SO-SFP28-LWDM-x-E

SFP28, 25GE, LANWDM, SM, DDM, 21dB, 30km, E-temp, LC

OVERVIEW

The SO-SFP28-LWDM-x-E is an SFP28 form-factor transceiver for 25 Gbps Ethernet applications. The transceiver is intended for use in interconnect applications between data centers with switches, routers and in 5G mobile networks. The optical performance supports distances up to 30km over a SingleMode (SM) G.652 fiber. SO-SFP28-LWDM-x also supports the high data rate CPRI Option 10 for fronthaul applications having a bit rate of 24.33024 Gbps.

The SO-SFP28-LWDM-x is provided in eight different wavelength versions according to the LANWDM wavelength grid where the SM fiber has its lowest dispersion properties.

As stipulated by the 25G Ethernet standards, Forward Error Correction (FEC) is required to be implemented by the host equipment in order to ensure reliable system operation. The optical parameters below will provide a bit error ratio (BER) of 5 x 10^{-5} for 25G Ethernet. FEC will provide the required quality for secure service.

Digital diagnostics functions are available via an I2C interface, as specified by the MSA.

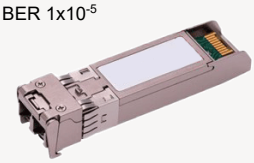
TECHNICAL DATA

Parameter	Value
Technology	LANWDM SFP28
Transmission media	SM (2x LC)
Typical reach	30km
Nominal wavelengths	1295.56 nm [1]
	1300.05 nm [2]
	1304.58 nm [3]
	1309.14 nm [4]
	1277.89 nm [5]
	1282.26 nm [6]
	1286.66 nm [7]
	1291.10 nm [8]
Bit rate support	25.78 Gbps
	24.33 Gbps
Protocol support	25GbE
	CPRI Opt 10
Power budget	10 – 21 dB
Power consumption	< 2.2 W
Operating temperature	-20°C to +85°C
Storage temperature	-40°C to +85°C
[1] SO-SFP28-LWDM-A-E	[5] SO-SFP28-LWDM-E-E
[2] SO-SFP28-LWDM-B-E	[6] SO-SFP28-LWDM-F-E
[3] SO-SFP28-LWDM-C-E	[7] SO-SFP28-LWDM-G-E
[4] SO-SFP28-LWDM-D-E	[8] SO-SFP28-LWDM-H-E
Safety/regulatory compliance:	
TUV/UL/FDA (contact Smartoptics for latest certification information). RoHS compliance	

Parameter	Value
Transmitter data:	
Output power	Min: +1.0 dBm [9]
	Max: +6.0 dBm [9]
Transmit wavelengths	1294.53 – 1296.59 nm [1]
	1299.02 - 1301.09 nm [2]
	1303.54 - 1305.63 nm [3]
	1308.09 - 1310.19 nm [4]
	1276.86 - 1278.92 nm [5]
	1281.23 - 1283.29 nm [6]
	1285.65 - 1287.69 nm [7]
	1290.07 - 1292.12 nm [8]
Receiver data:	
Minimum input power	-20.0 dBm [9] [10]
Overload (max power)	-4.0 dBm [9] [10]
Wavelength range	1260 – 1355 nm
DDM	Yes
MSA compliance	SFP28 MSA
	SFF-8402

[9] Average power

[10] at 25.78Gbps (25GbE) PRBS31 and BER 1x10^{-5}



Pull-tab color: Pink

ORDERING INFORMATION

Ordering number	Description
SO-SFP28-LWDM-A-E	SFP28 25GE CPRI opt 10 LANWDM 1295.56nm SM DDM 21dB 30km, E-temp, LC
SO-SFP28-LWDM-B-E	SFP28 25GE CPRI opt 10 LANWDM 1300.05nm SM DDM 21dB 30km, E-temp, LC
SO-SFP28-LWDM-C-E	SFP28 25GE CPRI opt 10 LANWDM 1304.58nm SM DDM 21dB 30km, E-temp, LC
SO-SFP28-LWDM-D-E	SFP28 25GE CPRI opt 10 LANWDM 1309.14nm SM DDM 21dB 30km, E-temp, LC
SO-SFP28-LWDM-E-E	SFP28 25GE CPRI opt 10 LANWDM 1277.89nm SM DDM 21dB 30km, E-temp, LC
SO-SFP28-LWDM-F-E	SFP28 25GE CPRI opt 10 LANWDM 1282.26nm SM DDM 21dB 30km, E-temp, LC
SO-SFP28-LWDM-G-E	SFP28 25GE CPRI opt 10 LANWDM 1286.66nm SM DDM 21dB 30km, E-temp, LC
SO-SFP28-LWDM-H-E	SFP28 25GE CPRI opt 10 LANWDM 1291.10nm SM DDM 21dB 30km, E-temp, LC

GENERAL 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 (DAC). 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.
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. Commercial 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 $1E^{-12}$.
Receiver max input power:	Maximum average input power giving a BER, normally $1E^{-12}$.
DDM:	Digital Diagnostic Monitoring functionality as defined in SFF-8472 MSA.