

# PRE-QSFP28-ER1

QSFP28, ER, 1310nm, 100G, 40km, SMF/LC, C-Temp



## Product Features:

- Single Wavelength PAM4
- EML Transmitters
- APD Receivers
- Up to 40km on SMF
- LC/UPC Connector
- Digital Diagnostic Monitoring (DDM)
- Operating case temperature: 0°C~70°C
- <4.5W Power Consumption



## Product Applications:

- 100GBASE-ER Ethernet
- Data Center Applications
- Switch & Router Connections

## Standards:

- 100G-ER1-40 100G Single Lambda MSA
- SFF-8636
- RoHS

## General Specifications:

| Parameter                  | Symbol   | Min  | Typ    | Max  | Unit |
|----------------------------|----------|------|--------|------|------|
| Case Operating Temperature | $T_{op}$ | 0    | -      | 70   | C°   |
| Power Consumption          | $P_w$    | -    | -      | 4.5  | W    |
| Power Supply Voltage       | $V_{cc}$ | 3.13 | 3.3    | 3.47 | V    |
| Relative Humidity          | $H_s$    | 15   | -      | 85   | %    |
| Storage Temperature        | $T_s$    | -40  | -      | 85   | C°   |
| Transmission Distance      | TD       | -    | -      | 40   | km   |
| Data Rate (PAM4)           | DR       | -    | 53.125 |      | Gbd  |

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## Optical Characteristics: Transmitter

| Parameter                                                                                         | Symbol      | Min                     | Typ | Max  | Unit  |
|---------------------------------------------------------------------------------------------------|-------------|-------------------------|-----|------|-------|
| Center Wavelength                                                                                 | $\lambda_c$ | 1307                    | -   | 1313 | nm    |
| Average Launch Power                                                                              | $P_o$       | 1.7                     | -   | 7.1  | nm    |
| Launch Optical Power (OMA)<br><br>NOTE:<br><br>TDECQ < 1.4 dB<br><br>1.4 dB < TDECQ < TDECQ (max) | $P_{OMA}$   | $\frac{4.7}{3.3+TDECQ}$ | -   | 7.9  | dBm   |
| Transmitter and Dispersion Penalty Eye Closure for PAM4                                           | TDECQ       | -                       | -   | 3.9  | dB    |
| Extinction Ratio                                                                                  | ER          | 5                       | -   | -    | dB    |
| Relative Intensity Noise OMA                                                                      | RIN         | -                       | -   | -136 | dB/Hz |
| Optical Return Loss Tolerance                                                                     | ORLT        | -                       | -   | 15   | dB    |
| Average Transmitter Off Power                                                                     | $P_{OFF}$   | -                       | -   | -15  | dBm   |

## Optical Characteristics: Receiver

| Parameter                  | Symbol      | Min         | Typ | Max  | Unit |
|----------------------------|-------------|-------------|-----|------|------|
| Center Wavelength          | $\lambda_c$ | 1307        | -   | 1313 | nm   |
| Receiver Sensitivity (OMA) | RxSENS      | -           |     |      | dBm  |
| For TECQ < 1.4 dB          |             | 4.7         | -   | 7.9  |      |
| 1.4 < TECQ < 3.9 dB        |             | $3.3+TDECQ$ | -   | 7.9  |      |
| Receiver Overload          | $P_{SAT}$   | -3          | -   | -    | dBm  |
| Receiver Reflectance       | RR          | -           | -   | -26  | dB   |
| LOS De-Assert              | $LOS_D$     | -           | -   | -16  | dBm  |
| LOS Assert                 | $LOS_A$     | -24         | -   | -    | dBm  |
| LOS Hysteresis             | $LOS_H$     | 0.5         | -   | -    | dB   |

## Product Ordering Information

| Part Number    | Description                                    |
|----------------|------------------------------------------------|
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