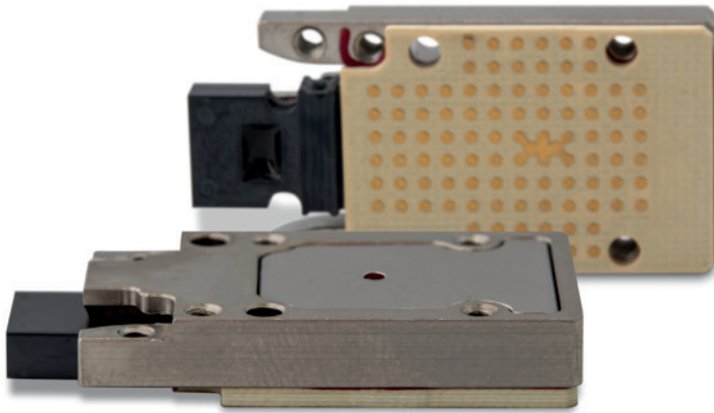


LightABLE 28G LGA 4TRX

Rugged optical transceiver



Product Summary

The *LightABLE™ 28G 4TRX* is a four-lane, full-duplex, optical transceiver in a small, ruggedized package.

The electrical interfaces are based on CML logic levels and support per channel data rates of up to 28.05 Gbps (a total bandwidth over 100 Gbps full-duplex).

The module integrates an industry-standard, 1x12 MT, optical interface using the QSFP28-compatible (4-TX/4-n.c./4-RX) channel configuration. The module uses a 96-pin, LGA-type, electrical interface connector for integration on to a host board.

The module contains a preprogrammed microcontroller for configuration – only power and high-speed signaling are required.

An I2C serial interface is provided to interrogate the module.

Rugged, high-speed, low-SWaP, multichannel optical transceivers for defense applications

Qualification

MIL-STD-883

- Vibration tests, 883J - Method 2007.3
- Mechanical shock tests, 883K - Method 2002.5
- Thermal shock tests, 883E - Method 1011.9
- Thermal cycling tests, 883J - Method 1010.9

JEDEC-STD-22

- Damp heat - Method A101

MIL-STD-810

- Cold storage tests, Method 502.5

Key Features

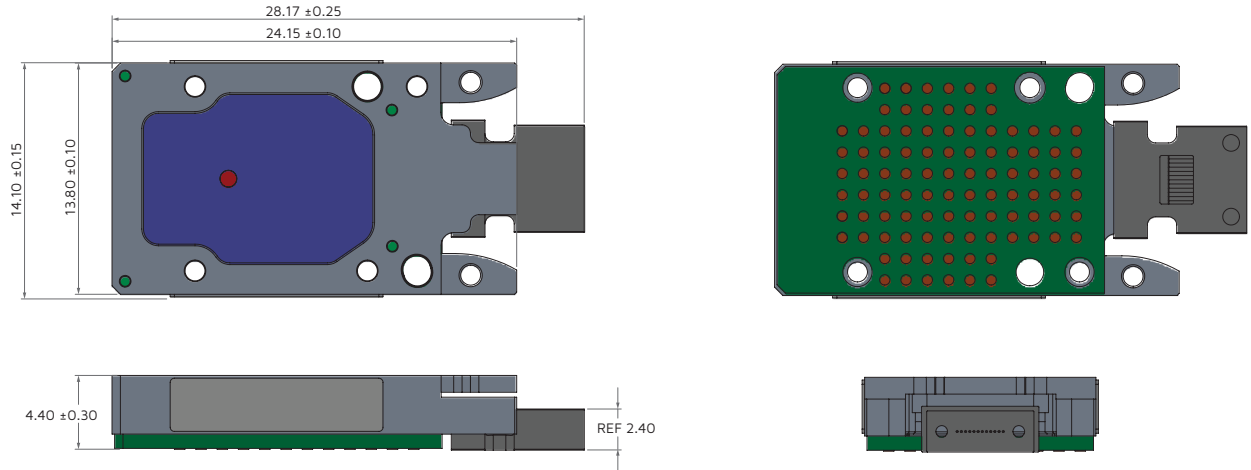
- Industrial Temperature -40 °C to 85 °C
- Up to 28.05 Gbps per channel
- Short-reach 850 nm VCSELs
- Standard 1x12 MT optical interface
- 4 differential CML inputs
- 4 differential CML outputs
- LGA electrical interface
- Link distance of up to 70 m with OM3 fiber, and 100 m with OM4
- I2C communication interface
- Asynchronous channel operation
- Data protocol-agnostic, balanced code

Application

The *LightABLE 28G 4TRX* module targets the following applications:

- Phased array radar
- CCD/CMOS imaging sensor
- Data-intensive applications

Mechanical layout



Part Numbering and Ordering Information

Part number	Description
Transceiver	
LLX04P9285325AA	LightABLE 28G LL 4TRX transceiver
Accessories	
415-00041	1.55 mm 96-positions LGA interposer kit (700-00115 Interposer + 4 × 5/16 in. screws)
700-00115	1.55 mm interposer
322-00030	MicroClip
706-00003	Dowel pin (flat dual assembly)
314-00054	Dust cap (included with the LightABLE).
Optical cables	
500-00002	1.2 m MT-to-MT ribbon fiber cable
500-00007	1.8 m MT-to-MT ribbon fiber cable
Evaluation boards and related parts	
LLK040028500001	LightABLE 28G 4TRX evaluation board
865-00003	I2C host adapter (AARDVARK)
500-00017	12-fiber multimode breakout cable with MT-to-FC/PC connectors
500-00020	Loopback ribbon fiber cable (MPO)
500-00250	1.8 m MT-to-MPO multimode fiber
600-00024	MPO-to-MPO adapter