

SC Series Connectors

Aptiv's SC Series threaded, medium-to-large size coaxial RF connectors are intended for use in applications where secure, weatherproof connections are required. Designed as a rugged, mechanically stable alternative to N-Type connectors, SC Series connectors are engineered for high performance in outdoor, severe RF applications. Offering up to 10 GHz performance, SC connectors are commonly used in broadcast, military, radar and industrial RF systems.



KEY FEATURES & BENEFITS

- Secure Coupling – Threaded design provides stable, vibration-resistant connections
- Weatherproof – Reliable for outdoor and exposed applications
- High Power – Handles significant RF power for broadcast and defense systems
- Versatile Frequency – Operates up to 10 GHz for lower-to-mid band RF and microwave applications
- 50 Ω Standard – Compatible with most common RF systems
- Durable Construction – Brass or stainless steel ensures strength and corrosion resistance
- Reliable Performance – Maintains stable electrical characteristics and signal integrity

PRODUCT SPECIFICATIONS

Electrical Properties*	
Impedance	50 Ohms
Frequency Range	DC to 10 GHz (typical); performance may degrade at the higher end for some designs.
Voltage Rating	1500 VRMS (max.)
Dielectric Withstanding Voltage	4000 VRMS (min.)
Contact Resistance	Center Contact: $\leq 1.0 \text{ m}\Omega$, Outer Contact: $\leq 0.5 \text{ m}\Omega$
Insulation Resistance	$\geq 5000 \text{ M}\Omega$
VSWR (Voltage Standing Wave Ratio)	Typical: ≤ 1.30 @ 6 GHz; ≤ 1.50 @ 10 GHz
Insertion Loss	$\leq 0.1 \text{ dB}$ @ 6 GHz (typical)
RF Leakage	$\geq -70 \text{ dB}$ @ 3 GHz (typical)

*reference website for specific part number specifications

PRODUCT SPECIFICATIONS CONTD.

Environmental Properties*	
Temperature Range	-65°C to +165°C (standard)
Thermal Shock	MIL-STD-202, Method 107, Test Condition B (from -65°C to +165°C).
Vibration	MIL-STD-202, Method 204, Test Condition B (15 G's)
Shock	MIL-STD-202, Method 213, Test Condition I (100 G's).
Moisture Resistance	MIL-STD-202, Method 106 (excellent sealing for outdoor applications).
Corrosion (Salt Fog)	MIL-STD-202, Method 101, Test Condition B (48 hours).
Durability	Engineered for reliable performance in various challenging environmental conditions common to military, industrial, and outdoor installations.

*reference website for specific part number specifications

PRODUCT SPECIFICATIONS CONTD.

Mechanical Properties*	
Coupling Mechanism	Threaded (often 5/8"-24 NEF-2B thread, but specific thread details can vary slightly by manufacturer and variant).
Mating Cycles	≥ 500 cycles
Coupling Nut Retention	100 lbs min.
Cable Retention	Varies by cable type and termination method (designed for larger diameter cables, often clamp or solder).
Body Material	Brass or Stainless Steel (typically nickel or passivated).
Center Contact Material	Brass or Beryllium Copper (typically silver or gold plated).
Dielectric/Insulator Material	PTFE (Polytetrafluoroethylene).
Interface Dimesions	Conforms to MIL-STD-348, Interface 303 (for C Series, which is very similar; SC often considered a threaded C variant).

*reference website for specific part number specifications