BNC Connectors (50 ohm/75 ohm)

Product Facts

- **Bayonet lock coupling for quick connect/disconnect**
- **Various connectors available in 50 and 75 ohm versions**
- **Fully intermateable with comparable BNC UG/U connectors**
- **Full range of Hex Crimp and O Crimp Products for common coaxial cables.**
- **Low VSWR**
- **Single crimp connectors offer one crimping operation for fast application**
- **Twist-on connectors require no special tooling for application to the cable**
- **Field serviceable (Category A) connectors qualified to MIL-C-39012**
- **Field replaceable (Category C) plugs with captivated center contact**
- **Field replaceable plugs can be terminated with industry standard tooling**
- **Tarnish resistant Nickel finish available**
- **Choice of different dielectrics**
- **Listed under the Component Program of Underwriters Laboratories Inc., File No. E81956**
- **PC Board soldered connectors are recognized under the Component Program of Underwriters Laboratories Inc., File No. E81956**
- **Certified by Canadian Standards Association File No. LR 7189**

The Tyco Electronics BNC RF connector family with bayonet locking coupling provides highly reliable, quick connect/disconnect coaxial connections. Exclusive single and O crimp terminations allow positive insulation grip and require no soldering, providing terminations at a very low overall applied cost.

Available in both 50 and 75 ohm versions, these connectors feature numerous styles including cable plugs and jacks, adapters and printed circuit board connectors. In addition to a variety of crimp type terminations, connectors are furnished in field replaceable and twist-on styles. These connectors accept a wide range of coaxial cables and are intermateable with industry standard connectors designed to MIL-C-39012 specifications.

Tyco Electronics can also supply low cost alternatives with an extensive commercial type product line. A lower cost consumer series product offers the capability to supply center contacts in strip form and allow for automated center contact crimp technology. All connectors are designed around the mil-specifications, but utilize low-cost materials, offering comparable mechanical and electrical performance.

Between Series Adapters

For BNC Between Series Adapters, see pages 251-260.

Related Product Data

Product Specifications —

108-1275 — BNC Ohm Terminators

108-12020 — BNC O Crimp Connectors

108-12044 — BNC Commercial Hex Crimp

108-12047 — BNC Commercial and Hex Crimp Connectors

108-12074 — BNC Solder Jacks

108-12075 — BNC Connectors (Category A)

108-12078 — BNC Commercial PCB Panel-Mount Jacks

108-12002 — BNC Commercial T Adapter

108-12095 — BNC Commercial 75 Ohm Connectors

108-12096 — BNC Commercial Feed-Thru and Bulkhead Adapters

108-12079 — BNC Commercial 50 Ohm Solder Jacks

108-12103 — BNC Commercial PCB Press Fit Jacks

Application Specifications —

114-12001 — BNC Commercial PCB Jack Press Fit

Performance Specifications — Page 45

Material Specifications — Page 46

Tooling — Pages 266-268

Military Category — All MIL type O crimp connectors are Category B Type (Tyco Electronics Crimp Tooling), unless otherwise noted.

Packaging — All MIL Type connectors are packaged individually, all O crimp connectors are bulk packaged and all Hex crimp connectors are individually packaged unless otherwise noted.

Catalog 1307191
Revised 3-07

www.tycoelectronics.com

Dimensions are in millimeters and inches unless otherwise specified. Values in brackets are standard equivalents.

Dimensions are shown for reference purposes only. Specifications subject to change.

USA: 1-800-522-6752
Canada: 1-905-470-4425
Mexico: 01-800-733-8926
C. America: 52-55-1106-0803

South America: 55-11-2103-6000
Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-8706-080-208

