

Active Optical Module



Benefits of using optical transceivers

- Convert RF signals to optical signals.
- Full duplex optical transceiver with 4 transmit and 4 receive parallel lane, each lane carrying a 10 Gbps signal.
- This device is fully qualified for harsh environment applications under MIL-STD 883 shock and vibration.
- Operates under industrial temperature range (-40°C to 85°C).
- Data transmission over a distance of 100 m with a bit error rate (BER) better than 10^{-13} and a wide open eye diagram.
- Receiver sensitivity: -12 dBm.
- Small dimensions (L x H x D): 24 mm x 5 mm x 13 mm.
- Low power consumption: 1.8 W with 8 lanes activated.

Meritec, in collaboration with Reflex Photonics, developed a compact and rugged 40 Gbps E/O media convertor meeting ANSI/VITA 76 standard. The module provides a simple solution to upgrade the reach of high speed electrical signals by converting to optical. Error-free transmission at 40 Gbps I/O density over a 100 m was verified in harsh environmental conditions.

The electrical interface uses a size 17 circular shell, while the optical interface is a 12 fiber MT optical ferrule housed in a size 11 circular shell. The length of the media converter is only 7 cm.

Quote from Meritec

The VITA 76 standard defines a high bandwidth copper I/O connector system that consists of bulkhead-receptacles and cable-end-plugs. The bulkhead receptacle is a connector meeting the MIL-DTL-38999M, Series III circular shell requirements. This new development is about a small form cable end plug which convert electrical RF signals from the copper interface to optical signals using a LightABLE™ SR4 transceiver from Reflex Photonics.



Transceiver used in this application:

LightABLE LH SR4 embedded transceiver

www.reflexphotonics.com

For information on Reflex Photonics products, contact:

sales@reflexphotonics.com

1.514.842.5179 (Montreal) • 1.408.715.1781 (USA)

Reflex Photonics is certified to ISO 9001

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