# Brocade XBR-000499 Datasheet



Brocade XBR-000499 16G FC LWL 10km SFP+ Optical Transceiver, 8-pack 57-1000488-01 XBR-000499

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The Brocade® 16Gb/s Long Wavelength (LWL) 10-km optical transceiver, part of the Brocade family of Small Form-Factor Pluggable (SFP) optical transceivers, is optimized to fully leverage Brocade 16Gb/s director and switch products. The Brocade 16Gb/s LWL 10-km SFPs are hot-swappable, low-voltage (3.3V), digital diagnostic optical transceivers that support high-speed serial links over single-mode optical fiber at signaling rates up to 14.025Gb/s. They comply with SFP mechanical (SFF-8432), optical, and electrical specifications (FC-PI-5) for LC duplex transceivers.

The Brocade LWL SFPs are the standard choice for use in mainframe environments, connecting to IBM System z channels and FICON devices over distance for business continuity and disaster recovery. Together with Brocade switching products, they provide state-of-the-art performance, helping IT organizations achieve new levels of infrastructure consolidation while expanding the capabilities of their applications and services.

Product highlights include the following:

- 1310-nm DFB laser
- FC-PI-5 compliance for 14.025/8.5/4.25Gb/s operation
- Diagnostic features per SFF-8472, Diagnostic Monitoring Interface for Optical Transceivers, providing real-time monitoring of:
  - Transmitted average optical power
  - Received average optical power
  - Laser bias current

- Temperature
- Supply voltage
- Industry-standard LC duplex connector
- 10-km link lengths at 14.025Gb/s on 9- Im single-mode fiber
- IEC 60825-1 Class 1/CDRH Class 1 laser, which is eye-safe
- Compliance with the Restriction on Hazardous Substances (RoHS) directive

### Performance

- Fibre Channel: 4.25, 8.5, and 14.025Gb/s line speed, full
- duplex; auto-sensing of 4, 8, and 14Gb/s port speeds

### Media

- Hot-pluggable, industry-standard Small Form-Factor
- Pluggable (SFP+), LC connector; Long Wavelength (LWL)

## **Operating Parameters**

- Transmit (Tx):
  - Wavelength: 1295 nm to 1325 nm
  - Average power: 15.0 dBm to 2.0 dBm
  - RIN: –130 dB/Hz max
  - Optical return loss: 12 dB max
  - ° OMA: 631 □W, -2.0 dBm
- Receive (Rx):
  - Average power: 2.0 dBm max
  - Optical return loss: –12 dB min
  - ° Unstressed sensitivity: 63 □W, □12.0 dBm
  - $\circ~$  SRS OMA: 95  $\square W, \ \square 10.2 \ dBm$
  - 3-dB cutoff maximum: 18 GHz

## **Ordering Part Numbers**

- XBR-000198 (1-pack 57-0000089-01)
- XBR-000199 (8-pack 57-0000089-01)

- XBR-000498 (1-pack 57-1000488-01)
- XBR-000499 (8-pack 57-1000488-01)

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