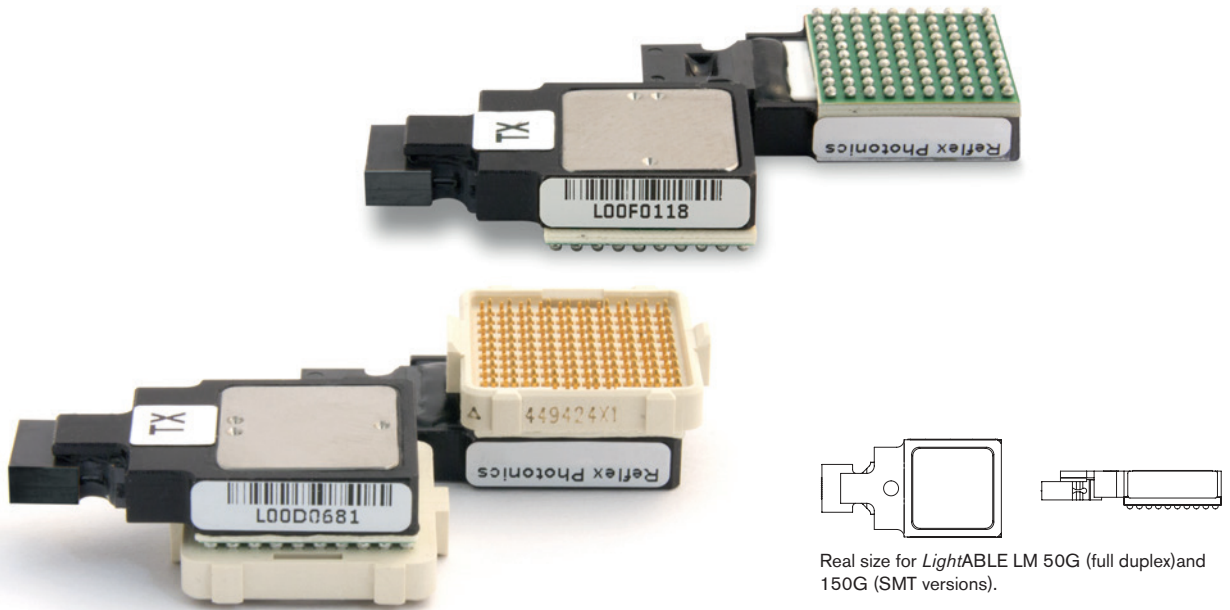


The most rugged high-performance embedded parallel optics.



Real size for *LightABLE* LM 50G (full duplex) and 150G (SMT versions).

LightABLE LM 50G and 150G

The *LightABLE*™ LM embedded optical modules are the most rugged devices offering high bandwidth (greater than 150 Gbps) in a chip-size package. Channels 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.

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°C to 125°C
- **Performance:** up to 12.5 Gbps/channel from -40°C to 100°C
- **Sensitivity:** -12 dBm for BER 10⁻¹²
- **Proven:** Thousands used in aerospace and defense applications
- **Low power consumption:** 100 mW/channel

Configurations

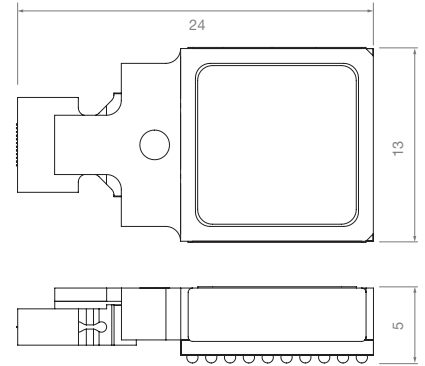
- 4TRX (50G, full duplex)
- 12TX or 12RX (150G)

Applications

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

LightABLE LM 50G (full duplex) and 150G features

- 4 TRX (4+4)-lane per device (50G, full duplex)
- 12 TX or 12 RX channel 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)



Drawing of *LightABLE LM 50G (full duplex)* and *LightABLE LM 150G*

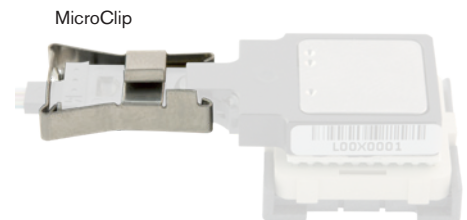
LightABLE LM ordering information

| Part Number | Product Description | Channels | Bandwidth* (Gbps/channel) | Sensitivity (dBm) | Mounting | Soldering | Operating Temperature (°C) |
|-----------------|---|----------|---------------------------|-------------------|---------------|-----------|----------------------------|
| LMT12P4183330AA | <i>LightABLE LM 12TX transmitter</i> | 12 | 12.5 | n.a. | Pluggable | RoHS | −40 to 100 |
| LMT12P4182330AA | <i>LightABLE LM 12TX transmitter</i> | 12 | 12.5 | n.a. | Surface mount | Tin-lead | −40 to 100 |
| LMR12P4183301AA | <i>LightABLE LM 12RX receiver</i> | 12 | 12.5 | −9 | Pluggable | RoHS | −40 to 100 |
| LMR12P4182301AA | <i>LightABLE LM 12RX receiver</i> | 12 | 12.5 | −9 | Surface mount | Tin-lead | −40 to 100 |
| LMR12P4182303AA | <i>LightABLE LM 12RX receiver</i> | 12 | 12.5 | −12 | Surface mount | Tin-lead | −40 to 100 |
| LMR12P4183303AA | <i>LightABLE LM 12RX receiver</i> | 12 | 12.5 | −12 | Pluggable | RoHS | −40 to 100 |
| LMR12P4184301AA | <i>LightABLE LM 12RX receiver</i> | 12 | 12.5 | −9 | Pluggable | Tin-lead | −40 to 100 |
| LMR12P4184303AA | <i>LightABLE LM 12RX receiver</i> | 12 | 12.5 | −12 | Pluggable | Tin-lead | −40 to 100 |
| LMX04P4183321AA | <i>LightABLE LM 4TRX transmit/receive</i> | 4+4 | 12.5 | −9 | Pluggable | RoHS | −40 to 100 |
| LMX04P4182321AA | <i>LightABLE LM 4TRX transmit/receive</i> | 4+4 | 12.5 | −9 | Surface mount | Tin-lead | −40 to 100 |
| LMX04P4182323AA | <i>LightABLE LM 4TRX transmit/receive</i> | 4+4 | 12.5 | −12 | Surface mount | Tin-lead | −40 to 100 |
| LMX04P4183323AA | <i>LightABLE LM 4TRX transmit/receive</i> | 4+4 | 12.5 | −12 | Pluggable | RoHS | −40 to 100 |

*: 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/channel) on a 12-fiber ribbon cable pigtail when mated to the proprietary MicroClip MT ferrule design, without any signal performance degradation.



MicroClip connectors offer a secure connection between the *LightABLE LM* module and the fiber cable.

Features

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

www.reflexphotonics.com

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Reflex Photonics is certified to ISO 9001

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