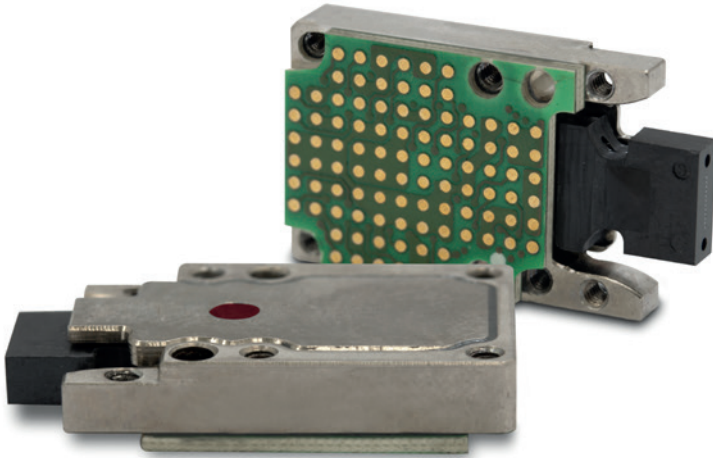


# LightABLE 10G LGA 12TX or 12RX

Rugged optical transceiver



## Product Summary

The *LightABLE™* 10G LGA 12TX or 12RX, half-duplex transmitter or receiver module respectively, in a small, ruggedized, board-mountable package.

The electrical interfaces are based on CML logic levels and support per channel data rates of up to 10.3125 Gbps (a total throughput of over 120 Gbps).

The module integrates an industry-standard, 1x12 MT, optical interface compatible with twelve-channel, parallel, optical fiber ribbon cables. The module uses an LGA-type, 96-pin, electrical interface connector for attachment onto a host board.

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

An I2C serial interface is provided to interrogate the module.

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

## Qualification

### MIL-STD-883

- Vibration tests, Method 2007.3
- Mechanical shock tests, Method 2002.5
- Thermal shock tests, Method 1011.9
- Thermal cycling tests, Method 1010.8

### JEDEC-STD-22

- Damp heat - Method A101

### MIL-STD-810

- Cold storage tests, Method 502.5

## Key Features

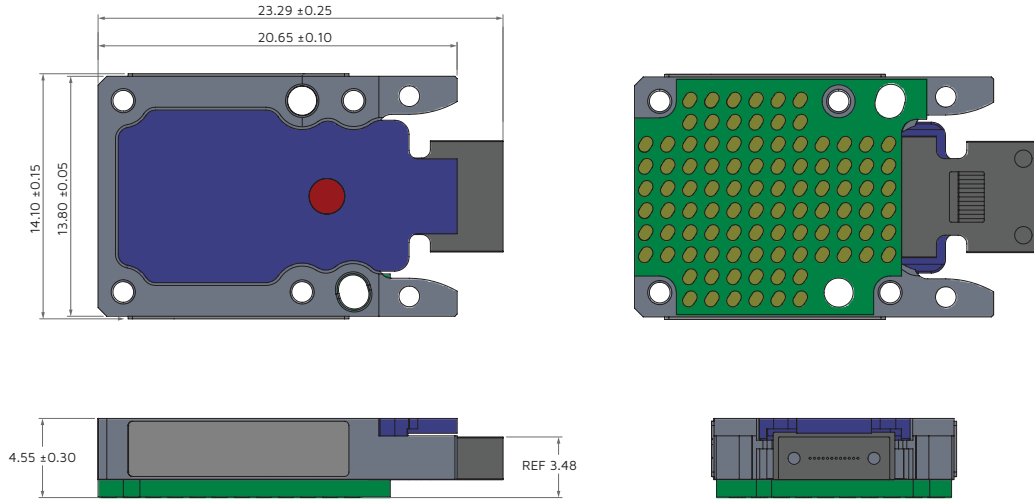
- Industrial temperature: -40 °C to 85 °C
- Sensitivity up to -12 dBm
- Up to 10.3125 Gbps per channel
- Short-reach 850 nm VCSELs
- Standard, 1x12 MT, optical interface
- 12 differential CML inputs for TX
- 12 differential CML outputs for RX
- LGA electrical interface
- Link distance up to 100 m (OM3 fiber)
- I2C communication interface
- Asynchronous channel operation
- Data protocol-agnostic, balanced code

## Application

The *LightABLE* 10G 12TX or 12RX LGA modules target the following applications:

- Phased array radars
- CCD/CMOS imaging sensors
- FPGA processor boards
- High I/O embedded systems

## Mechanical layout



## Part Numbering and Ordering Information

Part number	Description
<b>Transceiver</b>	
LLT12P9185330AA	LightABLE 10G 12TX LGA
LLR12P9185303AA	LightABLE 10G 12RX LGA, high sensitivity
LLR12P9185301AA	LightABLE 10G 12RX LGA, standard sensitivity
<b>Accessories</b>	
415-00018	1 mm, 96-position LGA interposer kit (700-00106 interposer +4 x ¼ in. screws)
700-00106	1 mm, 96-position LGA interposer (no screws)
322-00030	MicroClip
706-00003	Dowel pins
500-00002	1.2 m, MT-to-MT multimode fiber cable
500-00007	1.8 m, MT-to-MPO multimode fiber cable / MPO optical fiber ribbon cable
600-00037	MT dust cap (included with the LightABLE)
<b>Evaluation boards and related parts</b>	
LLK12P418500001	Evaluation board for LightABLE LGA (12TX or 12RX)
865-00003	I2C host adapter (AARDVARK)
500-00017	12-fiber multimode breakout fiber cable with MT to FC/PC connectors