

PRE-QSFP56DD-FR4

QSFP-DD, FR4, CWDM, 400G, 2km, SMF/LC



Product Features:

- Single Wave PAM4
- CWDM Wavelengths
- SMF Transmission Medium
- Duplex LC/UPC Connector
- Digital Diagnostic Monitoring
- C-Temp Rated
- 400Gbps Maximum Data Rate
- <12W Power Consumption



Product Applications:

- Enterprise Networks
- 400GBASE-FR4 Ethernet

Standards:

- QSFP-DD CMIS 4.0
- QSFP-DD MSA compliant
- RoHS

General Specifications

Parameter	Min	Typical	Max	Unit
Case Operating Temperature	0	-	70	°C
Power Consumption	-	-	12	W
Power Supply Voltage	3.14	3.3	3.46	V
Operating Humidity	15	-	85	%
Storage Temperature	-40	-	85	°C
Transmission Distance	-	-	2	km
Data Rate (Total)	-	425	-	Gbps
Signaling Rate per Lane	-	53.125	-	GBd

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Optical Characteristics: Transmitter

Parameter	Min	Typical	Max	Unit
Wavelength 1	1264.5	-	1277.5	nm
Wavelength 2	1284.5	-	1297.5	nm
Wavelength 3	1304.5	-	1317.5	nm
Wavelength 4	1324.5	-	1337.5	nm
Transmit Power per Lane (Avg) ¹	-3.3	-	3.5	dBm
Outer Optical Modulation Amplitude (OMA _{outer}), per Lane	-0.3	-	3.7	dBm
Extinction Ratio	3.5	-	-	dB
Tx Power in OMA _{outer} minus TDECQ				
ER \geq 4.5dB	-1.7	-	-	dBm
ER $<$ 4.5dB	-1.6	-	-	dBm
Side Mode Suppression Ratio	30	-	-	dB
Transmitter and Dispersion Eye Closure for PAM4, per Lane	-	-	3.4	dB
Relative Intensity Noise (OMA)	-	-	-136	dB/Hz
Optical Return Loss Tolerance	-	-	17.1	dB
Transmitter OFF Output Power per Lane	-	-	-20	dBm

Note 1: This value is informative and not the principal indicator of signal strength

Optical Characteristics: Receiver

Parameter	Min	Typical	Max	Unit
Receive Power per Lane (Avg)	-7.3	-	3.5	dBm
Receive Power (OMA _{outer}) per Lane	-	-	3.7	dBm
Difference in Receive Power between any two Lanes (OMA _{outer})	-	-	4.1	dB
Receiver Reflectance	-	-	-26	dB
Receiver Sensitivity (OMA _{outer}), per Lane	-	-	-4.6, SECQ -6.0	dBm
Stressed Receiver Sensitivity (OMA _{outer}), per Lane	-	-	-2.6	dBm
Damage Threshold per Lane	4.5	-	-	dBm
LOS Assert	-20	-	-	dBm
LOS De-assert	-	-	-10.3	dBm
LOS Hysteresis	0.5	-	-	dB

Product Ordering Information

Part Number	Description
PRE-QSFP56DD-FR4	QSFP-DD, FR4, CWDM, 400G, 2km, SMF/LC, C-Temp