Quick Reference Guide
KOAXXA SMA RF Interconnects

TE Connectivity introduces its next generation of RF products with KOAXXA RF interconnects. This product family premiers with the KOAXXA SMA product line that is designed to provide flexibility and value.

KEY FEATURES

- Fully compatible with IEC-169-15 standards
- Designed for 0-18 GHz performance
- Ability to mass customize products
- Global manufacturing footprints
- Large-scale manufacturing techniques
- 500 cycle mating durability

OBSOLETE

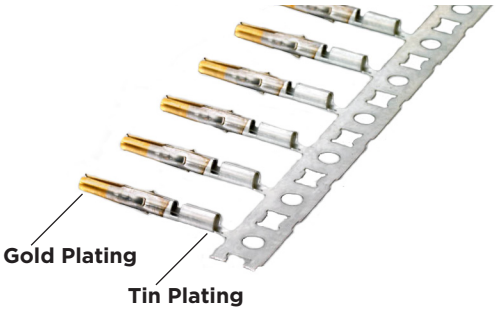
Benefits

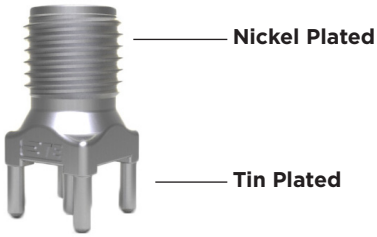
The new SMA connectors are redeveloped as an extendable product platform for large-scale manufacturing and assembly automation, delivering many advantages to the customer:

- Utilizes TE's core competencies in manufacturing such as plating, stamping, molding and assembly to lower manufacturing cost
- Modular platform designed to allow for the use of common components across product types
- Selective innovative plating of precious resources only where needed without degradation of performance
- Inter-mateable with all SMA standard interface products

Innovative plating features provide a cost effective, attractive, easy to use product:

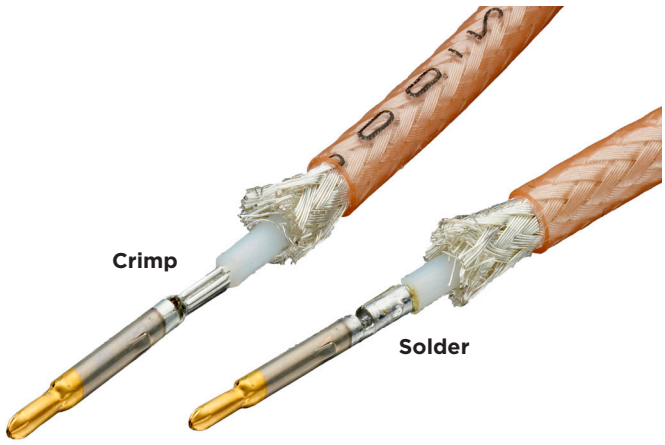
- Selective Tin plating only in solder regions allows for easy soldering
- Selective Gold plating puts gold only where it is needed
- Bright Nickel plating provides a robust attractive surface finish

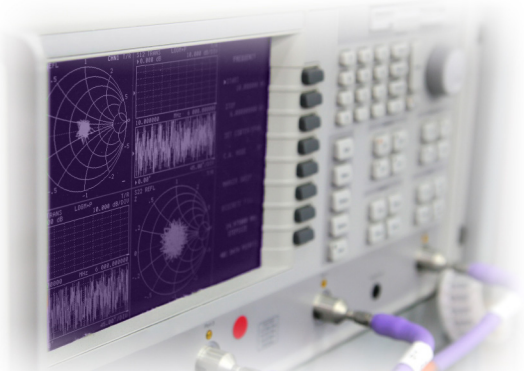




Reduced utilization of precious and non-precious materials though selective plating, stamping and die casting helps decrease exposure to future material inflation.

Center contacts are stamped to provide the right performance and enable the use of selective plating, and can be soldered for best performance, or crimped using a hand applicator.





