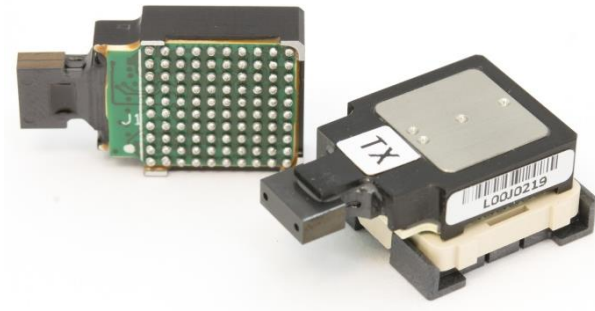


## Product Brief

### The Reflex Photonics 150Gbps LightABLE™ SR12 LM series Optical Transceiver Industrial and Commercial Temperature Range

THE Light on Board® family of optical engine technology in its smallest form-factor.



The Reflex Photonics LightABLE™ LM SR12 Optical Engines with integrated microcontroller\* delivers 150Gbps over 12 fiber optic channels. The Reflex Photonics LightABLE™ Optical Engine is a stand-alone integrated solution for converting between high-speed electrical and optical I/O.

The LightABLE™ Optical Engine is a low-profile pre-aligned parallel electrical - to - optical (or optical - to - electrical) transmitter (or receiver). The optical engines can be mounted directly upon a high-speed printed circuit board via surface mountable 1.27 mm pitch BGA or via a MEG-array® connector. The LightABLE™ LM optical engine's is ideal for space-constrained applications.

#### Qualification

##### MIL-STD-883:

- ✓ Vibration tests, Method 2007.3
- ✓ Mech., shock tests, Method 2002.4
- ✓ Thermal shock tests, Method 1011.9
- ✓ Thermal cycling tests, Method 1010.8

##### MIL-STD-202:

- ✓ Damp heat tests, Method 103B

##### MIL-STD-810:

Cold storage tests, Method 502.5

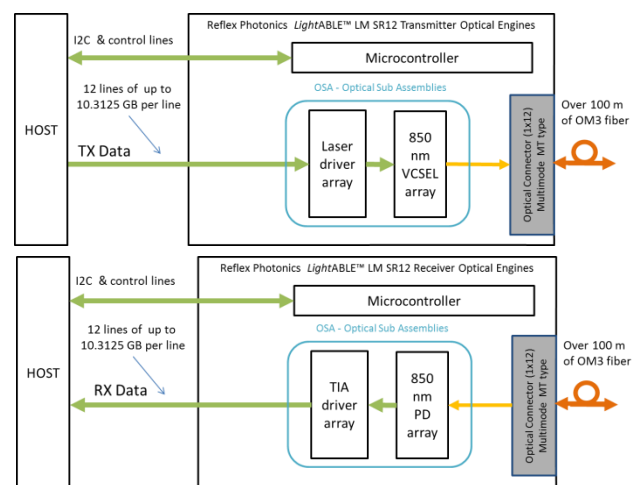
#### Summary Specifications:

- ✓ Commercial Temp. range 0 °C to 70 °C
- ✓ Industrial Temp. range -40 °C to 100 °C\*\*
- ✓ Bit Error Rate of 1E-12
- ✓ Sensitivity up to -12 dBm
- ✓ Up to 12.5-Gbps per channel\*\*\*
- ✓ Short-Reach 850-nm VCSELs
- ✓ Standard 1x12 MT optical interface
- ✓ 12 Differential CML Inputs/Outputs
- ✓ Amphenol/FCI MegArray™ Connector
- ✓ Footprints of 17-mm x 17-mm
- ✓ Link Distance up to 100-m (OM3 fiber)
- ✓ I2C communication interface
- ✓ Asynchronous channel operation
- ✓ Data protocol agnostic with balanced-code
- ✓ Tin-Lead or RoHS options available

\*A version without microcontroller is also available.

\*\* Industrial part qualified between -40 °C to 85 °C.

