

XFP Optical Transceiver

10G EPON XFP Module

FEATURES

- Bidirectional XFP transceiver supports ARRIS 10G Ethernet optical product transmissions on a single fiber
- Supports 10.3125/10.3125 Gbps on 1577/1270 nm, 10.3125/1.25 Gbps on 1577/1310 nm, 2.50/1.25 Gbps (Turbo-mode) or 1.25/1.25 Gbps on 1490/1310 nm Transmit/Receive communications
- IEEE 802.3av D3.4 compliant
- Pluggable 10 Gbps XFP MSA compliant footprint
- SC/UPC fiber connector
- Low jitter provides high transmission performance
- Metal enclosure for durability and low EMI
- Extended operating temperature range of -40° to 90°C



PRODUCT OVERVIEW

The Optical Transceiver Module enables 10G Ethernet bidirectional communications, supporting various high-bandwidth EPON products offered by ARRIS such as the XE4202M Remote OLT (R-OLT).

Conforming to the 10 Gbps Small Form Factor Pluggable Multisource Agreement, this state-of-the-art optical transceiver is designed expressly for high-speed bidirectional communication applications that require 10 Gbps data rates. The transceiver complies with the IEEE 802.3av Draft 3.4 specification, supporting symmetric line rates of 10.3125 Gbps (10GBASE-PR30) (downstream/upstream) on 1577/1270 nm wavelengths and asymmetrical line rates of 10.3125/1.25 Gbps (10/1GBASE-PRX30) on 1577/1310 nm wavelengths, as well as 2.50 (Turbo-EPON)/1.25 Gbps or 1.25/1.25 Gbps (1000BASE-PX20) on 1490/1310 nm, utilizing a single fiber with a standard SC/UPC connector.

The module features a very low jitter contribution, resulting in an extremely clean, high-quality eye pattern required for high transmission performance. The module's metal enclosure not only makes the unit sturdier, but also improves FCC EMI test margins. This emission and ESD control is particularly important in applications with sensitive multi-port switches.

SPECIFICATIONS	
Characteristics	Specification
Physical	
Dimensions	3.1" L x 0.72" W x 0.33" H (78 mm x 18.35 mm x 8.5 mm) MSA-XFP Compliant
Weight	0.1 lbs (0.08 kg)
Environmental	
Operating Temperature Range	-40° to +90°C (-40° to 194°F)
Storage Temperature Range	-40° to +90°C (-40° to 194°F)
Humidity (Operating)	0% to 85% non-condensing VHub
Power Requirements	
Input Voltage 1	3.3 VDC ± 5% (supplied by node/VHub module)
Input Voltage 2	5.0 VDC ± 5% (supplied by node/VHub module)
Power Consumption	4.0 W typical
General	
Data Rate (Transmit/Receive)	10.3125/10.3125; 10.3125/1.25; 2.5/1.25 (Turbo mode); 1.25/1.25 Gbps
Connector	SC/UPC
Supported Link Length	Hot plug-in/out 20 km (@ 1x32 split)
Optical Interface	
Transmitter	
Data Rate	10.3125 Gbps
Transmitter Type	CW EML
Center Wavelength	1577 nm nominal (1575–1580 nm)
Output Power	+2.0 to +5.0 dBm
Extinction Ratio	6.0 dB min
Receiver	
Data Rate (Burst Mode)	10.3125 Gbps
Center Wavelength	1270 nm nominal (1260–1280 nm)
Sensitivity	-28.0 dBm max @ -40° to 85°C, (@ BER = 10 ⁻³ , ER = 6 dB, PRBS 2 ³¹ -1); EOL = -27 dBm
Maximum Input Power	-6.0 dBm min
Input Power at Which Damage Occurs	-5.0 dBm
Loss of Signal Assert Level	-45 dBm min
Loss of Signal De-assert	-28.5 dBm max
Transmitter	
Data Rate (Turbo Mode)	2.50 Gbps
Transmitter Type	CW DFB
Center Wavelength	1490 nm nominal (1480–1500 nm)
Output Power	+2.0 to +7.0 dBm
Extinction Ratio	8.0 dB min
Receiver	
Data Rate (Burst Mode)	1.250 Gbps
Center Wavelength	1310 nm nominal (1260–1360 nm)
Sensitivity	-29.78 max @ -40° to 85°C, (@ BER = 10 ⁻¹² , ER = 9 dB, PRBS 2 ⁷ -1); EOL = -28.78 dBm
Maximum Input Power	-9.3 dBm min. (operation between -9.3 and -5.0 dBm is not recommended)
Input Power at Which Damage Occurs	-5.0 dBm
Loss of Signal Assert Level	-45 dBm min
Loss of Signal De-assert	-31 dBm max
Regulatory and Standards Compliance	
Class 1 devices per FDA 21CFR1040.10 and IEC 60825-2 Class I laser safety compliant RoHS-compliant per Directive 2002/95/EC EMC certifications are currently in review	

ORDERING INFORMATION

Model Name	Part Number	Description
10G EPON XFP	1001310	10G EPON XFP Optical Transceiver Module for R-OLT PON interface, 10G/10G (10GBASE-PR30), 10G/1G (10/1GBASE-PRX30), 2G/1G (Turbo Mode), and 1G/1G (1000BASE-PX20) -40° to +90°C (-40° to +194°F) extended industrial temperature rated.

RELATED PRODUCTS

NC/NH2000/4000 Node/VHub Platform	XE4202M Remote-OLT (R-OLT)
DT/VT4250N Universal Digital Transceiver	OR4178H/OR4216R RF + PON Diplexer/Receiver

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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