

# PRE-QSFP56DD-ZRX4T

QSFP-DD, ZR+, -7 to +4dBm, Tunable, C-Band, 400G, 120km (unamplified)



## Product Features:

- Full DWDM C-band Tunable
- -7 to +4dBm TX Power
- 1000km+ Reach (Amplified)
- 120km Reach (Unamplified)
- Duplex LC-UPC Connector
- C-Temp
- <19W Power Consumption
- Digital Diagnostics Monitoring (DDM)



## Product Applications:

- Data Center Interconnect
- ROADM and Long Haul Networks
- DWDM 400G Ethernet/FlexO

## Standards:

- QSFP-DD
- CMIS and C-CMIS
- RoHS

## General Specifications:

| Parameter                  | Min  | Typical | Max                | Unit |
|----------------------------|------|---------|--------------------|------|
| Case Operating Temperature | 0    | -       | 75                 | °C   |
| Power Consumption          | -    | -       | 24.75 <sup>1</sup> | W    |
| Power Supply Voltage       | 3.14 | 3.3     | 3.46               | V    |
| Operating Humidity         | 5    | -       | 95                 | %    |
| Storage Temperature        | -40  | -       | 85                 | °C   |
| Transmission Distance      | -    | -       | 1000 <sup>2</sup>  | km   |
| Data Rate (Total)          | 200  | -       | 505.11             | Gbps |

1 - The actual module max power consumption will depend on the Application in use.

2 - Line System, dispersion limited links, G.652 fiber. Max reach will depend on network design

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## Applications<sup>2</sup>:

| Host      |             |            |             | Media            |       |            |             |
|-----------|-------------|------------|-------------|------------------|-------|------------|-------------|
| Host IF   | FEC         | Modulation | Baud Rate   | Mode             | FEC   | Modulation | Baud Rate   |
| 400GAUI-8 | RS(544,514) | PAM4       | 26.5625 GBd | 400ZR            | C-FEC | DP-16QAM   | 59.8438 GBd |
| 100GAUI-2 | RS(544,514) | PAM4       | 26.5625 GBd | 400ZR            | C-FEC | DP-16QAM   | 59.8438 GBd |
| 400GAUI-8 | RS(544,514) | PAM4       | 26.5625 GBd | ZR400-OFEC-16QAM | O-FEC | DP-16QAM   | 60.1385 GBd |
| 100GAUI-2 | RS(544,514) | PAM4       | 26.5625 GBd | ZR400-OFEC-16QAM | O-FEC | DP-16QAM   | 60.1385 GBd |
| 400GAUI-8 | RS(544,514) | PAM4       | 26.5625 GBd | FLEXO-4-DO-16QAM | O-FEC | DP-16QAM   | 63.1395 GBd |
| 100GAUI-2 | RS(544,514) | PAM4       | 26.5625 GBd | FLEXO-4-DO-16QAM | O-FEC | DP-16QAM   | 63.1395 GBd |

2 - A shortened version of all the applications this module supports is shown here. Only non-muxponder 400G modes are interoperable with other modules using the same application. For the full supported list please reach out to your direct Sales/SE representative.

## Optical Characteristics: Transmitter

| Parameter                  | Min    | Typical | Max     | Unit |
|----------------------------|--------|---------|---------|------|
| Tx Output Power Range      | -7     | -       | 4       | dBm  |
| Tx Output Power Resolution | -      | -       | 0.1     | dB   |
| Tx Output Power Accuracy   | -1     | -       | 1       | dB   |
| Tx Output Power Stability  | -1     | -       | 1       | dB   |
| In-band OSNR               | 37     | -       | -       | dB   |
| Out-of-Band OSNR           | 45     | -       | -       | dB   |
| Tx Disable Power           | -      | -       | -20     | dBm  |
| Tx Reflectance             | -      | -       | -27     | dBm  |
| Frequency Range            | 191.25 | -       | 196.125 | THz  |
| Frequency Fine Tuning      | 5      | -       | 100     | GHz  |

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## Optical Characteristics: Receiver

| Parameter                                 |                  | Min    | Typical | Max   | Unit     |
|-------------------------------------------|------------------|--------|---------|-------|----------|
| Rx Input Power<br>(Unamplified OSNR>35dB) | 400ZR            | -21    | -       | 5     | dBm      |
|                                           | ZR400-OFEC-16QAM | -22    |         | 5     |          |
|                                           | FLEXO-4-DO-16QAM | -21    |         | 5     |          |
| Rx Input Power (Amplified)                | 400ZR            | -12    | -       | -7    | dBm      |
|                                           | ZR400-OFEC-16QAM | -12    |         | -7    |          |
|                                           | FLEXO-4-DO-16QAM | -12    |         | -7    |          |
| Rx OSNR Tolerance                         | 400ZR            | -      | -       | 24.8  | dB/0.1nm |
|                                           | ZR400-OFEC-16QAM | -      |         | 21.9  |          |
|                                           | FLEXO-4-DO-16QAM | -      |         | 22.4  |          |
| CD Tolerance                              | 400ZR            | -2400  | -       | 2400  | ps/nm    |
|                                           | ZR400-OFEC-16QAM | -81000 |         | 81000 |          |
|                                           | FLEXO-4-DO-16QAM | -73500 |         | 73500 |          |

## Product Ordering Information

| Part Number        | Description                                                                           |
|--------------------|---------------------------------------------------------------------------------------|
| PRE-QSFP56DD-ZRX4T | QSFP-DD, ZR+, -7 to +4dBm, Tunable, C-Band, 400G, 120km (unamplified), SMF/LC, C-Temp |

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