

SO-SFP28-32GFC-LD

SFP28, 8G/16G/32G FC, 25GbE, 1310nm, SM, DDM, 9.4dB, 10km

OVERVIEW

The SO-SFP28-32GFC-LD is a 1310nm SFP28 transceiver for SingleMode fiber and 8G, 16G and 32G Fiber Channel (FC) services. The transceiver can also be used for transport of single lane 25G Ethernet services as well as 4-lane 100G (OTU4). The optical performance provides a bridgeable distance of up to 10 km for 32G FC.

The transceiver has a Rate_Select function compliant with SFF-8472 Rev12.2 where a switch between 32G FC / 25GbE / ¼ OTU4 and 16G FC / 8G FC is done.

This transceiver provides digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification.

As stipulated by the 32G FC and 25G Ethernet standards, Forward Error Correction (FEC) is required to be implemented by the host in order to ensure reliable system operation. The optical parameters below will provide a bit error ratio (BER) of 1×10^{-6} for 32G FC. FEC will provide the required quality for secure service.

TECHNICAL DATA

Technology	Grey SFP28
Transmission media	SM (2x LC)
Typical reach	10 km
Nominal wavelength	1310nm
Bit rate range (Gbps)	8.5 / 14.025 / 28.05 (FC) 25.78 (Eth) 27.95 (¼ OTU4)
Protocols	FC:
	32G FC
	16G FC 8G FC
	Eth
	25GbE
	OTN
	OTU4 (4-lane)
Power budget	0 – 9.4 dB ¹⁾
Dispersion penalty	2.7dB ¹⁾
Temperature range	0°C to +70°C
Power consumption	< 1.2W

Note! See "Definitions" below.

Transmitter data	Output power:	Min: -5.0 dBm Max: +2.0 dBm
	Tx wavelength:	Min: 1295 nm Max: 1325 nm
Receiver data	Minimum input power:	-14.4 dBm ¹⁾
	Overload (max power):	+2.0 dBm
	Wavelength range:	1260 - 1370 nm
DDM		Yes
MSA compliance		SFF-8402 SFF-8472

¹⁾ @ 32G FC & BER < E-6 using FEC

Regulatory compliance

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

Storage temp.	-40°C to +85°C
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RATE_SELECT OPERATION

The SO-SFP28-32GFC-LD supports high data rates 25.78G/27.95G/28.05G and Low data rates 14.025G/8.5G. Rate_Select is compliant with SFF-8472 Rev12.2.

Logic OR of RS0 pin and bit 110.3 of A2H	Logic OR of RS1 pin and bit 118.3 of A2H	RX Data Rate	TX Data Rate
High	High	25.78G/27.95G/28.05G	25.78G/27.95G/28.05G
Low	Low	14.025G/8.5G	14.025G/8.5G

ORDERING INFORMATION

Part number	Description
SO-SFP28-32GFC-LD	SFP28, 8G/16G/32G FC, 25GbE, 1310nm, SM, DDM, 9.4dB, 10km

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.