The most rugged high-performance embedded parallel optics.

**Key advantages**
- **Performance**: up to 28 Gbps/lane from –40 ºC to 85 ºC
- **Small**: As low as 4.5 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 ºC
- **BER**: As low as $10^{-12}$
- **Sensitivity**: –9 dBm
- **Low power consumption**: 120 mW/lane (<10 pJ per bit)

**SpaceABLE28 SL product summary**
The SpaceABLE28™ SL radiation resistant transceivers are engineered to withstand radiation doses >100 krad (Si). The SpaceABLE28 SL embedded optical modules are rugged devices offering high bandwidth (greater than 100 Gbps, full duplex) in a chip-size package.
Furthermore, all our devices are tested following ECSS process and lot acceptance testing, and component pre-screening is done for every batch of transceivers sold for this application.

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

**Applications**
- High-throughput communication satellites
- LEO satellite constellations
- GEO satellites
- High I/O density, high BW communication links

**Radiation resistant**

**SpaceABLE28 SL 100G**
Radiation-resistant optical transceivers
100G SpaceABLE28 SL features

- 4 TX plus 4 RX lane per device (100G, full duplex)
- Multimode 850 nm wavelength laser
- Up to 100 m reach on OM3 ribbon fiber
- Standard MT parallel fiber connector
- LGA connector board mount
- RoHS
- Monitoring: LOS, RSSI, temperature etc.
- Available in industrial (−40 °C to 85 °C) grade temperature range

The SpaceABLE28 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)).

LGA interposers are available in different heights.

SpaceABLE28 SL ordering information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Product Description</th>
<th>Lanes</th>
<th>Bandwidth (Gbps/lane)</th>
<th>Sensitivity (dBm)</th>
<th>Mounting</th>
<th>Operating Temperature (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLX04P528532101</td>
<td>SpaceABLE28 SL 4TRX transmit/receive</td>
<td>4+4</td>
<td>28</td>
<td>−9</td>
<td>LGA</td>
<td>−40 to 100</td>
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</tbody>
</table>

ACCESSORIES

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>415-00012</td>
<td>2.74 mm 96-positions nLGA interposer kit (Interposer + screws)</td>
</tr>
<tr>
<td>415-00015</td>
<td>1 mm 96-positions nLGA interposer kit (Interposer + screws)</td>
</tr>
</tbody>
</table>