BNC Connectors (50 ohm/75 ohm) Performance Specifications

Characteristics	Single Crimp (MIL Type)	Category B O Crimp (MIL Type)	Straight Solder Clamp	Right-Angle Solder Clamp	Commercial O Crimp & Hex Crimp 50 Ohms	Commercial O Crimp & Hex Crimp 75 Ohms	Commercial PC Board 50 & 75 Ohms	Commercial Solder 50 Ohm Jacks
Electrical								
Impedance, Nom. (Ohms)	50	50	50	50	50	75	50 & 75	50 & 75
Working Voltage (Volts RMS)	500	500	500	500	500	500	500	500
Contact Resistance (Milliohms)	Inner: 1.5 Outer: 0.3	Inner: 1.5 Outer: 0.2	Inner: 1.5 Outer: .20	Inner: 1.5 Outer: .20	Inner: 2.0 Outer: 1.0	Inner: 2.0 Outer: 2.0	Inner: 6/1.5 Outer: 3/0.2	Inner: 2.75 Outer: 1.0
Initial Insulation Resistance (Megohms)	5000	5000	5000	5000	5000	5000	5000	5000
Dielectric Withstanding Voltage (VAC)	1500	1500	1500	1500	1500	1500	1500	1500
Corona Level at 70,000 ft. (Volts, RMS)	375	375	375	375	375	375	—	375
RF Leakage, Max. (dB)	—	-55 at 2-3 GHz	-55 at 2-3 GHz	-55 at 2-3 GHz	-55 at 2-3 GHz	-55 at 1-2 GHz	—	—
RF Insertion Loss, Max. (dB)	—	0.2 at 3 GHz	0.2 at 3 GHz	0.3 at 3 GHz	0.2 at 3 GHz	0.15 at 2 GHz	—	—
Frequency Range (GHz)	0-2.5	0-4	0-4	0-4	0-4	0-2	0-4 and 0-2	0-4
VSWR in Frequency Range Max.	1.35	1.30	1.30	1.35	1.30	1.30	—	—
Mechanical								
Force to Engage (lbs. [N])/couple, (in-lbs. [N-M]) max.	13.3/11.12 [3/2.5]	13.3/11.12 [3/2.5]	13.3/.028 [3/2.5]	13.3/.028 [3/2.5]	26.7/26.69 [6/6.0]	26.7/26.69 [6/6.0]	—	—
Coupling Nut Retention, Min. N [lbs.]	444.8 [100]	444.8 [100]	444.8 [100]	444.8 [100]	266.9 [60]	266.9 [60]	—	—
Cable Retention, N [lbs.]	266.9 [60] (RG58C/U)	266.9 [60] (RG58C/U)	177.9 [40] (RG58C/U)	177.9 [40] (RG58C/U)	266.9 [60] (RG58C/U)	266.9 [60] (RG58C/U)	266.9 [60] (PCB Ret)	—
Durability (Cycles)	500	500	500	500	500	500	500	500
Jam Nut Mounting Torque, Max. [N•m] (in. lbs.)	25 [2.8]	25 [2.8]	25 [2.8]	—	25 [2.8]	25 [2.8]	25[3]/12[4] [2.8/1.4]	25 [2.8]
Environmental								
Temperature Range, Operating (C°)	-65 to +85	-65 to +165[1] -55 to +85[2]	-65 to +165	-65 to +165	-55 to +85	-55 to +85	-55 to +85	-65 to +165
Vibration	MIL-STD-202 Method 204 Cond. B	MIL-STD-202 Method 204 Cond. B	MIL-STD-202 Method 204 Cond. B	MIL-STD-202 Method 204 Cond. B	MIL-STD-1344 Method 2005 Cond. III	MIL-STD-202 Method 204 Cond. B	MIL-STD-202 Method 201A	MIL-STD-202 Method 204 Cond. B
Physical Shock	MIL-STD-202 Method 213 Cond. G, 50 G's	MIL-STD-202 Method 213 Cond. G, 50 G's	MIL-STD-202 Method 213 Cond. G	MIL-STD-202 Method 213 Cond. G	MIL-STD-1344 Method 2004 Cond. G, 100 G's	MIL-STD-202 Method 213 Cond. I, 100 G's	MIL-STD-202 Method 213 Cond. I or A, 50 G's	MIL-STD-202 Method 213 Cond. I, 100 G's
Thermal Shock	MIL-STD-202 Method 107	MIL-STD-202 Method 107	MIL-STD-202 Method 107	MIL-STD-202 Method 107	MIL-STD-1344 Method 1003 Cond. A	MIL-STD-202 Method 107	MIL-STD-202 Method 107	MIL-STD-202 Method 107
Moisture Resistance	MIL-STD-202 Method 106	MIL-STD-202 Method 106	MIL-STD-202 Method 106	MIL-STD-202 Method 106	MIL-STD-1344 Method 1002 Type II	MIL-STD-202 Method 106	MIL-STD-202 Method 106	MIL-STD-202 Method 106
Salt Spray	MIL-STD-202 Method 101 Cond. B	MIL-STD-202 Method 101 Cond. B	MIL-STD-202 Method 101 Cond. B	MIL-STD-202 Method 101 Cond. B	MIL-STD-1344 Method 1001 Cond. B	MIL-STD-202 Method 101 Cond. B	MIL-STD-202 Method 101 Cond. B	MIL-STD-202 Method 101 Cond. B
Product Specification	108-12002	108-12020	—	—	108-12044 108-12047	108-12095	108-12078	108-12079