KOAXXA SMA Applications:

- Test and measurement equipment
- Transmission equipment
- Base station and sub system components
- Smart grid meters
- Antennas
- Broadband communication equipment
- Routers
- Industrial solutions
- Mobile radio handsets
- Commercialized applications in Mil/Aero

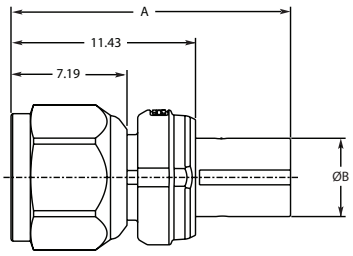
Product Options (All dimensions shown are REF)

Straight Cable Plug

STRAIGHT CABLE PLUG

Part Number	Terminates To	Dimensions (mm)	
		A	B
SMA-PS-1A-(X)	RG 402 Semi-Rigid, RG 402 Conformable	17.32	4.85
SMA-PS-1B-(X)	RD316, K02252D	24.98	4.55
SMA-PS-1C-(X)	RG 405 Semi-Rigid, RG 405 Conformable	18.12	3.35
SMA-PS-1D-(X)	RG 178, RG 196	24.98	3.86
SMA-PS-1F-(X)	RG 174, RG 188, RG 316	24.58	3.86
SMA-PS-1G-(X)	RG 58, RG 141, RG 142	22.63	6.22

(X) - (S) Single Pack/ (B) Bulk Pack in qty 50

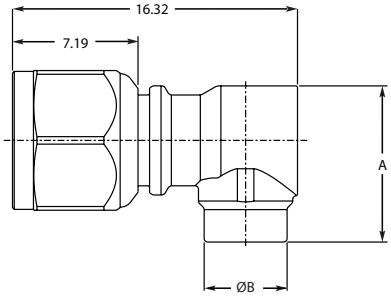


Right Angle Cable Plug

RIGHT ANGLE CABLE PLUG

Part Number	Terminates To	Dimensions (mm)	
		A	B
SMA-PR-1A-(X)	RG 402 Semi-Rigid, RG 402 Conformable	8.94	4.85
SMA-PR-1B-(X)	RD316, K02252D	16.23	4.55
SMA-PR-1C-(X)	RG 405 Semi-Rigid, RG 405 Conformable	8.94	3.35
SMA-PR-1D-(X)	RG 178, RG 196	16.23	3.86
SMA-PR-1F-(X)	RG 174, RG 188, RG 316	16.23	3.86
SMA-PR-1G-(X)	RG 58, RG 141, RG 142	18.43	6.22

(X) - (S) Single Pack/ (B) Bulk Pack in qty 50

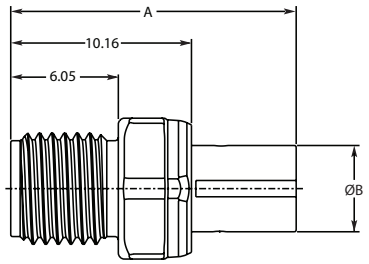


Straight Cable Jack

STRAIGHT CABLE JACK

Part Number	Terminates To	Dimensions (mm)	
		A	B
SMA-JS-1A-(X)	RG 402 Semi-Rigid, RG 402 Conformable	16.05	4.85
SMA-JS-1B-(X)	RD316, K02252D	23.71	4.55
SMA-JS-1C-(X)	RG 405 Semi-Rigid, RG 405 Conformable	16.85	3.35
SMA-JS-1D-(X)	RG 178, RG 196	23.71	3.86
SMA-JS-1F-(X)	RG 174, RG 188, RG 316	23.71	3.86
SMA-JS-1G-(X)	RG 58, RG 141, RG 142	21.46	6.22

