

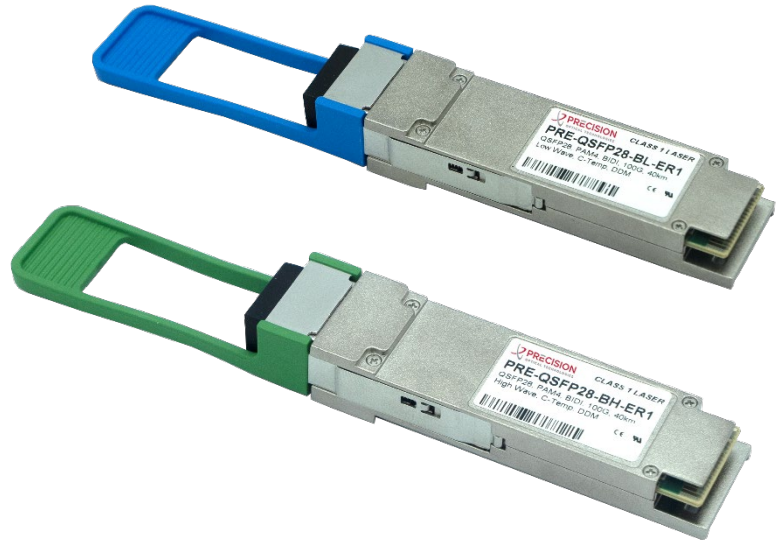
# PRE-QSFP28-BL(H)-ER1

QSFP28, PAM4, BIDI, 100G, 40km, 1304/1309nm



## Product Features:

- Single Wave PAM4 Modulation
- EML Transmitters
- APD 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-ER1 Ethernet

## Standards:

- 100G  $\lambda$  MSA 100G-ER1
- 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	-2.4	-	-	dBm
Transmission Distance	-	-	40	km
Data Rate (Per Lane)	-	25.78	-	Gbps
Data Rate (Total)	-	103.125	-	Gbps

# PRE-QSFP28-BL(H)-ER1

QSFP28, PAM4, BIDI, 100G, 40km, 1304/1309nm



## Optical Characteristics: Transmitter

Parameter	Min	Typical	Max	Unit
Center Wavelength (Low Wave)	1304.06	1304.58	1305.1	nm
Center Wavelength (High Wave)	1308.61	1309.14	1309.66	nm
Transmit Power (Avg)	1.7	-	7.1	dBm
Side Mode Suppression Ratio	30	-	-	dB
Extinction Ratio	5	-	-	dB
Outer Optical Modulation Amplitude <sup>1</sup>	4.7	-	7.9	dBm
Transmitter and Dispersion Eye Closure	-	-	3.9	dB
Relative Intensity Noise	-	-	-136	dB/Hz
Output Power (P <sub>off</sub> ) per Lane	-	-	-15	dBm
Optical Return Loss Tolerance	-	-	15	dB
Transmitter Reflectance	-	-	-26	dB

Note 1: For TDECQ<1.4dB

## Optical Characteristics: Receiver

Parameter	Min	Typical	Max	Unit
Receiver Wavelength (Low Wave)	1308.61	1309.14	1309.66	nm
Receiver Wavelength (High Wave)	1304.06	1304.58	1305.1	nm
Receive Power (Avg)	-16	-	-3.4	dBm
Receive Power (OMA <sub>Outer</sub> )	-	-	-2.6	dBm
Receiver Sensitivity (OMA <sub>Outer</sub> )	-	-	-13.8	dBm
Stressed Receiver Sensitivity	-	-	-11.3	dBm
Receiver Reflectance	-	-	-26	dB
LOS Assert	-26	-	-	dBm
LOS De-Assert	-	-	-17	dBm

Note 1: For TDECQ<1.4dB @ 2.4x10<sup>-4</sup> BER with PRBS31Q

## Product Ordering Information

Part Number	Description
PRE-QSFP28-BL-ER1	QSFP28, PAM4, BIDI, 100G, 40km, Low Wave, C-Temp, DDM
PRE-QSFP28-BH-ER1	QSFP28, PAM4, BIDI, 100G, 40km, High Wave, C-Temp, DDM