

PRE-QSFP28-LR4(I), PRE-QSFP28M-LR4
 QSFP28, 1310nm, SMF, 10km, 100Gbps & 112Gbps



Product Features:

- DFB Transmitters
- PIN Receivers
- SMF Transmission Medium
- LC-UPC Connector Type
- Digital Diagnostics Monitoring (DDM)
- C-Temp and I-Temp Available



Applications:

- 100G Ethernet
- OTN Transport

General Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Case Operating Temperature (Commercial)	T _{op}	0	-	70	°C
Case Operating Temperature (Industrial)	T _{op}	-40	-	85	°C
Power Consumption (100GE)	P _w	-	-	3.5	W
Power Consumption (OTU4)	P _w	-	-	4	W
Power Consumption (Industrial)	P _w	-	-	4.5	W
Power Supply Current	I _{cc}	-	1120	1485	mA
Power Supply Voltage	V _{cc}	3.14	3.3	3.46	V
Storage Humidity (Commercial)	H _s	15	-	85	%
Storage Humidity (Industrial)	H _s	5	-	95	%
Storage Temperature	T _s	-40	-	85	°C
Transmission Distance	TD	-	-	10	km
Data Rate (Total)	DR _T	103.125	-	111.81 ¹	Gbps
Data Rate (Per Lane)	DR _{lane}	25.78125 ± 100 ppm	-	27.95249 ± 20 ppm ¹	GBd

¹ = 111.81 Gbps (27.95249 GBd per lane) is only for PRE-QSFP28M-LR4.

Optical Characteristics: Transmitter

Parameter	Symbol	Min	Typ	Max	Unit
Center Wavelength 1	λ_1	1294.53	1295.56	1296.59	nm
Center Wavelength 2	λ_2	1299.02	1300.05	1301.09	nm
Center Wavelength 3	λ_3	1303.54	1304.58	1305.63	nm
Center Wavelength 4	λ_4	1308.09	1309.14	1310.19	nm
Transmit Power per lane (100GE)	P_{OUT}	-4.3	-	4.5	dBm
Transmit Power per lane (OTU4)	P_{OUT}	-2.5	-	2.9	dBm
Side Mode Suppression Ratio	SMSR	30	-	-	dB
Dispersion Penalty per lane (100GE)	DP	-	-	2.2	dB
Dispersion Penalty per lane (OTU4)	DP	-	-	1.5	dB
Optical Modulation Amplitude per lane	OMA	-1.3	-	4.5	dBm
Extinction Ratio (GE)	ER	4	-	-	dB
Extinction Ratio (OTU4)	ER	7	-	-	dB
Relative Intensity Noise	RIN	-	-	-130	dB/Hz
Transmitter OFF Output Power per lane	P_{OFF}	-	-	-30	dBm

Optical Characteristics: Receiver

Parameter	Symbol	Min	Typ	Max	Unit
Receiver Wavelength 1	λ_1	1294.53	1295.56	1296.59	nm
Receiver Wavelength 2	λ_2	1299.02	1300.05	1301.09	nm
Receiver Wavelength 3	λ_3	1303.54	1304.58	1305.63	nm
Receiver Wavelength 4	λ_4	1308.09	1309.14	1310.19	nm
Damage Threshold per lane	P_D	5.5	-	-	dBm
Receiver Sensitivity per lane (100GE)	R	-	-	-8.6	dBm
Receiver Sensitivity per lane (OTU4)	R	-	-	-10.3	dBm
LOS Assert	LOS_A	-24	-	-	dBm
LOS De-Assert	LOS_D	-	-	-11.6	dBm
LOS Hysteresis	LOS_H	-	1.5	-	dB

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Product Ordering Information

Part Number	Description
PRE-QSFP28-LR4	QSFP28, 1310nm, SMF, 10km, 100Gbps
PRE-QSFP28M-LR4	QSFP28, 1310nm, SMF, 10km, 112Gbps
PRE-QSFP28-LR4I	QSFP28, 1310nm, SMF, 10km, 100Gbps, I-Temp