(X) - (S) Single Pack/ (B) Bulk Pack in qty 50

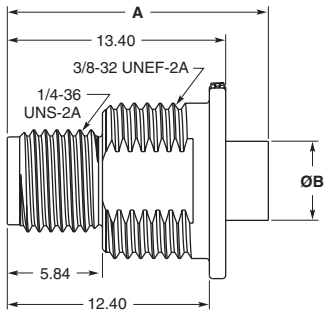


Bulkhead Cable Jack

BULKHEAD CABLE JACK

Part Number	Terminates To	Dimensions (mm)	
		A	B
SMA-JB-1A-(X)	RG 402 Semi-Rigid, RG 402 Conformable	16.05	4.85
SMA-JB-1B-(X)	RD316, K02252D	23.71	4.55
SMA-JB-1C-(X)	RG 405 Semi-Rigid, RG 405 Conformable	16.85	3.35
SMA-JB-1D-(X)	RG 178, RG 196	23.71	3.86
SMA-JB-1F-(X)	RG 174, RG 188, RG 316	23.71	3.86
SMA-JB-1G-(X)	RG 58, RG 141, RG 142	21.46	6.22

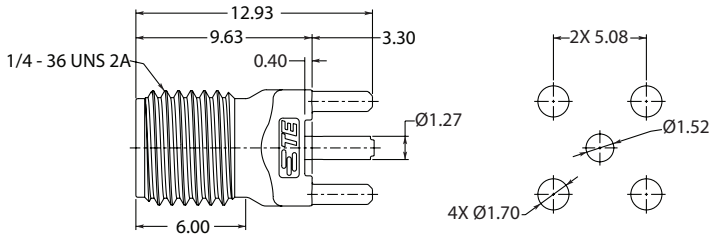
(X) - (S) Single Pack/ (B) Bulk Pack in qty 50



Vertical/Straight Board Mount Jack

VERTICAL/STRAIGHT BOARD MOUNT JACK	
Part Number	**Terminates To**
SMA-JS-P2-(X)	PCB thickness 3.175 mm (.125 in.) max.

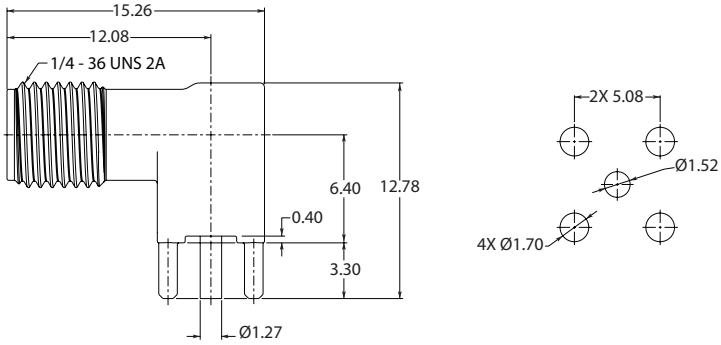
(X) - (S) Single Pack/ (T) Tray Pack in qty 50



Right Angle Board Mount Jack

RIGHT ANGLE BOARD MOUNT JACK	
Part Number	**Terminates To**
SMA-JR-P2-(X)	PCB thickness 3.175 mm (.125 in.) max.

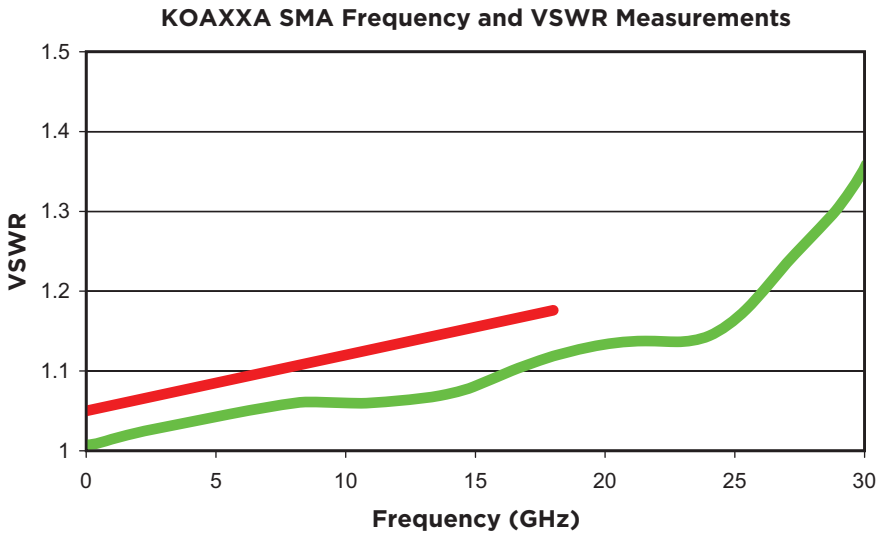
(X) - (S) Single Pack/ (T) Tray Pack in qty 50