[1]Assembled to cable with polytetrafluorethylene dielectric.
[2]Assembled to cable with polyethylene dielectric.
[3]For Metal Threads
[4]For Polyester Threads

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Hong Kong: 852-2735-1628
Japan: 81-44-844-8013
UK: 44-8706-080-208

BNC Connectors (50 ohm/75 ohm) Performance Specifications (Continued)

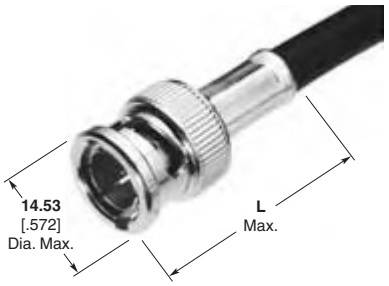
Connector Component	Single Crimp (MIL Type)	Category B & C O Crimp (MIL Type)	Straight Solder Clamp	Right-Angle Solder Clamp	Commercial O Crimp Hex Crimp & Terminators	Commercial PCB Solder	Commercial PCB Press Fit	Commercial Solder Ohm Jacks	Adapters
Connector Material									
Collar	Brass QQ-B-626	Brass QQ-B-626	Brass	Brass	Brass QQ-B-626 Zinc QQ-Z-363	—	—	—	Brass QQ-B-626
Outer Contact (Plug)	Brass QQ-B-626 Beryl. Copper QQ-C-530	Phos. Bronze QQ-B-750	Brass	Brass	Brass MIL-C-21768	—	—	—	Brass QQ-B-626 Beryl. Copper QQ-C-530
Shell (Jack)	Brass QQ-B-626	Brass QQ-B-626	Brass	—	Zinc QQ-Z-363	Zinc QQ-Z-363	Zinc Zinc QQ-Z-363	QQ-Z-363 Brass QQ-B-626	Brass QQ-B-626
Dielectric	TEFLON MIL-P-19468 Polypropylene Gen. Purpose	TEFLON MIL-P-19468	TEFLON	TEFLON	Polyethylene Polypropylene Polymethylpentene Gen. Purpose	Polymethylpentene Gen. Purpose[1]	TEFLON MIL-P-19468	TEFLON MIL-P-19468 Polyester PBT MIL-P-24519	TEFLON MIL-P-19468 Polypropylene, Gen. Purpose
Center Contact (Plug)	Brass QQ-B-626	Brass QQ-B-626	Brass	Brass	Brass QQ-B-626	—	—	—	Brass QQ-B-626 Beryl. Copper QQ-C-530
Center Contact (Jack)	Beryl. Copper ASTM-B-643 QQ-C-530	Beryl. Copper ASTM-B-643 QQ-C-530	Beryl. Copper	Beryl. Copper	Beryl. Copper QQ-C-530	Phos. Bronze QQ-B-750	Beryl. Copper QQ-C-530	Phos. Bronze QQ-B-570 Beryl. Copper QQ-C-530	Phos. Bronze QQ-B-570 Beryl. Copper QQ-C-530
Gasket	Silicon Rubber QQ-R-765	Silicon Rubber QQ-R-765	Silicon Rubber	Silicon Rubber	Silicon Rubber QQ-R-765	—	—	—	Silicon Rubber QQ-R-765
Ferrule	Copper QQ-C-576	Copper QQ-C-576	—	—	Copper QQ-C-576	—	—	—	—
Connector Primary Finishes[2]									
Collar	Silver QQ-S-365 Bright Nickel QQ-N-290	Silver QQ-S-365 Bright Nickel QQ-N-290	Silver/ Bright Nickel	Silver/ Bright Nickel	Bright Nickel QQ-N-290	—	—	—	Silver QQ-S-365 Bright Nickel QQ-N-290
Outer Contacts (Plug & Jack)	QQ-S-365 Gold	Silver QQ-S-365 Bright Nickel QQ-N-290	Silver/ Bright Nickel	Silver/ Bright Nickel	Bright or Matte Nickel QQ-N-290	Bright Nickel QQ-N-290	Bright Nickel QQ-N-290	Bright Nickel QQ-N-290	Silver QQ-S-365 Bright Nickel QQ-N-290
Center Contacts (Plug & Jack)	MIL-G-45204 Silver	Gold MIL-G-45204	Gold	Gold	Tin Lead ASTM-B-545 Silver, QQ-S-365 Gold, MIL-G-45204	Tin Lead ASTM-B-545 Silver, QQ-S-365 Gold, MIL-G-45204	Gold MIL-B-45204	Tin Lead ASTM-B-545 Silver, QQ-S-365 Gold, MIL-G-45204	Silver QQ-S-365 Gold MIL-G-45204
Ferrule[3]	QQ-S-365	Silver QQ-S-365 Tin Lead ASTM-B-545	—	—	Tin Lead ASTM-B-545	—	—	—	—

