BOMAR INTERCONNECT PRODUCTS, INC.

Specifications for TNC Connectors

TNC Series connectors are miniature sized, and weatherproof and are electrically similar to BNC Series, except that they have a coupling method which utilizes a screw system giving them additional resistance against shock and vibration. They are especially designed for use from DC to 18 GHz, in vibration exposed equipment like in commercial and military radio telecommunications systems and avionics equipment. These connectors are particularly useful for applications in computer and medical equipment and test instrumentation. TNC Series have a constant impedance of 50 ohms and are available in a variety of cable configurations.

MATERIALS

Connector Parts	Material	Equivalent Standard †
Connector Body and Parts	Brass	ISOCuZn38Pb2 Body Part
Male Contact Pin	Brass	QQ-B-626
Commercial Grade	Zinc Alloy/Brass	------
Outer Contact	Brass	QQ-B-750
Socket Contact	Beryllium Copper	QQ-C-530/MIL-H-7199
Socket Contact	Phosphor Bronze	CuBe2
Crimp Ferrule	Annealed Copper	QQ-C-576
Insulators, Standard Versions	Teflon	L-P403/BS4271
Insulators, Standard Versions	Delrin	Grade B
Rubber Gaskets	Silicone Rubber	ASTM-E1418PSI
Plating	Nickel (Silver Optional)	MIL-G-45204

ELECTRICAL

Requirement	Performance		Test † Specification
Impedance	50 Ω	75Ω	-----
Frequency Range	0-18 GHz	0-1 GHz	-----
VSWR	1.30 Max.		MIL- C-39012
RF Insertion Loss	0.2 dB Max. at 3 GHz		MIL- C-39012
RF Leakage	-60 dB Min. at 3 GHz		MIL- C-39012
Test Voltage (At Sea Level)	1500V rms		MIL-STD-202
Working Voltage (At Sea level)	500V rms		MIL-STD-202
Insulation Resistance	5000 Megohms Min.		MIL-STD-202
Contact Resistance *Center Contact *Outer Contact	 5mW Maximum 2mW Maximum		MIL-C-39012

MECHANICAL & ENVIRONMENTAL

Requirement	Performance	Test † Specification
Durability	500 Insertions & Extractions Min.	MIL-C-39012
Shock	50 G	MIL-STD-202
Vibration	20 G from 80-2000 Hz	MIL-STD-202
Cable Retention (Cable Types)	60 lbs. Minimum Pull Test	MIL-C-39012
Coupling Nut	60 lbs. Maximum	MIL-C-39012
Temperature Range	Teflon: -55 to +199 C Delrin: -40 to +85 C	--------
Moisture Resistance	Continuous Test	MIL-STD-202

Salt Spray	48 Hours	MIL-STD-202

†Products are made to conform to the Mil standard but are for commercial applications and not QPL

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3 Piece Crimp

TNC three piece crimp connectors feature the same semi-captive contacts as the BNC which “click” into place assuring perfect installation. Each crimp pin has a vent hole for optional soldering. Soldering is recommended for all stranded conductors 26 AWG or smaller.

Part Number	RoHS	RG/U Cable	Fig. No.
510A205F	☑	58A/U, 58C/U, Stranded, 141/U	57
510A204G	☑	59/U, 62/U, 210/U	57
510A204FV	☑	58A/U, 58C/U, 141/U Plenum	58

☑ RoHS compliant REQUEST QUOTE REQUEST DRAWING

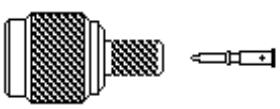

Fig. 57

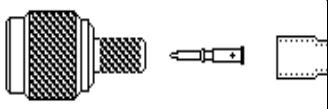

Fig. 58

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Standard Clamp and Taper Grip

TNC standard clamp style is a simplified version of the original military style. It is required that the contact be soldered to the center conductor of the cable. The Taper Grip style connectors require little cable preparation. Strip off all but a length of center conductor, push the taper under the cable’s shield, solder the contact, and assemble.

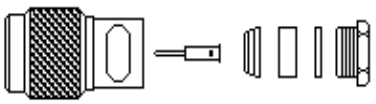

Fig. 51

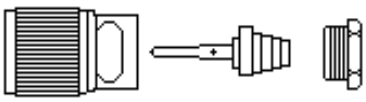

Fig.50

Part Number	RoHS	RG/U Cable
510A104F	☑	58A/U, 58C/U, Stranded, 141/U
510A104G	☑	59/U, 62/U, 210/U
510A304F	☑	58A/U, 58C/U, Stranded, 141/U
510A304G	☑	59/U, 62/U, 210/U

☑ RoHS compliant REQUEST QUOTE REQUES DRAWING

Twist-On

TNC Twist-On connectors are field installable and require no tooling other than a stripping tool for the cable preparation. The center conductor is inserted into Bomar’s unique Posi-Con™ contact, as the connector twists firmly onto the cable’s outer jacket.

Part Number	RoHS	Gender	RG/U Cable	Fig. No.

