DUXNET

PRODUCT DATASHEET

DUXQSFPLR4

QSFP+, 40G Ethernet LR4, OTU3, SM, 1271/1291/1311/1331nm, 10km, 6.7dB, LC

OVERVIEW

The DUXQSFPLR4 is a high-performance QSFP+ (Quad Small Form-factor Pluggable Plus) transceiver designed for 40 Gbps Ethernet applications. It enables reliable interconnect and intra-connect links within and between data centers, supporting seamless connectivity between switches, routers, and storage systems. Leveraging four CWDM channels in the 1300 nm wavelength band, the DUXQSFPLR4 aggregates 4 × 10 Gbps data streams to deliver a total data rate of 40 Gbps. It supports transmission distances of up to 10 kilometers over SingleMode (SM) fiber, making it an excellent choice for high-capacity, long-reach deployments. The module includes digital diagnostics monitoring (DDM) via a 2-wire serial interface compliant with the SFF-8472 specification, providing real-time insight into key operational parameters for enhanced network management and reliability.

TECHNICAL DATA

Parameter	Value
Technology	Grey QSFP+
Transmission media	SM (2x LC)
Typical reach	10km
Nominal wavelength	Lane 1: 1271nm
	Lane 2: 1291nm
	Lane 3: 1311nm
	Lane 4: 1331nm
Bit rate support	41.25 / 43.018Gbps [1]
	10.3125 / 10.7546Gbps [2]
Interface standards	40GBASE-LR4
Protocol support	40GbE / OTU3
Power budget	0 – 6.7dB
Power consumption	< 3.5W
Operating temperature	0°C to +70°C
Storage temperature	-40°C to +85°C
Safety/regulatory compliance	TUV/UL/FDA (contact Smartoptics for latest certification information)
	RoHS compliance
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Parameter	Value
Transmitter data	
Output power, total	Max +8.3dBm [3]
Output power, per lane	Min: -7.0dBm [3]
	Max: +2.3dBm [3]
Transmit wavelength	1264.5 – 1277.5nm
	1284.5 – 1297.5nm
	1304.5 – 1317.5nm
	1324.5 – 1337.5nm
Receiver data	
Minimum input power	-13.7dBm [2] [3] [4]
Overload (max power)	+2.3dBm [2] [3] [4]
Wavelength range	1264.5 – 1277.5nm
	1284.5 – 1297.5nm
	1304.5 – 1317.5nm
	1324.5 – 1337.5nm
LOS Assert	Min -24dBm
LOS De-Assert	Max -11.5dBm
LOS Hysteresis	Min 0.5dB
DDM	Yes
MSA compliance	QSFP+ MSA, SFF-8436

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[1] Aggregated line rate
[2] Per lane
[3] Average power
[4] At 10.3125Gbps, BER less than 10^{-12}, with a 2^{31}-1 PRBS