

400ZR Coherent QSFP-DD (OM876AXX100) Databrief

Product Features

- QSFP-DD MSA compliant
- Compliant with OIF 400ZR, version 01.0, March 10, 2020
- Digital diagnostic monitoring support
- Hot-pluggable by 76-pin electrical interface
- Maximum power consumption 16.5 W
- 400G 16QAM modulation
- Compact size (18.4 mm x 93.4 mm x 8.5 mm)
- LC duplex connector
- 400GBASE-R, 425 Gbps bit rate
- 400G-AUI-8 C2M; 8 x CEI-56G-VSR PAM-4 electrical interface
- Operating case temperature: 0°C to 70°C
- Single 3.3 V power supply
- RoHS 2 compliant

1. Typical Application

OM876AXX100 is intended to be used in conjunction with a host platform to support 400G transmission over optical links in DCI applications, below is the reference diagram.

OM876AXX100 is designed for 400ZR type 1 (code 0x01) in amplified applications and type 2 (code 0x02) in unamplified applications.



Figure 1-1 400ZR reference diagram

400ZR type 1 (code 0x01) in amplified applications

Three use cases of amplified point-to-point links are identified for 400ZR. For amplified links, the reach is dependent on the OSNR (noise limited) at the receiver. The 400ZR targeted reach for these applications is 80–120 km or longer.





Switch A/Router A

Transponder

Amplifier

Amplifier

Transponder

Switch B/Router B

400ZR type 2 (code 0x02) in unamplified applications

The following figure shows the example of an unamplified link, where the transmission distance depends on the transmit output power, input receiver sensitivity, and channel loss.

Figure 1-5 Router/Switch line card using 400ZR for an unamplified link



2. Description

The OM876AXX100 coherent module, compliant with the OIF 400ZR MSA and QSFP-DD MSA standards, is designed for DCI applications. The digital diagnostics function is available via an I2C interface, as specified by the QSFP-DD MSA.

The OM876AXX100 is a C-band 75G/100 GHz grid coherent optical module that combines coherent DSP ASIC functionality with best in class ultra-narrow line-width tunable lasers, high speed modulators and high responsively coherent receivers to deliver high performance at 400G 16QAM modulation formats (at 60G baud rate).

Mechanical dimensions, connectors and footprint of OM876AXX100 conform to QSFP-DD MSA. The module is QSFP-DD type2 size (18.4 mm x 93.4 mm x 8.5 mm) and hot pluggable by a 76-pin connector. The maximum power consumption is 16.5 W and power supply voltage is +3.3 V.

The functional block diagram is shown as below.





3. Mechanical Dimensions

Figure 3-1 Mechanical dimensions









4. Ordering Information

Module Code	Application	Reach
OM876AXX100	Amplified	80–120 km

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