510A405F	☑	Male	58A/U, 58C/U, Stranded, 141/U	53
510A405G	☑	Male	59/U, 62/U, 210/U	53
520A405F	☑	Female	58A/U, 58C/U, Stranded, 141/U	52
520A405G	☑	Female	59/U, 62/U, 210/U	52

☑ RoHS compliant REQUEST QUOTE REQUEST DRAWING

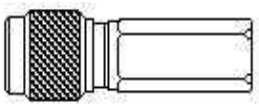

Fig. 53

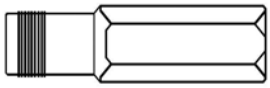

Fig. 52

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Bulkhead Jacks

Versions are available for front mounting (F/M), rear mounting (R/M) , crimp types, bulkhead mount grounded, or bulkhead mount isolated. These jacks are held into the panel by a hex-nut and lock washer. All units feature nickel plated, brass bodies, and gold plated phosphor bronze contacts.

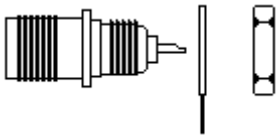

Fig. 54

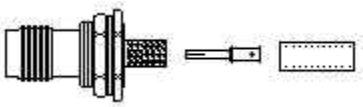

Fig. 56

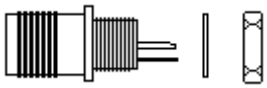

Fig. 55

Part Number	RoHS	RG/U Cable	Fig. No.
521A245F	☑	58A/U, 58C/U, Stranded, 141/U	56
521A245G	☑	RG59/U, RG62/U, RG210	56
526A515	☑	Any Cable Size Non Isolated	54
526R515	☑	Any Cable Size Isolated	55

☑ RoHS compliant REQUEST QUOTE REQUEST DRAWING

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TNC Connectors

Adapters

These sturdy within-series TNC adapters are available in all standard designs. All connector bodies are plated with bright

nickel. Male contacts are brass, female contacts are phosphor bronze. All contacts are plated with 5 micro-inches of gold.

Part Number	RoHS	Description	Fig. No.
532A505	☑	Female/Female Inline Splice	60
535A544	☑	Female/Female Bulkhead Inline	61
535R544	☑	Female/Female Bulkhead Inline, Isolated	61
543A505	☑	Female/Male/Female “T” Adapter	62
545A505	☑	Female/Female/Female “T” Adapter	63
551A505	☑	Female/Male Right Angle"	64

☑ RoHS compliant REQUEST QUOTE REQUEST DRAWING

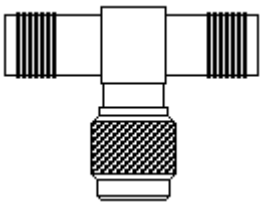

Fig. 62

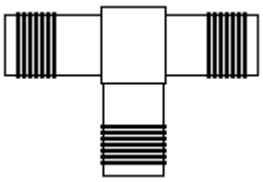

Fig. 63

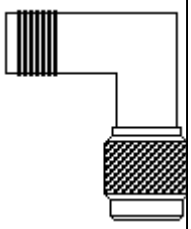

Fig. 64

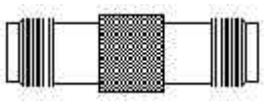

Fig. 60

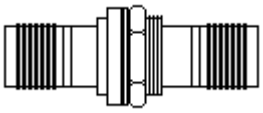

Fig. 61

PC Board Jacks

These TNC jacks are manufactured to the highest standards to assure stability in maintaining impedance matching at rated frequencies. Applications are in cellular communications, broadcast, and computer data. Contacts are phosphor bronze and will remain resilient even after 500 insertions.

Part Number	RoHS	Body Material	Description	Contact Plating	Fig. No.
561V504E	☑	Metal	**V-Bite** W/ Teflon Reflow Solder	Gold	***
564A595	✓	White Valox	Standard Profile W/ Posts	Gold	66
564A595B	✓	BlackValox	Standard Profile W/ Posts	Gold	67
564A595BL	✓	White Valox	Low Profile W/ Posts	Gold	68
564A595BLB	✓	BlackValox	Low Profile W/ Posts	Gold	69
564A595M	✓	Metal	Standard Profile W/ Posts	Gold	70
564S595	✓	White Valox	Vertical Mounting	Gold	71
564S595B	✓	BlackValox	Vertical Mounting	Gold	72
564S595M	✓	Metal	Vertical Mounting	Gold	73

☑ RoHS compliant reflow or wave solder ✓ RoHS compliant wave solder only

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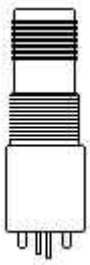

Fig. 71

Fig. 72

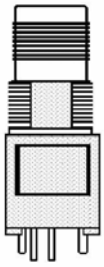

Fig. 73

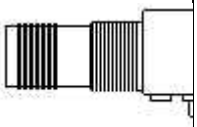

Fig. 66

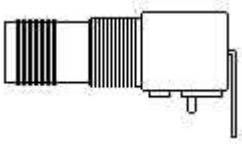

Fig. 68

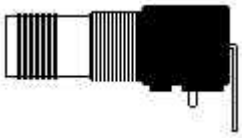

Fig. 69

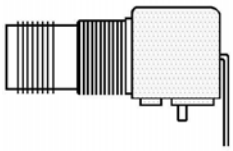

Fig. 70