the CWDM band.

## ORDERING INFORMATION

Part number	Description
SO-XFP-ZR-C47	XFP, 10G Multirate, CWDM 1470nm, SM, DDM, 24dB, 80km
SO-XFP-ZR-C49	XFP, 10G Multirate, CWDM 1490nm, SM, DDM, 24dB, 80km
SO-XFP-ZR-C51	XFP, 10G Multirate, CWDM 1510nm, SM, DDM, 24dB, 80km
SO-XFP-ZR-C53	XFP, 10G Multirate, CWDM 1530nm, SM, DDM, 24dB, 80km
SO-XFP-ZR-C55	XFP, 10G Multirate, CWDM 1550nm, SM, DDM, 24dB, 80km
SO-XFP-ZR-C57	XFP, 10G Multirate, CWDM 1570nm, SM, DDM, 24dB, 80km
SO-XFP-ZR-C59	XFP, 10G Multirate, CWDM 1590nm, SM, DDM, 24dB, 80km
SO-XFP-ZR-C61	XFP, 10G Multirate, CWDM 1610nm, SM, DDM, 24dB, 80km

## DEFINITIONS

Technology:	Grey; Transceiver type for non-WDM applications. Electrical or optical. CWDM; Transceiver type for CWDM applications using G.694.2 channel grid. DWDM; Transceiver type for DWDM applications using G.694.1 channel grid. BiDi; Transceiver pair using two different wavelength channels operating on a single-fiber. DAC: Direct Attach Cable. Electrical or optical cable with attached connectors.
Transmission Media:	Type of fiber, e.g. Multimode (MM) or Singlemode (SM). Number of and connector type within brackets (e.g. 2x LC, 1x MPO).
Typical reach:	Nominal distance performance based on dispersion and power budget properties, i.e. w/o dispersion compensation and optical amplification.
Bit rate range:	Supported bit rate range in Gigabit or Megabit per second (Gbps or Mbps).
Protocols:	Protocols within supported bit rate range.
Nominal wavelength:	Typical wavelength from transmitter.
Interface standards:	Referenced interface standards e.g. IEEE 802.3 standard for 10GbE services.
Power budget:	Min and max power budget between Transmitter and Receiver. Excluding any dispersion penalty.
Dispersion tolerance/penalty:	Maximum amount of tolerated dispersion and required reduction of power budget to maintain BER better than $1E^{-12}$ . Defined at a specific bit rate.
Temperature range:	Max operating case temperature range. Standard temperature range: Typically 0°C to +70°C (32°F to +158°F) Extended temperature range (E-temp): Typically -20°C to +75°C (-4°F to +167°F) Industrial temperature range (I-temp): -40°C to +85°C (-40°F to +185°F)
Power consumption:	Worst case power consumption.
Transmitter Output power:	Average output power. Provided in min and max values.
Receiver minimum input power:	Minimum average input power at specified BER, normally $1E^{-12}$ .
Receiver max input power:	Maximum average input power at specified BER, normally $1E^{-12}$ .
DDM:	Digital Diagnostic Monitoring functionality as defined in SFF-8472 MSA.