3D PLUS is a world leading supplier of advanced high density 3D microelectronic products and Die and Wafer Level stacking technology meeting the demand for high reliability, high performance and very small size of today’s and tomorrow’s electronics. We offer standard products and custom System-in-Package (SiP) solutions based on our Space qualified and patented technology portfolio. The company is ISO 9001:2008 certified and its stacking technologies are qualified by European Space Agency for Space applications.

**SPACE APPLICATIONS EXPERTISE**

Recognized for their electrical performance, miniaturization, quality, reliability and radiation assurance level, 3D PLUS Space qualified products bring key advantages to all Space Application fields:

- **Consumer Applications**: telecommunication, navigation, internet...
- **Durable Development**: environment and climate monitoring
- **Defense & Security**: earth observation
- **Space transportation**: launchers and manned space vehicles
- **Science**: astronomy, space exploration and interplanetary missions

**FLIGHT PROVEN PRODUCTS**

With more than 110,000 modules in orbit today and a failure-free flight heritage of more than 17 years, 3D PLUS is the largest Space Qualified MCM manufacturer in Europe. 3D PLUS products are used by all the major space agencies and customers worldwide. They fly in numerous missions: Envisat, Galileo, AlphaSat, Rosetta, Worldstar 3C, Corot, SaRLupe, BepiColombo, Pleiades, Ariane 5, Hill-A, ISS, Goce, Kepler, Dawn, RadarSat, New Horizons, W3B, Goes-R, Sentinel, MSL, Juno, Gaea, X-SAT, Grail, SMOS, MMS, Planck, ReStore, Grace, Insight, Iridium Next, Oinsa-Pex, Solar Orbiter, PAGSAT, SAGE III, DubaiSat-2...

**KEY BENEFITS**

- **HIGH DENSITY**
- **HIGH SPEED PERFORMANCE**
- **SMALL FORM FACTOR**
- **75% space and weight savings in the design**
- **HIGH RELIABILITY**
- **20 years lifetime**
- **SPACE QUALIFIED TECHNOLOGY**
- **FLIGHT PROVEN PRODUCTS**
- **RADIATION HARDENED (TID, SEE)**
- **LONG TERM SUPPLY AND UPGRADES PATHS GUARANTY**
### LVDS PRODUCT LINE

Radiation hardened LVDS line dual 16-bit transceiver and level shifters in a highly miniaturized package, bring the maximum area and weight savings for the space applications board’s designs. Conceived for low power and very high speed applications.

Performs cold sparing and bus hold function enabling a two-way asynchronous communication between buses (address, data). The direction of data transmission is determined by a digital input. The two enable inputs can be used to disable the device, cold sparing the component to the bus. Enable inputs can be shorted together to provide 3-bit operation.

### KEY FEATURES
- Extended Driving Range
- High Current Driving Capability (up to 24 mA)
- Ultra Low Power Consumption
- High Speed Outputs
- Bus Hold Provided on Both Sides
- Cold Spare Function
- Space Quality Grade
- Radiation Hardened Die
- Compact Size and Low Weight
- Worldwide Delivery Guaranty

### SMD PRODUCT LINE

The LVDS 21:3 radiation tolerant Serializer/Deserializer interface modules meet the demands for high-speed and reliable data communications preserving signal integrity.

Our SMD modules convert 21-bit LVTTL parallel clock and data to 3-LVDS high-speed serial data channels in a highly miniaturized package. Nominal and Redundant designs have been conceived in one single module. The module also includes a Power Down control for both Nominal and Redundant devices.

### KEY FEATURES
- Up to 1.428 Gb/s Data Rate
- PLL Frequency Range 20 to 68 MHz
- Low Power Consumption
- Power-down Mode
- Requires no External Components
- Rising Clock Edge Trigger
- Space Qualified Technology
- Radiation Tolerant (TID, SEE)
- Compact Size and Low Weight
- Worldwide Delivery Guaranty

### LVDS PRODUCT LINE

The LVDS technology provides the benefits of high-speed, low-power consumption, low-EMI, simple termination and standardization for the high-speed data transmission solutions.

3D PLUS Radiation Tolerant and Space Qualified LVDS line drivers and receivers embed 8 or 4 LVDS channels in a single highly miniaturized package, enabling the maximum area and weight savings for the space applications board’s designs. They are available in a variety of temperature ranges and with a single power supply of 3.3V.

### KEY FEATURES
- Very High Density – small footprint
- High Speed Performance: > 400 Mbps (250 MHz) switching rates
- 3.3V Power Supply
- Cold Sparring Capability
- Ultra Low Power Dissipation
- Excellent Differential Skew and Propagation Delay
- Compatible with IEEE 1596.3 SCI and ANSI/TIA/EIA-644 LVDS standards
- Suitable for SpaceWire data links
- Radiation Tolerance (TID, SEE)
- Space Quality Level - ESA Qualified Technology
- Very Long Life Time Electronics (Technology proven for 15 to 18 years missions in Space)
- Long Term Supply
- Worldwide Delivery Guaranty

### ORDERING INFORMATION

Quality Grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Commercial (9°C to +70°C)</td>
</tr>
<tr>
<td>I</td>
<td>Industrial (−40°C to +85°C)</td>
</tr>
<tr>
<td>M</td>
<td>Military (−55°C to +125°C)</td>
</tr>
<tr>
<td>S</td>
<td>Specific Temperature Range</td>
</tr>
</tbody>
</table>

Note 1: Total Ionizing Dose Tolerance is given in krad(Si)
Note 2: Latch-up LET Threshold is given in MeV·cm²/mg
Note 3: SEU LET Threshold is given in MeV·cm²/mg
Note 4: SET detailed reports can be requested

http://www.3d-plus.com/how-to-buy.php