SO-CFP4-SR4

CFP4, 100GBASE-SR4, 4x 850nmnm, MM, DDM, 100m, MPO

OVERVIEW

The SO-CFP4-SR4 is a CFP4 form-factor transceiver for 100 Gbps Ethernet (100GBASE-SR4) applications. It is intended for use in inter- and intra-connect applications within data centers between switches, routers, storage equipment etc. The optical performance is in accordance with the 100GBASE-SR standard, i.e. for optical distances up to 100m over a MultiMode (MM) OM4-grade ribbon fiber.

SO-CFP4-SR4 uses 4x channels @ 25.78 Gbps to transport an 100G Ethernet signal. The transceiver has a single 12 lane optical fiber MPO/MPT-connector interface.

TECHNICAL DATA

Parameter	Value
Technology	Grey CFP4
Transmission media	MM (1x MPO)
Typical reach	70m @ OM3, 100m @ OM4
Nominal wavelength	4x 850nm
Interface standards	100GBASE-SR4
Bit rate support	103.12Gbps [1]
	25.78 Gbps [2]
Protocol support	100GbE
Power budget	0 – 1.9dB
Power consumption	< 4W
Operating temperature	0°C to +70°C
Storage temperature	-40°C to +85°C

Parameter	Value
Transmitter data:	
Output power, per lane	Min: -8.4dBm [3]
	Max: +2.4Bm [3]
Transmit wavelength	840 – 860nm
Receiver data:	
Minimum input power	-10.3dBm [2] [3] [4]
Overload (max power)	+2.4dBm [2] [3] [4]
LOS De-assert	Max -13dBm
LOS Assert	Typ -15dBm
LOS Hysteresis	2dB
Wavelength range	840 – 860nm
DDM	Yes
MSA compliance	CFP4 MSA

[1] Aggregated line rate 100GbE

[2] Per lane

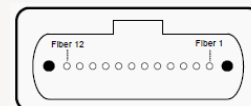[3] Average power

[4] Specified at BER 5×10^{-5}, PRBS 2^{31}-1

Safety/regulatory compliance:

TUV/UL/FDA (contact Smartoptics for latest certification information)

RoHS compliance

Note: IEEE 802.3bx stipulates that 100GBASE-SR4 interfaces requires FEC. Host equipment normally enable FEC automatically when using SR4' type transceivers. Receiver sensitivity values are given at BER 5×10^{-5}, i.e. prior FEC. BER will be better than 10^{-12} when FEC is applied.

ORDERING INFORMATION

Ordering number	Description
SO-CFP4-SR4	CFP4, 100GBASE-SR4, 4x 850nmnm, MM, 100m, MPO

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.