

FEATURES

- Supports selected CommScope Digital Return platform links up to 80 km
- 4.25 Gbps data throughput
- G.694.1 compliant, supports 43 ITU DWDM channels 20–62
- Enables transport of 2x 5–100 MHz returns over a single wavelength
- Pluggable SFP MSA footprint
- Duplex LC connector
- Very low jitter
- Metal enclosure for lower EMI
- Extended operating temperature range -40° to 95°C
- Cold start wavelength compliance (INF-8478i)

TKD4580-xx-PI series DWDM Optical Transceiver Modules enable additional transmission capabilities for high-speed communications modules offered by CommScope, such as the DT/VT4250N-xx and OM4 DT7030/DT7230N Digital Return Platform Transmitters. A single SFP unit supports the transport of two separate 5–100 MHz returns, including 5–85 MHz returns, over a single wavelength.

Conforming to the Small Form Factor Pluggable (SFP) Multisource Agreement, state-of-the-art TKD4580 DWDM transceivers are designed expressly for high-speed bi-directional communication applications that require rates up to 4.25 Gbps, with the laser transmission portion of the device operating at one of 43 available ITU-compliant (G.694.1) DWDM wavelengths.

TKD4580 series modules feature a very low jitter contribution, resulting in an extremely clean, high-quality eye pattern required for high transmission performance. The modules' metal enclosure not only makes the unit sturdier, but also improves their FCC test margins. This emission and ESD control is particularly important in applications with sensitive multiport hubs and switches. The modules, which dissipate less than 1.7 W, are supplied with a duplex LC connector.



SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions	2.2" L x 0.4" H x 0.5" W (5.7 cm x 1.1 cm x 1.4 cm)
Weight	0.1 lbs (0.05 kg)
Environmental	
Operating Temperature Range	-40° to +95°C (-40° to +203°F)
Storage Temperature Range	-40° to +95°C (-40° to +203°F)
Humidity	5% to 95% non-condensing
Optical Interface	
Optical Connectors	Duplex LC
Power Requirements	
Input Voltage	3.3 VDC
Power Consumption	1.7 W max
General	
Data Rate	4.250 Gbps
	Hot plug-in/out
Supported Link Length	80 km (on SMF-28 or equivalent) NOTE: This is strictly a dispersion limitation. Actual transmission distance is also dictated by the power budget of each transmission link. EDFAs and Dispersion Compensation Modules are suitable for use with the TKD4580-xx-PI.
Optical (Transmitter)	
Transmitter Type	Cooled DWDM DFB
DWDM Channels	43 channels (20 through 62) (Center wavelengths per ITU-T G.694.2)
Wavelength Stability, EOL	± 0.1 nm
Optical Output Power	+4 dBm min
Optical Extinction Ratio (ER)	5.0 dB min
Dispersion Penalty	3 dB (Measured with PRBS 2 ²³ -1 at 4.25 Gbps, 80 km SMF, and 10 ⁻¹² BER)
Optical (Receiver)	
Receiver Sensitivity	-23 dBm max
Optical Center Wavelength	1525–1565 nm
Maximum Input Power	-8 dBm
Loss of Signal Assert Level	-40 dBm
Regulatory Compliance	
	Class 1 devices per FDA/CDRH and IEC-60825-1 laser safety regulations

ORDERING INFORMATION

Model Name	Description
TKD4580-xx-PI	4.25 Gbps DWDM Optical SFP Transceiver, Duplex LC connector, 80 km, -40° to +95°C, supports 43 ITU G.694.1 DWDM channels, where xx = channel 20–62. Specify channel number when ordering.

RELATED PRODUCTS

NH4000 VHub/UVHub	NC2000 and NC4000™ Nodes
DT4xxxN Digital Transceivers	OM4 DT7030/DT7230
Fiber Service Cable	Installation Services

Contact Customer Care for product information and sales:

- United States: 866-362-7747
- International: +1-678-473-5656

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Note: Specifications are subject to change without notice.

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