

# PRE-QSFP28-BL(H)-LR1

QSFP28, PAM4, BIDI, 100G, 10km, 1271/1331nm



## Product Features:

- Single Wave PAM4 Modulation
- EML Transmitters
- PIN Receiver
- SMF Transmission Medium
- Simplex 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  $\lambda$  MSA 100G-LR
- 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	5.5	-	-	dBm
Transmission Distance	-	-	10	km
Data Rate (Per Lane)	-	25.78	-	Gbps
Data Rate (Total)	-	103.125	-	Gbps

## Optical Characteristics: Transmitter

Parameter	Min	Typical	Max	Unit
Center Wavelength (Low Wave)	1264.5	1271	1277.5	nm
Center Wavelength (High Wave)	1324.5	1331	1337.5	nm
Transmit Power (OMA)	0.7	-	4.7	dBm
Transmit Power (Avg)	-1.4	-	4.5	dBm
Side Mode Suppression Ratio	30	-	-	dB
Extinction Ratio	3.5	-	-	dB
Launch Power in OMA <sub>outer</sub> minus TDECQ				
For ER≥4.5dB	-0.7	-	-	dBm
For ER<4.5dB	-0.6	-	-	
Transmitter and Dispersion Eye Closure	-	-	3.4	dB
Relative Intensity Noise	-	-	-136	dB/Hz
Output Power (P <sub>off</sub> ) per Lane	-	-	-30	dBm
Optical Return Loss Tolerance	-	-	15.6	dB
Transmitter Reflectance	-	-	-26	dB

## Optical Characteristics: Receiver

Parameter	Min	Typical	Max	Unit
Receiver Wavelength (Low Wave)	1324.5	1331	1337.5	nm
Receiver Wavelength (High Wave)	1264.5	1271	1277.5	nm
Receive Power (Avg)	-7.7	-	4.5	dBm
Receive Power (OMA <sub>Outer</sub> )	-	-	4.7	dBm
Receiver Sensitivity (OMA <sub>Outer</sub> ) <sup>1</sup>	-	-	-6.1	dBm
Stressed Receiver Sensitivity	-	-	-4.1	dBm
Receiver Reflectance	-	-	-26	
LOS Assert	-26	-	-12	dBm
LOS De-Assert	-	-	-10	dBm

Note 1: Specified @ 2.4x10<sup>-4</sup> BER with PRBS31Q

## Product Ordering Information

Part Number	Description
PRE-QSFP28-BL-LR1	QSFP28, PAM4, BIDI, 100G, 10km, Low Wave, C-Temp, DDM
PRE-QSFP28-BH-LR1	QSFP28, PAM4, BIDI, 100G, 10km, High Wave, C-Temp, DDM