

Extreme Compatible transceiver 10319

PART NUMBER: 10319-C

PRODUCT FEATURES:

Hot-swappable QSFP+ Extreme compatible transceiver
Compliant with IEEE Std 802.3ba, 40G BASE SR4 Ethernet
Management interface specifications per SFF-8636
QSFP+ MSA package with single MPO connector receptacle
4 channels 850nm VCSEL array Laser Class 1 safety certified
Up to 10.3Gb/s per channel data links
Up to 70m on OM3 MMF and 100m on OM4 MMF
Digital Diagnostic Monitoring available



SPECIFICATIONS:

Original Part Number:	10319
Device type:	Extreme QSFP+ SR
Package:	QSFP MSA
Data rate:	103,1Gbps
Wavelength:	850nm
Distance/Power Budget:	Up to 300m on 2000 MHz-km MMF
Optical components	TX: 4 channels 850nm VCSEL array RX: 4 channels PIN photo detector array
Output power:	-7,6 ~ 2,4dBm
Receiver Sensitivity:	< -9,5dBm
Power Supply Voltage:	3,3V
Connector:	MPO
Fiber type:	Multimode
Operating Temperature:	0 - 70 °C
DDM / DOM:	With
Application:	40GBASE-SR4 Ethernet
Compatibility:	100 % Extreme Compatible
ROHS:	RoHS6 Compliant

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ABSOLUTE MAXIMUM RATINGS:

Stresses in excess of the absolute maximum ratings can cause permanent damage to the device. These are absolute stress ratings only. Functional operation of the device is not implied at these or any other conditions in excess of those given in the operational sections of the data sheet. Exposure to absolute maximum ratings for extended periods can adversely affect device reliability.

Parameter	Symbol	Minimum	Maximum	Unit
Storage Temperature	Ts	-40	85	°C
Relative Humidity	RH	5	95	%
Supply Voltage	Vcc	-0,5	4,0	V

RECOMMENDED OPERATING CONDITIONS:

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Operating Case Temperature	Tc	0	25	70	°C
Supply Voltage	Vcc	3,135	3,3	3,465	V
Data rate PER channel	-	-	10,3125	-	Gb/s

TRANSCEIVER ELECTRICAL CHARACTERISTICS:

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Module Supply Current	Icc	-	-	430	mA	-
Power Dissipation	Pd	-	-	1,5	W	-
Transmitter						
Input Differential Impedance	Zin	-	100	-	Ω	-
Differential Data Input Swing	Vin, p-p	180	-	900	mVp-p	-
Receiver						
Output Differential Impedance	Zo	-	100	-	Ω	-
Differential Data Output Swing	Vin, p-p	300	-	850	mVp-p	-
Transition Time (20% to 80%)	Tr,Tf	28	-	-	ps	-

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TRANSMITTER OPTICAL CHARACTERISTICS:

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Launch Optical Power	P _o	-7,6	-	2,4	dBm	1
Center Wavelength Range	λ _c	830	850	860	nm	-
Extinction Ratio	EX	3	-	-	dB	2
Spectral Width (RMS)	Δλ	-	-	0,65	nm	-
Transmitter and Dispersion Penalty	TDP	-	-	3,2	dB	-
Optical Return Loss Tolerance	ORLT	-	-	12	dB	-
Eye Diagram	IEEE Std 802.3ba compatible					

Notes:

1. The optical power is launched into OM3 MMF.
2. Measured with a PRBS 2³¹-1 test pattern @10,3125Gbps.

RECEIVER OPTICAL CHARACTERISTICS:

Parameter	Symbol	Minimum	Typical	Maximum	Unit	Notes
Center Wavelength	λ _c	830	850	860	nm	-
Receiver Sensitivity (P _{avg})	S	-	-	-9,5	dBm	1
Damage Threshold	P _{OL}	2,5	-	-	dBm	1
Optical Return Loss	ORL	12	-	-	dB	-
LOS De-Assert	LOS _D	-	-	-11	dBm	-
LOS Assert	LOS _A	-30	-	-	dBm	-
LOS Hysteresis	-	0,5	-	-	dB	-

Notes:

1. Measured with PRBS 2³¹-1 test pattern, 10,3125Gb/s, BER < 10⁻¹².

The 10319 is a Class 1 laser product. It fully complies with the multi-sourcing agreement (MSA) which enables it to work in all MSA compliant platforms. The 10319 must be operated within the specified temperature and voltage limits.

The optical ports of the module shall be terminated with an optical connector or with a dust plug.