



GORE® Space Cables and Assemblies

LVDS Interconnects

Increase Data Integrity Among Electrical Systems

Data integrity is key to maintaining communication among spacecraft systems during a mission. The cables that connect the systems have a direct impact on the quality of the data and the speed of transmission. GORE® Low Voltage Differential Signaling (LVDS) Interconnects offer the best signal integrity because of the combination of their robust design and their outstanding electrical performance. GORE® LVDS Interconnects reduce time delay and skew of signal transmission, while consuming less power and minimizing electromagnetic interference. Their small size and minimum bending radius allow for easy installation in tight spaces. Their light weight decreases mass, thereby reducing the amount of energy needed to launch the vehicle into space. The high number of individual lines available in each bundle increases the cable's flexibility and makes it easier to route the cable.

THE SCIENCE BEHIND THE CABLES

The key to the outstanding performance of GORE® LVDS Interconnects is the proprietary material used in the cable insulation — expanded polytetrafluoroethylene (ePTFE). This unique insulation provides excellent signal control for applications where tight impedance control is necessary. Expanded PTFE is both chemically inert and thermally stable, which allows GORE® LVDS Interconnects to be used in tight spaces without compromising the strength and quality of signal transmission.

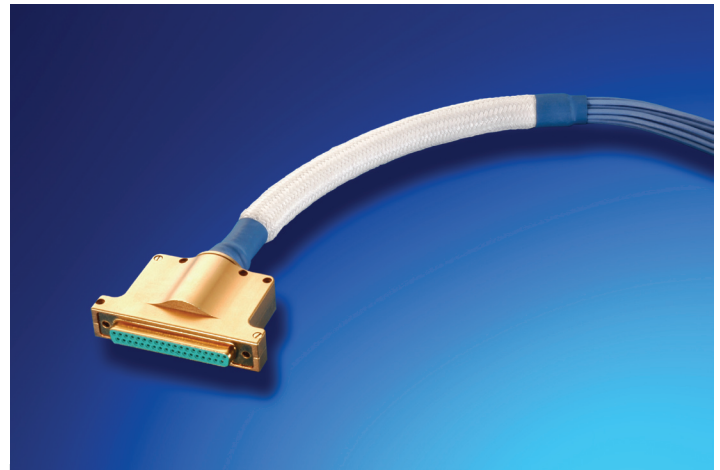
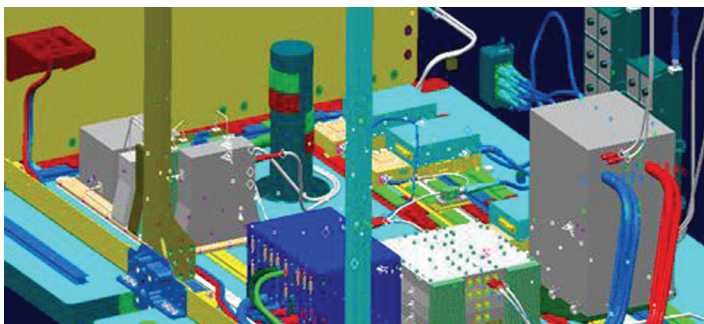
TYPICAL USES

- Narrow-band interconnections
- Interbox connections
- Wideband interconnections

SAMPLE APPLICATIONS

- INMARSAT4
- SKYNET5
- China Satellite

*Interbox Connection
Image: ESA*



Realize the Benefits of GORE® LVDS Interconnects

KEY FEATURES

- Tightest 100 ohm impedance of individual signal pairs
- Low signal attenuation and crosstalk
- Good EMC performance
- Specified according to ESA 3902/002
- Multiple connector options
- Frequencies up to 3 Gbit/s range
- Vibration- and shock-resistant through QTP performance

