The most rugged high-performance embedded parallel optics.

Key advantages

- **Small**: Less than 5 mm high (SMT version)
- **Rugged**: MIL-STD 883 shock and vibration qualified
- **Sealed**: Moisture and thermal shock resistant
- **Storage temperature**: –57 ºC to 125 ºC
- **Performance**: up to 12.5 Gbps/lane from –40 ºC to 100 ºC
- **Sensitivity**: –12 dBm for BER $10^{-12}$
- **Proven**: Thousands used in aerospace and defense applications
- **Low power consumption**: 100 mW/lane

**Configurations**

- 4TRX (50G, full duplex)
- 12TX or 12RX (150G)

**Applications**

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

**LightABLE LM product summary**

The LightABLE™ LM embedded optical modules are the most rugged devices offering high bandwidth (greater than 150 Gbps) in a chip-size package. Lanes are independent and support data-agnostic protocols, such as Ethernet, Fiberchannel, Infiniband and PCIe. LightABLE LM are used extensively in aerospace and defense for phased array radars, high resolution sensors, and high performance computers applications.
**LightABLE LM 50G (full duplex) and 150G features**

- 4 TRX (4+4)-lane per device (50G, full duplex)
- 12 TX or 12 RX lane per device (150G)
- Multimode 850 nm wavelength laser
- Over 100 m reach on OM3 ribbon fiber
- Standard MT parallel fiber connector
- Surface mountable or pluggable
- RoHS or tin-lead
- Equalizer, pre-emphasis, adjustable output
- Monitoring: LOS, RSSI, temperature, etc.
- Integrated microcontroller
- Available in extended industrial grade temperature range (−40°C to 100°C)

**LightABLE LM ordering information**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Product Description</th>
<th>Lanes</th>
<th>Bandwidth* (Gbps/lane)</th>
<th>Sensitivity (dBm)</th>
<th>Mounting</th>
<th>Soldering</th>
<th>Operating Temperature (°C)</th>
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<tbody>
<tr>
<td>LMT12P4183330AA</td>
<td>LightABLE LM 12TX transmitter</td>
<td>12</td>
<td>12.5</td>
<td>n.a.</td>
<td>Pluggable</td>
<td>RoHS</td>
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<td>−40 to 100</td>
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<td>RoHS</td>
<td>−40 to 100</td>
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*: Operation over 10.3125 Gbps requires custom register settings in order to meet all the optical specifications.

**MicroClip**

Reflex Photonics' MicroClip™ is a small lightweight clip connecting an MT connector cable to the LightABLE LM. LightABLE LM (50G and 150G) have proven they can withstand a 1 kg live traffic fiber pull test (10 Gbps/lane) on a 12-fiber ribbon cable pigtail when mated to the proprietary MicroClip MT ferrule design, without any signal performance degradation.

**Features**

- Pull force: 1 kg (twice the Telecomria GR-468 requirements)
- Lightweight, low profile, and simple assembly

**THE Light on Board® Company**

*Please note that all drawings and specifications herein are only given in a summary way and all specifications may be modified without notice. It is forbidden to use those drawings or specifications for any other purpose than for a basic information. If required, please contact Reflex Photonics Inc. for more information.

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