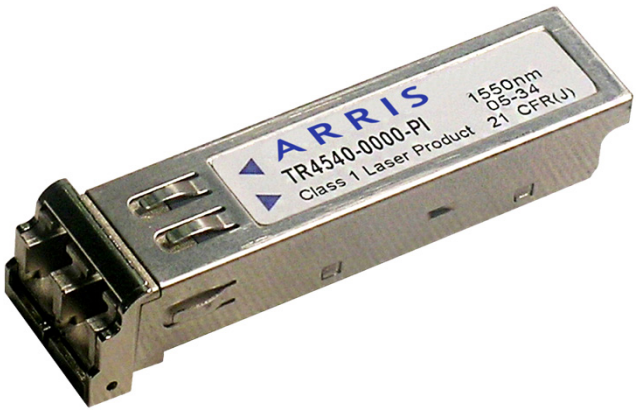
SFP Fiber Optic Transceivers

TR4540-0000-PI

2 Gbps 1550 nm SFP Optical Transceiver Module

FEATURES

- Interconnects ARRIS digital transport devices
  - Media converter access products
  - Selected node-based Digital Transceivers (models DT4xxxN, DT4250N, and VT4250N)
  - Enables Ethernet drops from fiber node platforms
- Fiber links up to 40 km
- 2.125 Gbps data throughput
- Pluggable SFP MSA footprint
- Duplex LC connector
- Very low jitter
- Metal enclosure for lower EMI
- 3.3 V power supply with low power dissipation
- Extended operating temperature range (–40° to +85°C)



PRODUCT OVERVIEW

The TR4540-0000-PI 1550 nm Optical Transceiver Module features high-speed 2.125 Gbps communications functionality required for selected ARRIS' digital networking products such as access products, legacy DT4xxxN Digital Transceivers, DT5000 Transceivers, DT4250N Universal Digital Transceiver, and VT4250N Monitoring Digital Transceivers. These modules are functionally identical to various transceivers already built into many of ARRIS' products, but provide a flexible, plug-in means of enabling additional optional secondary ports in several of those products.

Conforming to the Small Form Factor Pluggable (SFP) Multi-Source Agreement, these state-of-the-art components are designed expressly for high-speed bi-directional communication applications that require rates of up to 2.125 Gbps, with the laser transmission portion operating at a wavelength of 1550 nm.

The TR4540 module features a very low jitter contribution, resulting in extremely clean, high-quality eye patterns and consequent optimal transmission performance. The module's metal enclosure makes the device more physically rugged and improves its FCC test margins. Emission control is particularly important in applications with sensitive multiport hubs and switches. The module operates at extended temperature range (–40° to +85°C) and dissipates less than 1.1 W. Modules are supplied with a duplex LC connector.

The TR4540-0000-PI SFP can be ordered as an optional plug-in transceiver module to support the primary or secondary ring capabilities of transceiver units in NC/NH series nodes and VHubs.

SPECIFICATIONS

Characteristics	Specification
Physical	
Dimensions	2.2" L x 0.4" H x 0.5" W (5.6 cm x 1.0 cm x 1.3 cm) (MSA-SFP Compliant Dimensions)
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	0% to 85% non-condensing
Optical Interface	
Optical connectors	Duplex LC
Power Requirements	
Input voltage	3.3 V_{DC} ± 5%
Supply Current	320 mA
Power consumption	1.1 W max
General	
Data rate	2.125 Gbps
Supported link length	40 km (on SMF-28 or equivalent)
	Hot plug-in/out
Optical Interface	
Optical Connector	LC/UPC
Transmitter	
Transmitter type	DFB
Transmit Data Rate	2.125 Gbps
Transmit Wavelength	1550 nominal (1520 - 1580 nm)
Transmit Output Power	-1 dBm typ
Link Loss Budget	20 dB (SFP to SFP)
Receiver	
Receiver type	PIN/TIA
Receive Wavelength range	1263.5 - 1617.5 nm
Receive Sensitivity	-21 dBm max
Return loss, min	27 dB
Input power, max	0 dBm
Receive LOS assert level	-34 dBm
Other Standards	
	MSA (Multi-Source Agreement) for SFP (Small Form Pluggable) September 2000
Regulatory	
	Class 1 device per FDA 21 CFR 1040.10 and IEC-60825-1 laser safety regulations
	Other certifications are currently under study

ORDERING INFORMATION

Model Number	Description
TR4540-0000-PI	Plug-in, 2.125 Gbps Transceiver Module for transport links up to 40 km, uses duplex LC/UPC connectors; transmitter wavelength is 1550 nm

RELATED PRODUCTS

VHub	NC2000
DT4xxxN and VT4250N Digital Transceivers	NC4000

Customer Care

Contact Customer Care for product information and sales:

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