

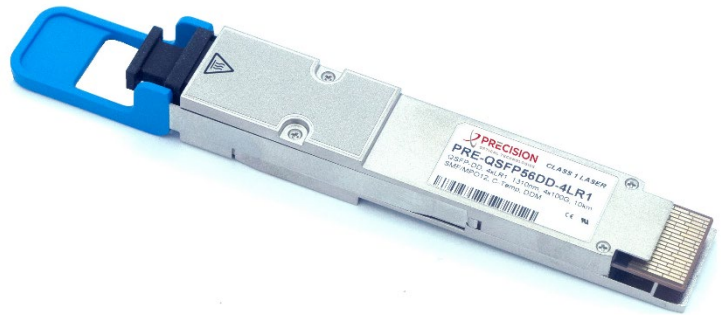
PRE-QSFP56DD-4LR1

QSFP-DD, 4xLR1, 1310nm, 4x100G, 10km, C-Temp



Product Features:

- Single Wave PAM4
- PIN Receivers
- 1310nm Operating Wavelength
- SMF Transmission Medium
- MPO-12 or SN Connector Available
- Digital Optical Monitoring
- C-Temp Rated
- 400Gbps Maximum Data Rate
- <9W Power Consumption



Product Applications:

- Datacenter
- Enterprise Networks
- 100GBASE-LR Ethernet

Standards:

- QSFP-DD MSA
- 100G λ MSA
- IEEE 802.3bs
- RoHS
- Class 1 Laser

General Specifications

Parameter	Min	Typical	Max	Unit
Case Operating Temperature	0	-	70	°C
Power Consumption	-	-	9	W
Power Supply Voltage	3.135	3.3	3.465	V
Operating Humidity	0	-	85	%
Storage Temperature	-40	-	85	°C
Transmission Distance	-	-	10	km
Data Rate (Total)	-	425	-	Gbps
Optical Data Rate per Lane (PAM4)	-	53.125	-	GBd
Pre-FEC Bit Error Ratio ¹	-	-	2.4E ⁻⁴	

Note 1: FEC provided by host system

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Optical Characteristics: Transmitter

Parameter	Min	Typical	Max	Unit
Center Wavelength	1304.5	1310	1317.5	nm
Transmit Power per Lane (Avg) ¹	-1.4	-	4.5	dBm
Side Mode Suppression Ratio	30	-	-	dB
Outer Optical Modulation Amplitude (OMA _{outer})	0.7	-	4.7	dBm
Launch Power in OMA minus TDECQ for ER ≥ 4.5dB	-0.7	-	-	dBm
for ER ≤ 4.5dB	-0.6	-	-	dBm
Transmitter and Dispersion PAM4 Eye Closure (TDECQ)	-	-	3.4	dB
TDECQ – 10*log ₁₀ (C _{eq})	-	-	3.4	dB
Extinction Ratio	3.5	-	-	dB
Relative Intensity Noise (OMA)	-	-	-136	dB/Hz
Optical Return Loss Tolerance	-	-	15.6	dB
Transmitter Reflectance	-	-	-26	dB
Transmitter OFF Output Power per Lane	-	-	-15	dBm

Optical Characteristics: Receiver

Parameter	Min	Typical	Max	Unit
Receiver Wavelength	1304.5	1310	1317.5	nm
Damage Threshold per Lane (Avg)	4.5	-	-	dBm
Receive Power per Lane (Avg) ¹	-7.7	-	4.5	dBm
Receive Power (OMA _{outer}) per Lane	-	-	4.7	dBm
Receiver Sensitivity (OMA _{outer}) per Lane	-	-	-6.1	dBm
Stressed Receiver Sensitivity (OMA _{outer})	-	-	-4.1	dBm
LOS Assert	-15	-	-	dBm
LOS De-Assert	-	-	-10.7	dBm
LOS Hysteresis	0.5	-	-	dB

Note 1: Average power is informative and not the principal indicator of signal strength.

Product Ordering Information

Part Number	Description
PRE-QSFP56DD-4LR1	QSFP-DD, 4xLR1, 1310nm, 4x100G, 10km, SMF/MPO12, C-Temp
PRE-QSFP56DD-SN-4LR1	QSFP-DD, 4xLR1, 1310nm, 4x100G, 10km, SMF/SN, C-Temp