

PRE-QSFP28-BL(H)-ELR1

QSFP28, PAM4, BIDI, 100G, 20km, 1271/1331nm



Product Features:

- Single Wave PAM4 Modulation
- EML Transmitters
- PIN Receiver
- SMF Transmission Medium
- BIDI LC Connector
- Digital Diagnostic Monitoring
- C-Temp Rated
- 100Gbps Maximum Data Rate
- <4.5W Power Consumption
- On-Board KP4 FEC



Product Applications:

- Data Center
- 100GBASE-LR1 Ethernet

Standards:

- 100G λ MSA 100G-LR1-20
- SFF-8636
- Class 1 Laser
- RoHS 3.0

General Specifications:

Parameter	Min	Typical	Max	Unit
Case Operating Temperature	0	-	70	°C
Power Consumption	-	-	4.5	W
Power Supply Voltage	3.135	3.3	3.465	V
Operating Humidity	5	-	85	%
Storage Temperature	-40	-	85	°C
Damage Threshold	7.6	-	-	dBm
Transmission Distance	-	-	20	km
Data Rate (Per Lane)	-	25.78	-	Gbps
Data Rate (Total)	-	103.125	-	Gbps

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Optical Characteristics: Transmitter

Parameter	Min	Typical	Max	Unit
Center Wavelength (Low Wave)	1284.5	1291	1297.5	nm
Center Wavelength (High Wave)	1304.5	1311	1317.5	nm
Transmit Power (Avg)	-0.2	-	6.6	dBm
Side Mode Suppression Ratio	30	-	-	dB
Extinction Ratio	3.5	-	-	dB
Outer Optical Modulation Amplitude ¹	2.8	-	6.8	dBm
Transmitter and Dispersion Eye Closure	-	-	3.6	dB
Relative Intensity Noise	-	-	-136	dB/Hz
Output Power (P _{off}) per Lane	-	-	-15	dBm
Optical Return Loss Tolerance	-	-	15.6	dB
Transmitter Reflectance	-	-	-26	dB

Note 1: For TDECQ<1.4dB

Optical Characteristics: Receiver

Parameter	Min	Typical	Max	Unit
Receiver Wavelength (Low Wave)	1304.5	1311	1317.5	nm
Receiver Wavelength (High Wave)	1284.5	1291	1297.5	nm
Receive Power (Avg)	-10	-	6.6	dBm
Receive Power (OMA _{Outer})	-	-	6.8	dBm
Receiver Sensitivity (OMA _{Outer}) ¹	-	-	-7.6	dBm
Stressed Receiver Sensitivity	-	-	-5.4	dBm
Receiver Reflectance	-	-	-26	dB
LOS Assert	-15	-	-	dBm
LOS De-Assert	-	-	-12	dBm
LOS Hysteresis	0.5	-	-	dB

Note 1: For TDECQ<1.4dB @ 2.4x10⁻⁴ BER with PRBS31Q

Product Ordering Information

Part Number	Description
PRE-QSFP28-BL-ELR1	QSFP28, PAM4, BIDI, 100G, 20km, Low Wave, C-Temp, DDM
PRE-QSFP28-BH-ELR1	QSFP28, PAM4, BIDI, 100G, 20km, High Wave, C-Temp, DDM