

Triax Series Connectors

Aptiv's Triax Series connectors are used for triaxial cables, which have three concentric conductors. The additional conductor gives excellent shielding against noise. Triax connectors provide a much cleaner signal than standard coaxial connectors. They are used in applications where the best signal integrity is required such as sensitive measurement, video, and data.



KEY FEATURES & BENEFITS

- Extended Frequency – Reliable operation up to 50 GHz for microwave and millimeter-wave applications
- Rugged Design – Thick outer wall and reinforced female sockets for superior durability
- Secure Coupling – Precision threaded connections resist vibration and ensure consistent performance
- High Performance – Low VSWR and minimal insertion loss with precision air dielectric construction
- 50 Ω Standard – Compatible with most RF and microwave systems
- Flexible Integration – Mechanically compatible with 1.85 mm connectors (adapters required for SMA, 2.92 mm, 3.5 mm)

PRODUCT SPECIFICATIONS

Electrical Properties*	
Impedance	Typically 50 Ohms or 75 Ohms (inner coaxial structure).
Frequency Range	Typically DC to 500 MHz, some specialized versions may extend to 3 GHz for higher bandwidth data/video.
Voltage Rating	Can also handle significant voltage differences, providing excellent common-mode rejection.
Dielectric Withstanding Voltage	Very high, indicating strong insulation between all three conductors.
Insulation Resistance	Extremely high, often in the Giga-ohm (GΩ) to Tera-ohm (TΩ) range
Shielding Effectiveness	Superior to coaxial, often 90 dB or more across the operating frequency range.
VSWR (Voltage Standing Wave Ratio)	Typical: ≤ 1.25 @ 50 GHz (performance may vary by design; reference datasheet)
Insertion Loss	Typically low for the frequency range.

*reference website for specific part number specifications

PRODUCT SPECIFICATIONS CONTD.

Environmental Properties*	
Temperature Range	-55°C to +165°C (standard)
Thermal Shock	MIL-STD-202, Method 107, Test Condition B.
Vibration	MIL-STD-202, Method 204, Test Condition B or D.
Shock	MIL-STD-202, Method 213, Test Condition I.
Moisture Resistance	MIL-STD-202, Method 106; many designs offer excellent environmental sealing.
Corrosion (Salt Fog)	MIL-STD-202, Method 101, Test Condition B (48 hours).
Durability	Engineered for reliable performance in various demanding industrial, military, and medical environments where signal integrity under adverse conditions is critical.

*reference website for specific part number specifications

PRODUCT SPECIFICATIONS CONTD.

Mechanical Properties*	
Coupling Mechanism	Threaded (e.g., similar to N-type but triaxial, known as TRB or TRT) or bayonet (e.g., similar to BNC or C-type, known as TRB or TRC).
Mating Cycles	≥ 500 cycles (standard).
Cable Retention	Clamp, crimp, or solder termination
Body Material	Brass or Stainless Steel (typically nickel or passivated).
Center Contact Material	Beryllium Copper, Phosphor Bronze, or Brass (typically gold plated).
Dielectric/Insulator Material	PTFE (Polytetrafluoroethylene) or other high-performance plastics.
Conductor Configuration	Specific to triaxial cables, accommodating the center conductor, inner shield, and outer shield.

*reference website for specific part number specifications