

MULTIGIG TRANSCEIVER (TRX) PLATFORM

MODULAR FIBER OPTICS MID-BOARD TRANSCEIVER PLATFORM 850 nm MULTIMODE

TE Connectivity's (TE) MULTIGIG TRX Fiber Optic transceiver is a distinctive, modular and highly customizable optical transceiver platform that allows customers to place critical fiber optics transceivers in logical system locations. Coupled with TE's rugged fiber optics (RFO) connectors and harnessing capabilities, TE can offer custom tailored end-to-end solutions

MULTIGIG TRX fiber optic mid-board transceiver leverages the TE Light Engine Platform (LEP), which is a modular platform of up to 12 **Chiclet-based Optical Transceivers (CBOT)** transceivers capable of transmitting and receiving up to 10 Gbps each.

The electrical interface is provided through TE's MULTIGIG TRX press fit pin PCB interface. Each duplex pigtailed transceiver occupies one position in the press fit housing and can be individually removed for replacement in case of damaged cables, without having to remove and replace the entire module. Alternatively customers can install larger housings and populate empty positions for future expansions or upgrades.

A wide range of TE optical termini are available for the OM3 and OM4 based fiber pigtailed. Single mode versions are planned in the future. Also, the individual duplex blades can be a range of functional combinations, Dual Tx, Dual Rx, TRx, and, on the simplex option, a Tx or Rx. These can be combined in varying counts in an individual full height and half height housing, respectively.

The high-speed inputs are DC-coupled to a floating input termination. The laser driver converts the signal to the VCSEL (Vertical-Cavity Surface-Emitting Laser) drive current. The very efficient optical coupling offered by the LEP technology enhances the low power consumption of each transceiver blade. On the Rx side, the incoming optical signal is converted to a current by the PIN diode. The transimpedance amplifier converts the current to a voltage which is then limited by an amplifier. The output stage is current-mode-logic (CML) and provides 50 ohm back-terminations.

FEATURES AND BENEFITS

Easy to Use

- Dual Tx, Dual Rx, and TRx blade options for full height, duplex pigtail
- Tx and RX options for half height simplex pigtail.
- Leverages TE MULTIGIG RT high-speed press fit PCB attachment

Durable

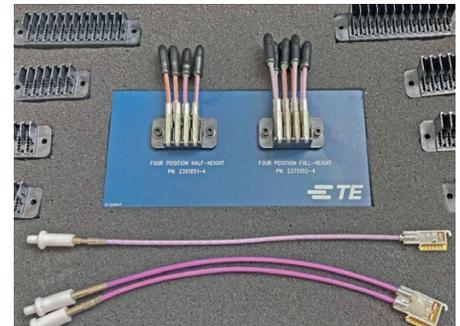
- Supports a wide variety of rugged industry standard fiber optic termini and cables
- Operating temperature range from -40°C to +85°C

Versatile

- Low speed 4.25G 4xFC compatible variant
- IEEE 10GBase-SR compliant for 10G variants
- Up to 12 positions; duplex or single fiber pigtail

High Performance

- Wavelength of operation at 850 nm (VCSEL and PIN PD)
- Low power dissipation, less than 130 mW per transceiver at 10.3125



TARGET MARKETS

- Military aerospace
- Commercial aerospace
- Missile defense
- Military marine
- eVTOL
- Space

APPLICATIONS

- High-speed interconnects within and between switches, routers and transport equipment
- Interconnects rack-to-rack, shelf-to-shelf, board-to-board, board-to-optical backplane
- Ethernet, ARINC 818 and InfiniBand applications
- IFE servers and end points

MULTIGIG TRANSCEIVER (TRX) PLATFORM

850 nm Multimode

STANDARDS AND SPECIFICATIONS

Application Specification	114-160595
Product Specification	108-160912
Qualification Test Report	501-161870
Instruction Sheet	408-160060

MECHANICAL/ENVIRONMENTAL

Hot Storage	+125°C
Cold Storage	-55°C
Temp. Cycling	-40°C to +85°C
Pull Test	5N (1 lb)
Humidity Cycling	+71°C, 95% RH
Damp Heat	40°C, 90% RH, 504 h
Sinusoidal Vibration	20 g
Random Vibration	11.6 Grms
Mechanical Shock	500 g
Thermal Shock	-55°C to +125°C



ORDERING INFORMATION

Reach out to your TE representative or use the QR code below. To get started review the options for parameters below. You can also add your choice of connectivity to your requirement, i.e. EN4165, D38999 and TE will offer a complete solution. Customized marking, performance or fiber routing is available upon request.

Parameter	Options	Comments
Data Rate	4.25 Gbps	i.e. ARINC 818 Video
	10.3125 Gbps	i.e. 4k Video
Size	Full Height	2 Channels / CBOT
	Half Height	1 Channel / CBOT
Configuration	Tx and Rx	Free to Mix Tx and Rx to Suit your Needs
Fiber	Free Choice	Typically, 1.8 mm or 900 um
Termini	Free Choice	Typically, ARINC 801, ST or MT
Housing	1-12 CBOT Blades	From Table Below. Full Height or Half Height

CONNECTOR HOUSING ASSEMBLY (INCLUDING PRESS FIT PCB CONTACTS)

CBOT Positions	Half Height Part Number	Full Height Part Number	CBOT Positions	Half Height Part Number	Full Height Part Number
1	2381854-1	2375213-1	7	2381854-7	2375213-7
2	2381854-2	2375213-2	8	2381854-8	2375213-8
3	2381854-3	2375213-3	9	2381854-9	2375213-9
4	2381854-4	2375213-4	10	1-2381854-0	1-2375213-0
5	2381854-5	2375213-5	11	1-2381854-1	1-2375213-1
6	2381854-6	2375213-6	12	1-2381854-2	1-2375213-2

te.com

MULTIGIG RT, TE, TE Connectivity, TE connectivity (logo), and EVERY CONNECTION COUNTS are trademarks owned or licensed by the TE Connectivity plc family of companies. Other product names, logos, and company names mentioned herein may be trademarks of their respective owners.

While TE has made every reasonable effort to ensure the accuracy of the information in this document, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any changes to the information contained herein without prior notice. TE Connectivity assumes only those obligations set forth in the terms and conditions for this product and shall in no event be liable for any incidental, indirect, or consequential damages arising out of the sale, resale, use, or misapplication of the product. TE expressly disclaims any implied warranties with respect to the information contained herein, including, but not limited to, implied warranties of merchantability or fitness for a particular purpose. Dimensions, specifications and/or information contained herein are for reference purposes only and are subject to change without notice. Consult TE for the latest dimensions, specifications and/or information. Users of TE Connectivity products must make their own assessment as to whether the respective product is suitable for the respective desired application.

© 2025 TE Connectivity. All Rights Reserved.

0-0000000-0 06/25

TE Connectivity
Aerospace, Defense & Marine
2900 Fulling Mill Road
Middletown, PA 17057