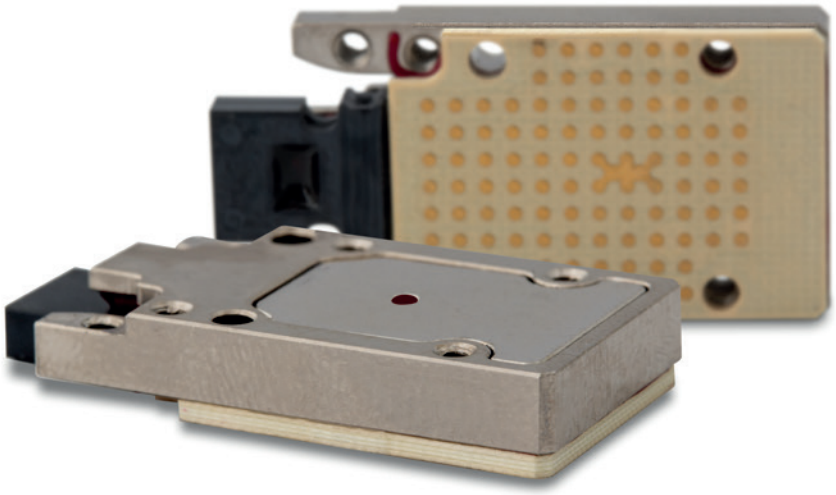
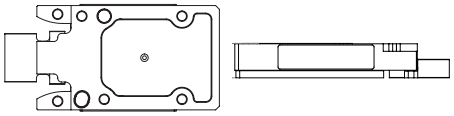
REFLEXPHOTONICS®

The most rugged high-performance embedded parallel optics.

28G

Radiation resistant





Real size for *Space*ABLE28 SL.

*Space*ABLE28 SL 100G and 300G

Radiation-resistant optical transceivers

The *Space*ABLE28 SL radiation resistant transceivers are engineered to withstand radiation doses >100 krad (Si). The *Space*ABLE28 SL low profile screw-in module mounts to the board via an LGA connector. It is offered as a either a (4+4)-lane transceiver (100G full-duplex) or as separate 12-channel transmitter and 12-channel receiver modules (300G half-duplex as a pair) that operate at up to 28 Gbps per channel from −40 °C to 85 °C at ultra-low bit error rates of 10^{-9}.
Furthermore, all our devices are tested following ECSS process and lot acceptance. Component pre-screening can be done for every batch of transceivers sold for this application.

Key advantages

- **Small**: less than 6 mm high (module and interposer)
- **Rugged**: withstand radiation doses >100 krad (Si) and qualified per MIL-STD 883 shock and vibration.
- **Expected life**: up to 20 years
- **Cold start temperature**: −55 °C
- **Performance**: up to 28 Gbps/channel from −40 °C to 85 °C
- **Sensitivity**: −9 dBm for BER 10^{-9} (measured at 25.7 Gbps).
- **Low power consumption**: 150 mW/channel (<6 pJ per bit)

Configurations

- 4TRX (100G, full duplex), in development
- 12TX or 12RX (300G), in development

Applications

- High-throughput communication satellites
- LEO satellite constellations
- GEO satellites
- Board-to-board and payload-to-payload connections
- High I/O density, high BW communication links

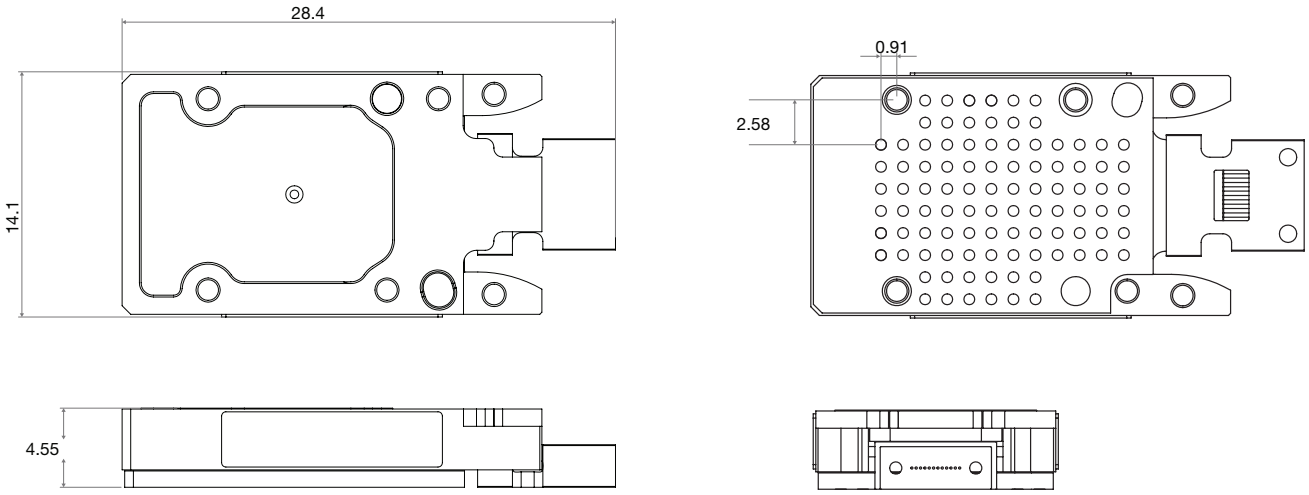
smiths interconnect

*Space*ABLE28 SL 100G (full duplex) and 300G features

- 4 TRX (4+4)-lane per module (100G, full duplex)
- 12 TX or 12 RX channel per module (300G)
- Multimode 850 nm wavelength laser
- Over 60 m reach on OM3 ribbon fiber
- Standard MT parallel fiber connector
- RoHS
- Monitoring: LOS, RSSI, temperature, etc.
- Available in industrial grade temperature range (–40 °C to 85 °C)

Space qualification tests summary

- **Proton testing:** Total Non-Ionizing Dose (TNID)
- **Heavy ion testing:** Single Event Effect & Latch-up (SEE and SEL)
- **Gamma Ray using Cobalt-60:** Total Ionizing Dose (TID)
- **Random vibration**: NASA GEVS, GSFC-STD-7000A
- **TVAC**: Vacuum < 5E-5 hPa
- **Outgassing**: ECSS-Q-ST-70-02C



Drawing of *Space*ABLE28 LL (measurements given in mm).

LGA interposers are available in different heights.

MicroClip™ MT ferrule shown on a *Space*ABLE SL.

*Space*ABLE28 SL ordering information

Part Number	Product Description	Channels	Bandwidth (Gbps/channel)	Sensitivity (dBm)	Mounting	Operating Temperature (°C)
SLX04P528532101	*Space*ABLE28 SL 4TRX transmit/receive	4+4	28	–9	LGA	–40 to 85
SLT12P928533001	*Space*ABLE28 SL 12TX transmitter	12	28	n.a.	LGA	–40 to 85
SLR12P928530101	*Space*ABLE28 SL 12RX receiver	12	28	–9	LGA	–40 to 85
ACCESSORIES						
415-00041	1.55 mm 96-positions nLGA interposer kit (Interposer + screws)					

www.reflexphotonics.com

Reflex Photonics Inc. – A Smiths Interconnect Company

16771 Chemin Ste-Marie
Kirkland QC H9H 5H3
Canada

For information on Reflex Photonics products, contact:

sales@reflexphotonics.com
+1 514 842 5179 (Montreal)
+1 484 484 1717 x259 (USA)

Reflex Photonics is certified to ISO 9001