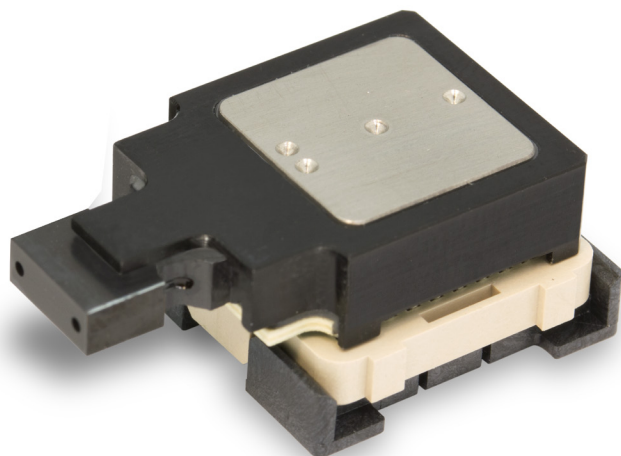


LightABLE 10G LM 12TX-12RX

Rugged optical transceiver



Product Summary

The *LightABLE*™ LM 12TX and 12RX are twelve-channel, half-duplex, optical transmitters and receivers, respectively, in a small, ruggedized package.

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

The module integrates an industry standard 1x12 MT optical interface compatible with twelve-channel, parallel, optical fiber ribbon cables.

The module is offered with an Amphenol/FCI 10x10 MegArray® mezzanine connector. The module mates to a connector on the host board.

The modules contain preprogrammed internal microcontrollers 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

Summary Specifications

- Industrial temperature: -40 °C up 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
- 12 differential CML outputs
- Pluggable MegArray® connector
- Link distance up to 100 m (OM3 fiber)
- I2C communication interface
- Asynchronous channel operation
- Data protocol-agnostic, balanced code

Application

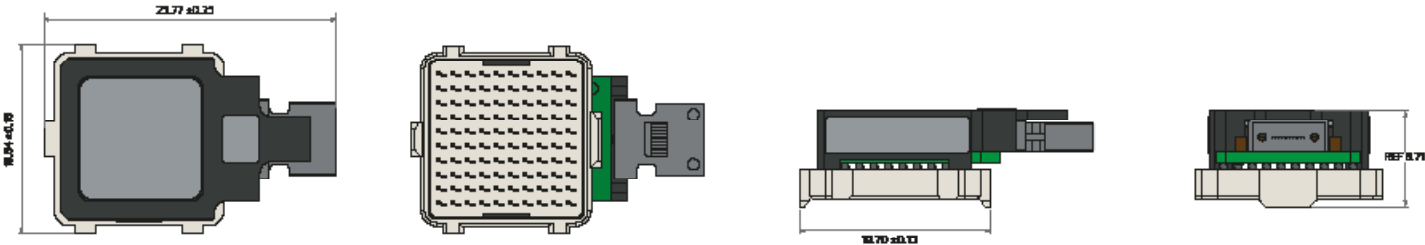
The *LightABLE* LM 12TX 12RX module targets the following applications:

- Phased array radar
- CCD/CMOS imaging sensor
- FPGA SerDes application

Mechanical Layout

Part Numbering and Ordering Information

Part number	Description	Sensitivity (dBm)	Mounting	Soldering
Transceiver				



LMT12P4183330AA	LightABLE 10G LM 12TX transmitter	n.a.	Pluggable	RoHS
LMT12P4183310AA	LightABLE 10G LM 12TX transmitter		Pluggable	RoHS
LMT12P4184310AA	LightABLE 10G LM 12TX transmitter		Pluggable	Tin-lead
LMT12P4184330AA	LightABLE 10G LM 12TX transmitter		Pluggable	Tin-lead
LMR12P4183301AA	LightABLE 10G LM 12RX receiver	-9	Pluggable	RoHS
LMR12P4183303AA	LightABLE 10G LM 12RX receiver		Pluggable	RoHS
LMR12P4184301AA	LightABLE 10G LM 12RX receiver	-9	Pluggable	Tin-lead
LMR12P4184303AA	LightABLE 10G LM 12RX receiver	-12	Pluggable	Tin-lead

Accessories

322-00030	MicroClip™
706-00003	Dowel pins
314-00054	Dust cap (Included with each LightABLE)
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

Evaluation board and related parts

LMK040018300001	LightABLE LM 4TRX evaluation board
865-00003	I2C host adapter (AARDVARK)
500-00017	12-fiber multimode breakout cable with MTP (female) to ST connectors