

Product Brief

Highlights

- Provides high system reliability based on rigorous qualification and certification testing
- Leverages unique design parameters to provide the highest performance with industry-leading Brocade solutions to support business continuity
- Helps eliminate issues related to transceiver incompatibility, reducing downtime and support costs
- Helps eliminate issues resulting from unexpected design changes, providing ongoing end-to-end compatibility
- Optimizes connectivity to enable maximum cable distance

Key Features

- Hot-swappable, low-voltage (3.3V) digital diagnostic Ethernet optical transceivers that support high-speed serial links over multimode optical fiber at a signaling rate of 4×10.3125 Gb/s
- 4-channel 850 nm VCSEL laser
- Supports diagnostic features, providing real-time monitoring of:
 - Transmitted optical power
 - Received optical power
 - Laser bias current
 - Temperature
 - Supply voltage
- Industry-standard MTP (MPO) 1×8 or 1×12 ribbon cable connector
- 100m link lengths on OM3 multimode fiber; 150m link lengths on OM4 multimode fiber

Brocade[®] 40 Gb/s SR4 QSFP+ Optical Transceiver

Optimized, Certified Optical Transceivers for Extending Data Center Networks

Overview

Today's enterprise data centers and networking environments are undergoing an infrastructure transformation, requiring higher speeds, greater scalability, and higher levels of performance and reliability to better meet the demands of business. As speed and performance needs increase, optical transceivers have become an integral part of overall system design. However, optical transceiver design margins and parameters vary widely, and can be the difference between an optimized, highly reliable fabric and incompatibility issues that drive up support costs.

The Brocade[®] 40 Gb/s SR4 QSFP+ Ethernet optical transceiver with 10GBASE-SR breakout capability is optimized to deliver state-of-the-art performance. Brocade ensures the highest qualification and certification testing so IT organizations can expand the capabilities of their applications and services.

End-to-End Compatibility and Reliability

Brocade 40 Gb/s SR4 QSFP+ Ethernet optical transceivers with 10GBASE-SR breakout capability support highly reliable operations in data center networks. They undergo rigorous qualification and certification testing to provide an end-to-end solution that is easier to maintain—helping improve the availability of data center networks supporting mission-critical applications.

Family of Optical Transceivers

Brocade offers a comprehensive family of reliable optical transceivers to provide highly compatible, high-performance connectivity to Brocade director and switch products.

For additional ordering information, contact a Brocade representative or visit www.brocade.com.

Maximizing Investments

To help optimize technology investments, Brocade, A Broadcom Limited Company, and its partners offer complete solutions that include professional services, technical support, and education. For additional information, contact a Brocade sales partner or visit www.brocade.com.

Key Features (con't)

- Compliant to QSFP+ mechanical, optical, and electrical specifications (SFF-8436)
- Compliant to 40GBASE-SR4 specifications
- Supports interoperability with 10GBASE-SR modules up to 100m on OM3 multimode fiber
 - Can be used with ribbon to duplex fiber breakout cables for connectivity to four 10GBASE-SR optical interfaces
- Push-pull tab for ease of insertion and extraction
- IEC 60825-1 Class 1/CDRH Class 1 laser eye safe
- Compliance with Restriction on Hazardous Substances (RoHS) directive

Ordering Part Number

- 40G-SR4-INT-0286

Regulatory and Standards Compliance

- North America: UL/CSA 60950, CDRH Class 1
- European Union: EN 60950, EN 60825 Class 1

Caution

- Do not look through the optical ports, as it is a potential eye hazard.
- SFP is an ESD sensitivity Class 2 device. It should be handled accordingly.

System Specifications

| Parameter | Description |
|----------------------|--|
| Performance | Ethernet: 4×10.3125 Gb/s line speed, full duplex, interoperable with 10GBASE-SR modules up to 100m on OM3 multimode fiber |
| Media | Hot-pluggable, industry-standard Quad Small Form-Factor Pluggable (QSFP+), MTP (MPO) 1×8 or 1×12 ribbon connector; Short-Reach (SR4) supports breakout to four 10GBASE-SR modules up to 100m on OM3 multimode fiber |
| Operating Parameters | Transmit (Tx): <ul style="list-style-type: none"> • Wavelength: 840 to 860 nm • Average power: -7.6 to -1 dBm • Optical return loss: 12 dB max. • OMA: -5.6 to +3 dBm per channel Receive (Rx): <ul style="list-style-type: none"> • Wavelength: 840 to 860 nm • Average power: 2.4 dBm max. per channel • Optical return loss: -12 dB max. • SRS OMA: 288 μW or -5.4 dBm max. per channel |

Mechanical Specifications

| | |
|------|--|
| Size | Width: 18.35 mm (0.72 in.) Height: 12.67 mm (0.50 in.) Depth: 71.0 mm (2.80 in.) |
|------|--|

Environmental Specifications

| | |
|---------------------|----------------------------------|
| Storage Temperature | -40°C to +85°C (-40°F to +185°F) |
|---------------------|----------------------------------|

Power Specifications

| | |
|-------------------|-----------|
| Power Dissipation | 1.5W max. |
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