

SFP Fiber Optic Transceivers

TKD4580-xx-PI 4.250 Gbps DWDM Optical Transceiver Module

FEATURES

- Supports DT4250N Universal Digital Return Platform links up to 80 km
- 4.25 Gbps data throughput
- 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°C to 85°C
- Cold start wavelength compliance (INF-8478i)



PRODUCT OVERVIEW

TKD4580-xx-PI series DWDM Optical Transceiver Modules enable additional transmission capabilities for high-speed communications modules offered by ARRIS, such as the DT4250N-xx Universal Digital Return Platform Transmitter. A single SFP unit supports the transport of two separate 5–100 MHz returns, including 5–85 MHz returns, over a single wavelength.

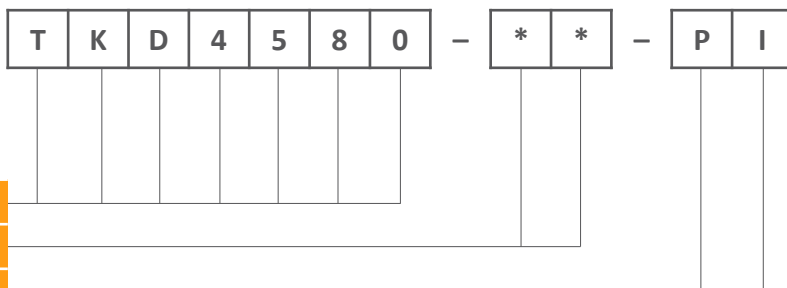
Conforming to the Small Form Factor Pluggable (SFP) Multisource Agreement, state-of-the-art TKD4580 DWDM transceivers are designed expressly for high-speed bi-directional communication applications that require rates up to 4.25 Gbps, with the laser transmission portion of the device operating at one of 40 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	
Application temperature range	-40° to +85°C (-40° to +185°F)
Storage temperature range	-40° to +85°C (-40° to +185°F)
Humidity	5% to 95% non-condensing
Optical Interface	
Optical connectors	Duplex LC
Power requirements	
Input voltage	3.3 V _{DC}
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	40 channels (20 through 59) (Center wavelengths per ITU-T G.694.2)
Wavelength stability, EOL	± 0.1 nm
Optical output power	+3 dBm min
Optical extinction ratio (ER)	5.0 dB min
Dispersion penalty	3 dB (Measured with PRBS 2 ²³ -1 at 4.25 Gbps, 80km SMF, and 10 ⁻¹² BER)
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 and Safety	
Class 1 devices per FDA/CDRH and IEC-60825-1 laser safety regulations	

ORDERING INFORMATION



- 4.25 Gbps DWDM Optical Transceiver
- DWDM Wavelength (20, 21, . . . , 59)
- PI = Plug-in Module

CAUTION

TKD4580-xx-PI series transceiver modules are currently approved for use in DT4250 series Digital Transceiver modules for optical nodes.

RELATED PRODUCTS

VHub	NC2000
DT4xxxN Digital Transceivers	NC4000

Customer Care

Contact Customer Care for product information and sales:

- United States: 866-36-ARRIS
- International: +1-678-473-5656

Note: Specifications are subject to change without notice.

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