\*\*\* LightABLE qualification test done at 10.3125 Gbps



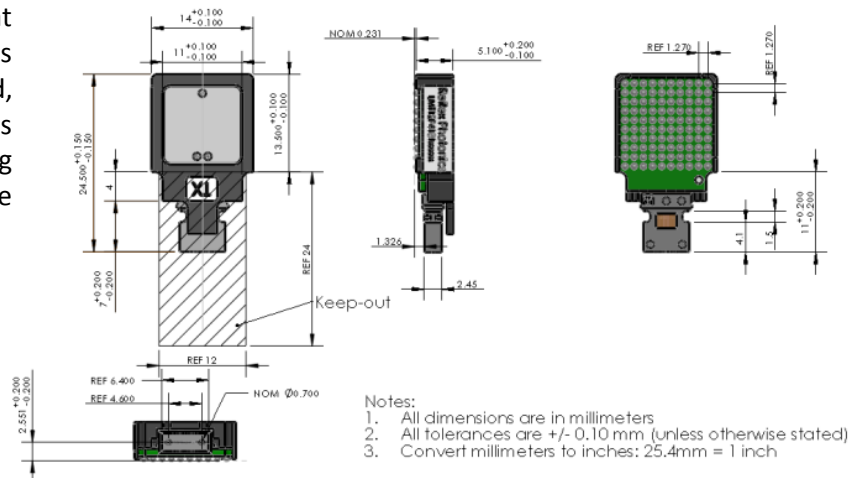
Reflex 12 x 10G LightABLE™ LM Transmitter & Receiver

Applications:

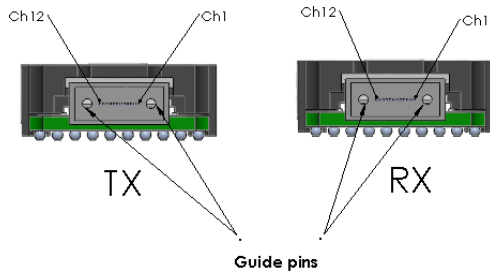
The LM SR12 module targets applications that require very large bandwidths in confined areas and are typically co-located with high-speed, high port count FPGAs or ASICs. The modules provide robust operation and high operating temperature ranges. Typically the modules are used in:

- ✓ Phased array radars
- ✓ FPGA Serdes Interfaces
- ✓ Multi-processor interconnects
- ✓ CCD/CMOS Imaging sensor arrays
- ✓ High fidelity radar imagery

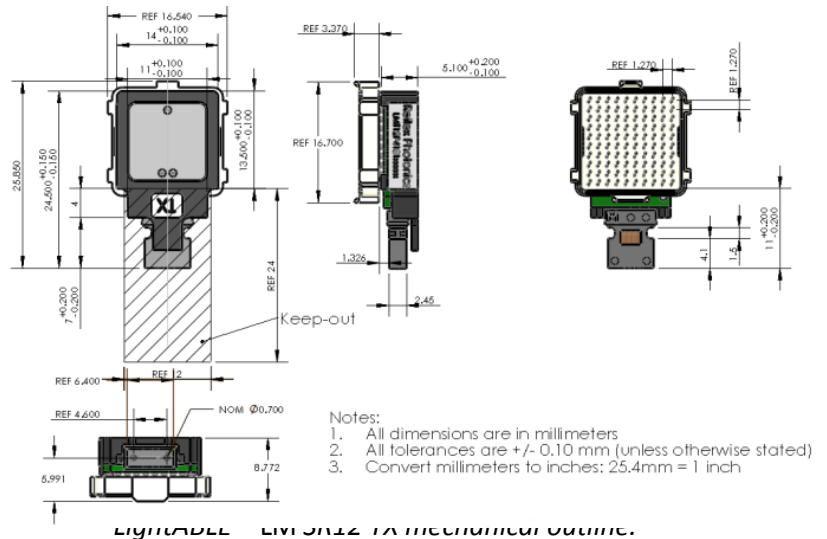
Mechanical



Optical Interface Lanes:



*Outside view of the LightABLE™ LM module MT receptacles*



Transmitter and Receiver engines mechanical outline are the same.

**PRODUCT VARIANTS**

*LightABLE™* LM SR12 transmitters and receivers are available in several operating temperature variants

- Industrial Operating Temperature Range (-40 to +85°C) (Tcase)
- Commercial Operating Temperature Range (0 to +70°C) (Tcase)

Each temperature variant is available in mounting options of

- Surface mount: Pb / Leaded solder balls
- Pluggable: RoHS / Lead-Free MegArray® connector

**1-514-842-5179 or 1-408-715-1781** or by email at [sales@reflexphotonics.com](mailto:sales@reflexphotonics.com)