Technical Question 31-8

50 Ω BNC Specifications

Electrical	
Impedance	50 Ω nominal
Frequency Range	0-4 GHz with low reflection
Voltage Rating	500 volts peak
Dielectric Withstanding Voltage	1,500 volts rms
VSWR	M39012 straight connectors: 1.3 max 0-4 GHz M39012 right angle connectors: 1.35 max 0-4 GHz
MIL-C-39012 Contact Resistance	Center contact: 1.5 mΩ; Outer contact: 0.2 mΩ
MIL-C-39012 Insulation Resistance	5,000 MΩ
MIL-C 39012 Braid to Body	0.1 milliohm
MIL-C-39012 RF Leakage	-55 dB min at 3 GHz
MIL-C-39012 Insertion Loss	0.2 dB min at 3 GHz
Mechanical	
Mating	2-stud bayonet coupling per M39012
Braid/Jacket Cable Affixment	All crimps are hex braid; clamps are screw-thread net and braid clamp
Center Conductor Cable Affixment	Crimps are crimp or solder; all other are solder only
Captivated Contacts	All crimps unless specified otherwise
Cable Retention	Crimps: 20-100 lbs; All others: 30-70 lbs
Material	
Male Contact	Brass
Female Contact	Beryllium copper or phosphorous bronze, silver or gold-plated
Other Metal Parts	Brass, nickel finish; M39012 is silver finish
Insulator	TFE, copolymer of styrene, glass-TFE (hermetically sealed)
Crimp Ferrule	Copper/brass
Environmental	
Temperature Range	TFE insulators: - 65℃ to + 165 ℃ Copolymer of Styrene: - 55℃ to + 85℃
Weatherproof	Clamps with clamp gaskets; crimps with heat-shrink tubing
Hermetic Seals	Pass helium leak test of 2×10^{-8} cc/second
Shock	MIL-STD-202 method 202
Vibration	MIL-STD-202 method 202, test condition D
Moisture Resistance	MIL-STD-202 method 106
Corrosion	MIL-STD-202 method 101, test condition B
Temperature Cycling	MIL-STD-202 method 102, test condition D
Altitude	MIL-STD-202 method 105, test condition C
Military	
MIL-C-39012	Where applicable