

FEATURES

- Supports selected PON product uplink distances at 10 km (10GBASE-L) or 40 km (10GBASE-E)
- Includes uncooled CWDM DFB 1270 nm or 1330 nm laser transmitters
- IEEE 802.3ae compliant: 10.3125 Gbps data throughput
- Pluggable SFP+ MSA compliant footprint
- LC connector
- Very low jitter
- Low power dissipation
- Metal enclosure for lower EMI
- Extended industrial operating temperature range of -40° to 95°C

The TTA1270 and TTA1330-BIDI 10/40 km Optical Transceiver Modules enable bidirectional transmission capabilities for high-speed optical communications modules offered by CommScope, such as the E6000® Remote Phy Device (RPD) and the XE4202M Remote Optical Line Termination (R-OLT).

Conforming to the Small Form Factor Pluggable (SFP) Multisource Agreement, these SFP+ transceivers are designed expressly for high-speed duplex PON communication applications that require 10 Gbps data rates, with the laser transmission portion of the device operating at 1270 nm or 1330 nm, supporting fiber distances of 10 or 40 km.

TTA1xx0-BIDIyy modules feature very low jitter contribution, resulting in an extremely clean, high-quality eye pattern required for high transmission performance. The 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. The modules operate over an extended industrial temperature range of -40° to +95°C, dissipate less than 1.2 Watts, and are supplied with an LC/UPC connector.



SPECIFICATIONS

| Characteristics | Specification | |
|--|--|---|
| Physical | | |
| Dimensions | 2.2" L x 0.4" H x 0.5" W (5.6 cm x 1.1 cm x 1.4 cm) MSA-SFP+ Compliant | |
| Weight | 0.1 lbs (0.08 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 (Operating) | 5% to 95% non-condensing | |
| Power Requirements | | |
| Input Voltage | 3.3 VDC ± 5% | |
| Input Current @ 3.465 V _{DC} | TTA1270-BIDI10: 350 mA | TTA1270-BIDI40: 350 mA |
| Power Consumption, max | TTA1270-BIDI10: 1.2 W | TTA1270-BIDI40: 1.2 W |
| General | | |
| Data Rate | 10.3125 Gbps | |
| | Hot plug-in/out | |
| Supported Link Length | 10 km (TTA1270-BIDI10), 40 km (TTA1270-BIDI40): on SMF-28 or equivalent | |
| Optical Connector | LC/UPC | |
| Latch Color | Blue | |
| Optical Transmit | | |
| | TTA1270-BIDI10 | TTA1270-BIDI40 |
| Transmitter Type | Uncooled 1270 nm DFB Laser | Uncooled 1270 nm DFB Laser |
| Center Wavelength, Range | 1270 nm (1260–1280 nm) | 1270 nm (1260–1280 nm) |
| Mask Compliance | 10 GbE, 10.3125 Gbps | 10 GbE, 10.3125 Gbps |
| Transmission Distance, min | 10 km | 40 km |
| Output Power, min | -5 dBm | 0 dBm |
| Extinction Ratio, min | 3.5 dB | 4.5 dB |
| Dispersion Penalty, max | 3.2 dB @ -20 dB | 3.2 dB @ -20 dB |
| Optical Receiver | | |
| | TTA1270-BIDI10 | TTA1270-BIDI40 |
| Receiver Type | PIN | APD |
| Wavelength Range | 1320–1340 nm | 1320–1340 nm |
| Reflectance | -12 dB | -12 dB |
| Sensitivity, max | -14.4 dBm, PRBS 2 ³¹ -1, 0 km SMF, BER < 10 ⁻¹² | -18 dBm, PRBS 2 ³¹ -1, 0 km SMF, BER < 10 ⁻¹² |
| Overload, min | 0.5 dBm | -7 dBm |
| LOS Assert, min | -30 dBm | -35 dBm |
| LOS Deassert, max | -14.4 dBm | -18 dBm |
| Regulatory and Standards Compliance | | |
| | Class 1 devices per FDA/CDRH and IEC/EN-60825-1 certification laser safety regulations | |
| | EMC certifications are currently under study | |
| | RoHS compliant | |

SPECIFICATIONS

| Characteristics | Specification | |
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| Physical | | |
| Dimensions | 2.2" L x 0.4" H x 0.5" W (5.6 cm x 1.1 cm x 1.4 cm) MSA-SFP+ Compliant | |
| Weight | 0.1 lbs (0.08 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 (Operating) | 5% to 95% non-condensing | |
| Power Requirements | | |
| Input Voltage | 3.3 VDC ± 5% | |
| Input Current @ 3.465 V _{DC} | TTA1330-BIDI10: 350 mA | TTA1330-BIDI40: 350 mA |
| Power Consumption, max | TTA1330-BIDI10: 1.2 W | TTA1330-BIDI40: 1.2 W |
| General | | |
| Data Rate | 10.3125 Gbps | |
| | Hot plug-in/out | |
| Supported Link Length | 10 km (TTA1330-BIDI10), 40 km (TTA1330-BIDI40), on SMF-28 or equivalent | |
| Optical Connector | LC/UPC | |
| Latch Color | Red | |
| Optical Transmit | | |
| | TTA1330-BIDI10 | TTA1330-BIDI40 |
| Transmitter Type | Uncooled 1330 nm DFB Laser | Uncooled 1330 nm DFB Laser |
| Center Wavelength, Range | 1330 nm (1320–1340 nm) | 1330 nm (1320–1340 nm) |
| Mask Compliance | 10 GbE, 10.3125 Gbps | 10 GbE, 10.3125 Gbps |
| Transmission Distance, min | 10 km | 40 km |
| Output Power, min | -5 dBm | 0 dBm |
| Extinction Ratio, min | 3.5 dB | 4.5 dB |
| Dispersion Penalty, max | 3.2 dB @ -20 dB | 3.2 dB @ -20 dB |
| Optical Receiver | | |
| | TTA1330-BIDI10 | TTA1330-BIDI40 |
| Receiver Type | PIN | PIN |
| Wavelength Range | 1260–1280 nm | 1260–1280 nm |
| Reflectance | -12 dB | -12 dB |
| Sensitivity, max | -14.4 dBm, PRBS 2 ³¹ -1, 0 km SMF, BER < 10 ⁻¹² | -18 dBm, PRBS 2 ³¹ -1, 0 km SMF, BER < 10 ⁻¹² |
| Overload, min | 0.5 dBm | -7 dBm |
| LOS Assert, min | -30 dBm | -35 dBm |
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| Regulatory and Standards Compliance | | |
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ORDERING INFORMATION

| Model Name | Description |
|----------------|--|
| TTA1270-BIDI10 | 10 Gbps, 1270 nm, SFP+, LC/UPC, 10 km, -40° to +95°C |
| TTA1270-BIDI40 | 10 Gbps, 1270 nm, SFP+, LC/UPC, 40 km, -40° to +95°C |
| TTA1330-BIDI10 | 10 Gbps, 1330 nm, SFP+, LC/UPC, 10 km, -40° to +95°C |
| TTA1330-BIDI40 | 10 Gbps, 1330 nm, SFP+, LC/UPC, 40 km, -40° to +95°C |

RELATED PRODUCTS

| | |
|-------------------------|-----------------------|
| Remote Phy Device (RPD) | Fiber Cables |
| Remote-OLT (R-OLT) | Installation Services |
| DWDM SFP+ | Installation Services |

Contact Customer Care for product information and sales:

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

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Note: Specifications are subject to change without notice.

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1513950 RevE_TTA1270-TTA1330-BIDI10km-40km10Gbps SFP+OpticalTransceiver