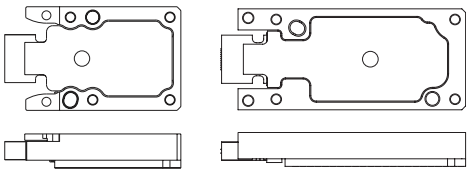
REFLEXPHOTONICS®

The most rugged high-performance embedded parallel optics.



Real size for *Space*ABLE SL 50G (full duplex) and 150G (left)
Real size for *Space*ABLE SL 150G (full duplex) and 300G (right)

*Space*ABLE SL 50G (full duplex) and 150G

Radiation-resistant optical transceivers

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.
- **Sealed**: Moisture and thermal shock resistant
- **Storage temperature**: –57 °C to 125 °C
- **Performance**: up to 12.5 Gbps/lane from –40 °C to 100 °C
- **BER**: As low as 10^{-15}
- **Sensitivity**: –9 dBm
- **Low power consumption**: 100 mW/lane

Configurations

- 4TRX (50G, full duplex)
- 12TX or 12RX (150G)
- 12TRX (150G, full duplex), in development
- 24TX or 24RX (300G), in development

Applications

- High-throughput communication satellites
- LEO satellite constellations
- GEO satellites (with extended lifetime option)
- Board-to-board and payload-to-payload connections
- High I/O density, high BW communication links

*Space*ABLE SL product summary

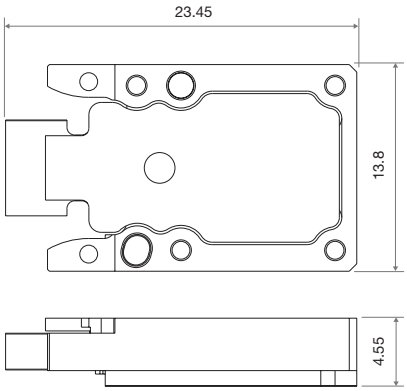
The low profile *Space*ABLE™ SL screw-in module (4.5 mm) mounts to the board via an LGA connector. It is offered as a (4+4)-lane transceiver, a 12-lane transmitter, or a 12-lane receiver. All modules operate at 12.5 Gbps per lane from –40 °C to 100 °C at ultra-low bit error rates of 10^{-15}. The optical module includes equalizers and pre-emphasis to compensate long traces; these features can be turned off for short traces (less than 10 cm) to reduce power consumption.

50G (full duplex), 150G, 150G (full duplex) and 300G *Space*ABLE SL features

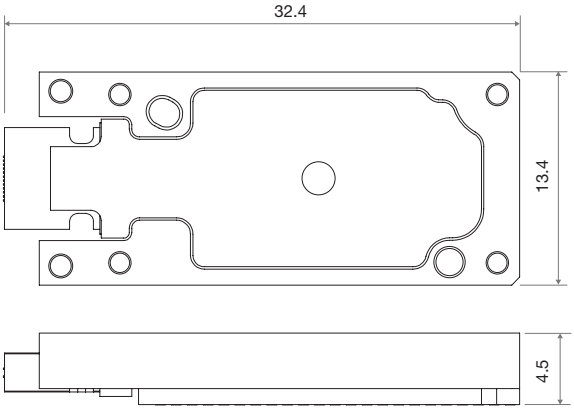
- Multimode 850 nm wavelength laser
- Over 100 m reach on OM3 ribbon fiber
- Standard MT parallel fiber connector
- RoHS
- Equalizer, pre-emphasis, adjustable output
- Monitoring: LOS, RSSI, temperature etc.
- Integrated microcontroller
- Available in industrial (–40 °C to 100 °C) grade temperature range

The *Space*ABLE SL modules are tested under heavy ions, protons, and Cobalt 60 electrons sources.

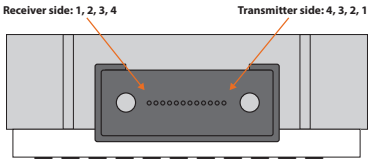
- **Heavy-ion** tested (Single Event Effect & Latch-up (SEE and SEL)).
- **Cobalt 60 electron source** tested (MIL-STD-883G, method 1019.7) Total Ionizing Dose (TID).
- **High and low energy protons** tested (Total Non-Ionizing Dose (TNID)).



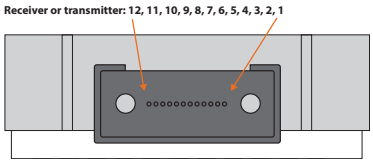
Drawing of *Space*ABLE SL 50G (full duplex) and 150G.



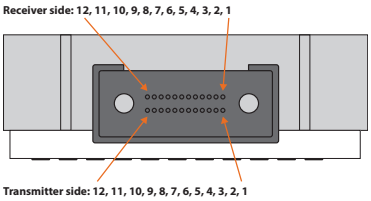
Drawing of *Space*ABLE SL 150G (full duplex) and 300G.



Fiber assignment of *Space*ABLE SL 50G (full duplex).



Fiber assignment of *Space*ABLE SL 150G.



Fiber assignment of *Space*ABLE SL 150G (full duplex) and 300G.

*Space*ABLE SL ordering information

Part Number	Product Description	Lanes	Bandwidth (Gbps/lane)	Sensitivity (dBm)	Mounting	Operating Temperature (°C)
SLT12P918533001	*Space*ABLE 12TX transmitter	12	12.5	n.a.	RoHS LGA	–40 to 100
SLR12P918530101	*Space*ABLE 12RX receiver	12	12.5	–9	RoHS LGA	–40 to 100
SLX04P918532101	*Space*ABLE 4TRX transmit/receive	4+4	12.5	–9	RoHS LGA	–40 to 100

THE ***Light*** on Board® Company

www.reflexphotonics.com

Reflex Photonics Inc.

16771, Chemin Ste-Marie
Kirkland, QC
H9H 5H3, Canada

For information on Reflex Photonics products, contact:

sales@reflexphotonics.com
+1.514.842.5179 (Montreal)
+1.408.715.1781 (USA)

Reflex Photonics is certified to ISO 9001

SpaceABLE_SL_EN_201901A