KEY BENEFITS

- Excellent signal integrity, minimum noise, tight impedance control, and outstanding EMC performance
- High transmission speed from synchronously matched interfaces
- Outstanding clock synchronization between individual lines that distribute time-sensitive signals
- Easier installation resulting from small size and tighter bending radius
- Valued reliability delivered from an ESA-qualified and a DIN EN ISO 9001:2000-certified manufacturing facility
- Superior sales and technical support from Gore's worldwide engineering team



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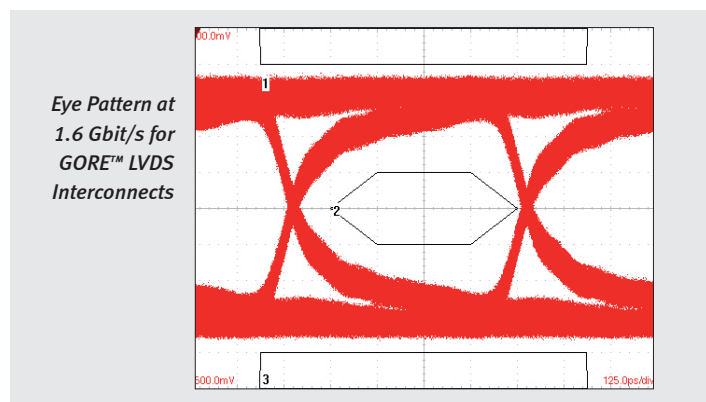
TECHNICAL SPECIFICATIONS

All GORE™ LVDS Interconnects meet the following technical specifications **according to ESCC 3902/002** and are **listed on the ESA QPL**. See the ordering information for the technical data specific to each cable.

Property	Value
Operating temperature range	-200°C to +180°C
Maximum temperature for short periods	260°C
Dielectric material	Expanded PTFE
Outer jacket	PFA
Conductor construction	Concentric silver-plated copper
Operating voltage	200 V RMS
Impedance	100 ohms ± 4 ohms
Bending radius	10 x outer diameter (repeated) or 6 x outer diameter (once)
Transmission rate	Up to 3 Gbit/s
Maximum time delay (pair)	4.30 nsec/m
Maximum conductor time delay difference	0.1 nsec/m
Maximum capacitance: conductor to conductor	47 pF/m
Maximum capacitance: conductor to shield	79 pF/m

ORDERING INFORMATION

Part Number	Gauge Size (AWG)	Outer Diameter (mm)	Weight (g/m)	Typical Loss — Attenuation at 100 Meters (in dB)				
				20 MHz	100 MHz	400 MHz	600 MHz	1,000 MHz
GSC-05-82561-00	22	5.2	37.0	9	20	39	48	63
GSC-05-82559-00	24	4.3	26.0	11	25	49	61	79
GSC-05-81973-00	26	3.1	18.0	17	36	68	83	108
GSC-05-82560-00	28	2.8	17.0	20	43	85	104	135
GSC-05-82292-00	30	2.2	13.5	25	54	107	131	169



GORE EXPERIENCE AND EXPERTISE

With approximately \$2.5 billion in annual sales and more than 8,000 employees around the world, W. L. Gore & Associates provides diverse, high-performance solutions in consumer, industrial, electronic, medical, and surgical markets. As well-known for its unique corporate culture as for its products, Gore's 50-year success story rests equally on product and organizational innovation. With a reputation for providing the highest-quality products, Gore is ready to assist in developing cost-effective solutions for your electronics applications.

NOTICE — USE RESTRICTIONS APPLY
Not for use in food, drug, cosmetic or medical device manufacturing, processing, or packaging operations.

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North America
1 (800) 445-GORE (4673)

Europe
+49 9144 6010
+44 1382 561511

International
1 (302) 292-5100

China: Beijing
+86 10 6408 8060

China: Shanghai
+86 21 5172 8299

China: Shenzhen
+86 755 8359 8262

gore.com

More international phone numbers can be found at gore.com/phone

Japan
+81 3 3570 8712

Korea
+82 2 393-3411

Taiwan
+886 2 8771 7799

Singapore
+65 6 733 2882

