SO-SFP-16GFC-ER-Cxx

SFP+, 16/8/4G FC, CWDM, DDM, 13dB, 40km, 1470nm-1550nm (5ch)

OVERVIEW

The SO-SFP-16GFC-ER-Cxx is a versatile CWDM transceiver in SFP+ form-factor supporting a wide range of Fiber Channel (FC) services (4G to 16G).

The transceiver is provided in 5 channel versions at the CWDM grid as specified in the ITU-T 694.2 standard.

The optical performance provides a bridgeable distance of up to 40km (without dispersion compensation) for 16G FC.
This transceiver provides digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification.

The transceiver module is compliant to RoHS-6/6.

TECHNICAL DATA

Parameter	Value
Technology	CWDM SFP+
Transmission media	SM (2x LC)
Typical reach	40km
Nominal wavelengths	1471 – 1551nm (5ch)
Bit rate range	4.25 – 14.025Gbps
Protocol support	4G FC, 8G FC, 16G FC
Power budget	2 – 13dB
Dispersion tolerance	800ps/nm
Optical path penalty	2dB
Power consumption	< 1.9W
Operating temperature	0°C to +70°C
Storage temperature	-40°C to +85°C

Parameter	Value
Transmitter data:	
Output power	Min: -1.0dBm [2]
	Max: +3.0dBm [2]
Transmit wavelength	1471 to 1551nm (G.694.2)
Receiver data:	
Minimum input power	-14.0dBm [1] [2]
Overload (max power)	+1dBm [1] [2]
Wavelength range	1260 – 1620 nm
LOS Assert	Min -24dBm
LOS De-assert	Max -14dBm
DDM	Yes
MSA compliance	SFP MSA, SFF-8472

[1] At 14.025Gbps (16G FC) using PRBS31 @ BER $1x10^{-12}$.

[2] Average power

Safety/regulatory compliance:
TUV/UL/FDA (contact Smartoptics for latest certification information)
RoHS compliance

ORDERING INFORMATION

Ordering number	Description
SO-SFP-16GFC-ER-C47	SFP+, 16/8/4G FC, CWDM 40km, 13dB, LC, 1470nm
SO-SFP-16GFC-ER-C49	SFP+, 16/8/4G FC, CWDM 40km, 13dB, LC, 1490nm
SO-SFP-16GFC-ER-C51	SFP+, 16/8/4G FC, CWDM 40km, 13dB, LC, 1510nm
SO-SFP-16GFC-ER-C53	SFP+, 16/8/4G FC, CWDM 40km, 13dB, LC, 1530nm
SO-SFP-16GFC-ER-C55	SFP+, 16/8/4G FC, CWDM 40km, 13dB, LC, 1550nm

GENERAL DEFINITIONS

Parameter	Description
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 cable with attached connectors. AOC: Active Optical Cable. 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 typical fiber dispersion, fiber loss and power budget properties, i.e. w/o dispersion compensation and optical amplification. Actual distance is dependent on actual optical path loss and dispersion properties.
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(s) from transmitter.
Interface standards	Referenced interface standards or MSA's, e.g. IEEE 802.3 standard for 10GbE services or 100G 4WDM-10 etc.
Power budget	Min and max power budget between Transmitter and Receiver w/o optical path penalties.
Dispersion tolerance/penalty	Maximum amount of tolerated dispersion and required reduction of power budget to maintain stipulated Bit Error Rate (BER) and at a given bit rate.
Temperature range	Max operating case temperature range. Standard temperature range (C-temp): 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. Will vary over temperature.
Transmitter Output power	Average output power. Provided in min and max values.
Receiver minimum input power	Minimum average input power at specified BER, normally $1E^{-12}$. Note that some protocols require FEC to achieve sufficient BER.
Receiver max input power	Maximum average input power giving a BER, normally $1E^{-12}$.
DDM	Digital Diagnostic Monitoring functionality as defined in e.g. SFF-8472 MSA.