QSFP28 100GE SR1.2

QSFP28, 100G Eth, 100GBASE-SR1.2, MM, 850nm / 910nm, 150m, 2.4dB, LC

TQ2016-MS2C-SO

The TQ2016-MS2C-SO is a pluggable QSFP28 transceiver designed for high capacity 100 Gigabit Ethernet (100GbE) Data Center Interconnect (DCI) applications up to 100m over a multimode fiber. The transceiver can also be used for 4x100G aggregation together with the QSFP-DD 400GBASE-SR4.2 transceiver (p/n: TQD022-MS2C-SO).

TQ2016-MS2C-SO has an optical performance enabling distances of up to 100m over a Multi-Mode (MM) OM4 fiber-pair cable. The module includes FEC coding Forward Error Correction (KP4 FEC) to ensure reliable system operation. The host system shall thus not have FEC activated. The optical parameters will provide a bit error ratio (BER) of 2.4 x 10-4. FEC will render in the required BER of better than 1 x 10-12.

The transceivers provide digital diagnostic functions via a 2-wire serial interface as defined by the SFF-8472 specification.

TECHNICAL DATA

Parameter	Value
Technology	BiDi QSFP28
Transmission media	MM (2x LC)
Typical reach	70m @ OM3, 100m @ OM4, 150m @ OM5
Nominal wavelengths	λ1: 850nm
	λ2: 908nm
Interface standards	100GBASE
Bit rate support	106.25Gbps [1]
	26.5625Gbd [2]
Protocol support	100GbE
Power budget	0 – 2.4dB
Power consumption	< 4.0W
Operating temperature	0°C to +70°C
Storage temperature	-40°C to +85°C

[1] Aggregated line rate 100GbE with FEC

[2] Line baud rate

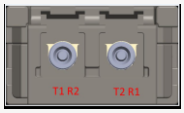
[3] Average power, per lane.

[4] A received power below this value cannot be compliant; however, a value above this does not ensure compliance.

[5] Specified at BER 2.4x10^-4

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

Parameter	Value
Transmitter data:	
Output power, per lane	Max: +4.0dBm [3]
	Min: -6.2dBm [3]
Output power, per lane, OMA	Max: +3.0dBm
	Min: -4.2dBm
Transmit wavelengths	844 – 863nm
	900 – 918nm
Receiver data:	
Receiver sensitivity, OMA	-6.6dBm [5]
Minimum input power	-8.2dBm [3] [4]
Overload (max power)	+4.0dBm [3] [5]
Wavelength range	844 – 863nm
	900 – 918nm
LOS Assert	-30.0dBm[3]
LOS De-assert	-5.9dBm[3]
DDM	Yes
MSA compliance	QSFP28 MSA
	SFF-8472



λ1	850nm	T1, R1
λ2	908nm	T2, R2

ORDERING INFORMATION

Ordering number	Description
TQ2016-MS2C-SO	QSFP28 100GE-SR1.2 Duplex MM 100m

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 ≤ $1x\ 10^{-12}$. Some protocols require FEC to achieve sufficient BER.
Receiver max input power	Maximum average input power giving a BER, normally ≤ $1x10^{-12}$.
DDM	Digital Diagnostic Monitoring functionality as defined in e.g. SFF-8472 MSA.

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