

## Product Brief

### The Reflex Photonics 40Gbps LightABLE™ SR4 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 SR4 Optical Transceiver includes 4 transmit and 4 receive channels in a parallel fiber configuration. It supports up to 41.25 Gbps full duplex.

The *LightABLE™* LM SR4 Pluggable/Surface Mount Optical Engine is a low-profile parallel transceiver with integrated microcontroller\*. The optical engines can be mounted directly upon a high-speed printed circuit board via surface mount technology or attached via a pluggable connector. This allows short electrical traces from the Host ASIC connect high-speed electrical data signals to the Reflex *LightABLE™* LM SR4 optical engine to be implemented.

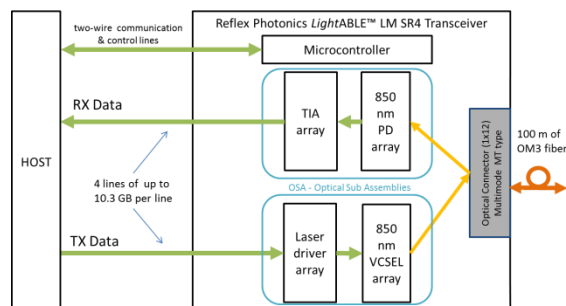
The Reflex *LightABLE™* LM SR4 optical engine's self-contained design makes it simple to add to any application which can benefit from high-speed, short-reach optical connectivity.

\*A version without microcontroller is also available.

\*\* Industrial part qualified between -40 °C to 85 °C. Please communicate with Reflex for detailed information on operation over 85 °C.

#### Summary Specifications:

- Commercial temp. range 0 °C to +70 °C
- Industrial temp. range -40 °C to +100 °C\*\*
- Bit Error Rate of E-12
- Sensitivity of -12 dBm
- Up to 10.3125 Gbps per channel
- 4 transmit and 4 receive channels
- Industry standard MT-terminated connector
- 850 nm wavelength
- Over 100 m reach on OM3 ribbon fiber
- 3.4 cm<sup>2</sup> footprint for surface mount
- 0.9 W power consumption
- AC coupled to the host ASIC
- CML high-speed electrical interface
- I2C communication interface
- Integrated microcontroller with look-up table\*
- Data protocol agnostic with balanced code
- Tin-Lead or RoHS options available



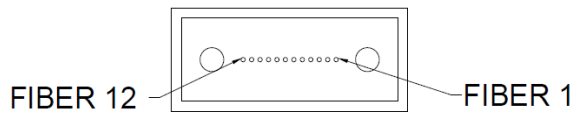
Functional Diagram of *LightABLE™* LM SR4 Transceiver

Applications:

The LM SR4 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 radar
- FPGA Serdes Interfaces
- Multi-processor interconnects
- CCD/CMOS Imaging sensor arrays
- High fidelity radar imagery

Optical Interface Lanes:

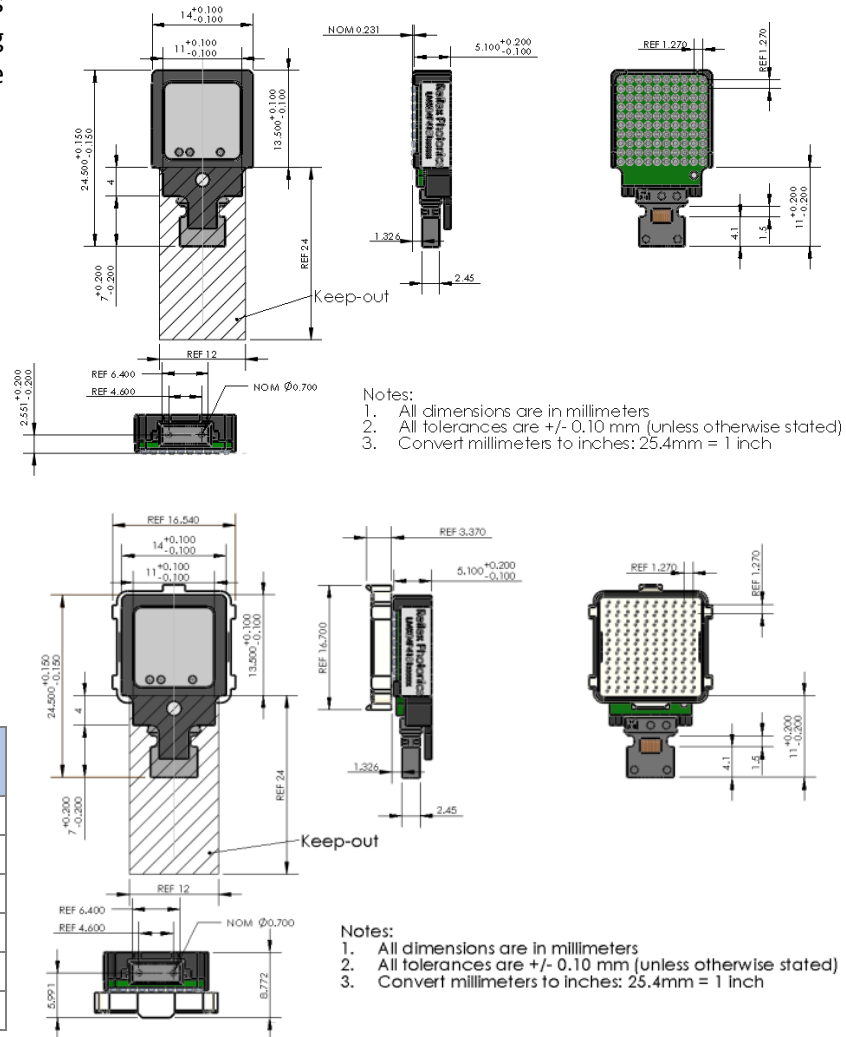


Outside view of the LightABLE™ LM SR4 Transceiver module MT receptacle

MT Fiber #	Lane Assignment	MT Fiber #	Lane Assignment
1	RX1	7	Unused
2	RX2	8	Unused
3	RX3	9	TX4
4	RX4	10	TX3
5	Unused	11	TX2
6	Unused	12	TX1

Mechanical

The Reflex **LightABLE™ LM SR4** optical engine's small form factor and low power consumption make it ideal for space-constrained applications.



LightABLE™ LM SR4 module dimensions

**PRODUCT VARIANTS**

LightABLE™ LM SR4 transceivers 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

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