[1]Several pc board connectors have an outer polyester PBT insulator per MIL-P-24519.
[2]If more than one finish is listed, refer to individual catalog page(s) or customer drawings for exact specification.
[3]Ferrules with tin-lead finish are used with nickel plated outer contacts.

BNC Connectors, 50 Ohm (Continued)

Plugs, for JIS Cables, Crimp

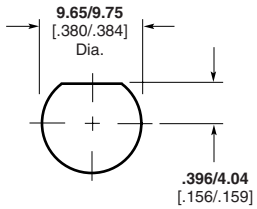
Plating
Body — Nickel
Center Contact — Gold



JIS Cable	Termination Type	Dielectric	Dim. L	Interchangeable Dies for PRO-CRIMPER Hand Tool 354940-1 or PRO-CRIMPER Adapter 679304-1	Part No.
3D-2V	Hex Crimp	Polyethylene	**33.53** 1.320	58436-1	**3-5221128-1**

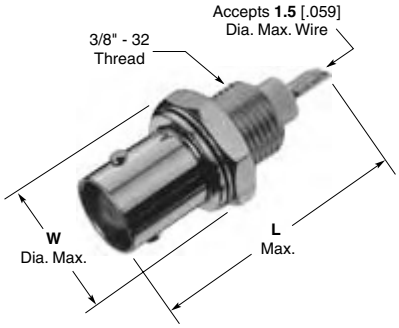
Bulkhead Solder Jacks, Front Mount

Body Plating — Nickel

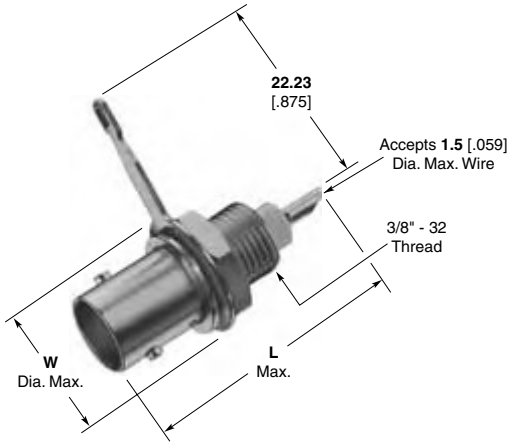


Recommended Panel Cutout

Without Solder Terminal



With Solder Terminal



Contact Material	Dielectric	Dimensions L	Dimensions W	Panel Thickness	Insulating Bushing	Part No. Without Solder Terminal*	Part No. With Solder Terminal**
Silver	VALOX	**26.93** 1.060	**13.09** .515	**1.17-3.18** .046-.125	**227223-1** or **221951-1**	**5227754-3**	**5227755-3**
Gold	VALOX	**33.33** 1.312	**13.09** .515	**1.17-6.35** .046-.250	**227223-1** or **221951-1**	—	**5227169-7**
		26.93 1.060	**13.09** .515	**1.17-3.18** .046-.125	**227223-1** or **221951-1**	**5227754-2**	**5227755-2**
	TEFLON	**33.33** 1.312	**13.09** .515	**1.17-6.35** .046-.250	**227223-1** or **221951-1**	**5227169-4**	**5227169-8**
		26.93 1.060	**13.09** .515	**1.17-3.18** .046-.125	**227223-1** or **221951-1**	**5227715-3**	**5227716-3**
Tin	VALOX	**33.33** 1.312	**13.09** .515	**1.17-6.35** .046-.250	**227223-1** or **221951-1**	—	**5227169-5**
		26.93 1.060	**13.09** .515	**1.17-3.18** .046-.125	**227223-1** or **221951-1**	**5227754-1**	**5227755-1**

*Includes lockwasher and jam nut.
**Includes solder terminal and jam nut.

TEFLON is a trademark of E.I. Dupont de Nemours and Company.
VALOX is a trademark of General Electric Company.

Note: Part Numbers are RoHS compliant except: ♦ Indicates non-RoHS compliant.

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