APPLICATION TOOLING INFORMATION

Cable Group	Cable Description	Termination Type			
		Crimp		Solder	
		Center Contact	Outer Braid	Center Contact	Outer Braid
		Tooling PN 2161864-1	Tooling PN 2161732-1	Tooling PN 2161890-1	
1A	RG402 Semi Rigid, RG402 Conformable	No	No	Yes	Yes
1B	RD316 (Double Braid), K02252D	Yes	Yes	Optional	No
1C	RG405 Semi Rigid, RG405 Conformable	No	No	Yes	Yes
1D	RG178, RG196	No	Yes	Yes	No
1F	RG174, RG188, RG316	Yes	Yes	Optional	No
1G	RG58, RG141, RG142	Yes	Yes	Optional	No

Technology Corner



DESCRIPTION

The Voltage Standing Wave Ratio is a unit-less measure of the maximum voltage of a standing wave in the transmission line. Standing waves result from the mismatched complex impedances between the connector and the cable, causing reflections that sum with the input signal.

KOAXXA SMA Product Specifications

The KOAXXA SMA product family is qualified per TE Connectivity Product Specification 108-60094.

ELECTRICAL

Low Level Contact Resistance — 15 mOhm delta per EIA-364-23

Insulation Resistance — 5000 Mohms per EIA-364-21

Withstanding Voltage — 750 VAC (flex cable); 1000 VAC (SR cable)

Voltage Standing Wave Ratio — 1.05+.007*f(GHz) up to 18 GHz (SR cable)

MECHANICAL

Sinusoidal Vibration — 20 G's, 10 to 2000 Hz per EIA-364-28, Cond IV

Mechanical Shock — 100 G's per EIA-364-27, Cond G

Mating Torque — 0.45 N-m [4 in-lb] per EIA-364-13, Method A

Durability — 500 cycles minimum per EIA-364-9

ENVIRONMENTAL

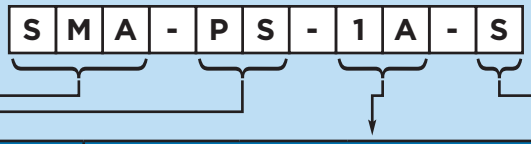
Thermal Shock — 5 cycles from -55 to +85°C per EIA-364-32C

Humidity-Temperature Cycling — 10 cycles from 25 to 65 c at 95% RH per EIA-364-31B, Cond III

Temperature Life — 85°C for 1000 hours per EIA-364-17B

Mixed Flowing Gas — 14 days mated exposure to Class IIA per EIA-364-65A

KOAXXA RF Interconnects Configurable Part Number System[1]



RF Connector Type		Gender/Style and Body Type (2 Characters)		Terminates To (2 Characters)[2]			Package Method (1 Character)	
Series	Character Code	Gender/Style (1st Character)		2 Character Code	Impedance	Terminates To	Character Code	Description
SMA	SMA	Gender/Style	1 Character Code	1A	50	RG402 Semi Rigid, RG402 Conformable	S	Single pack kit/ Loose piece
		Plug	P	1B	50	RD316 (Double Braid), K02252D	B	Bulk package kit
		Jack	J	1C	50	RG405 Semi Rigid, RG405 Conformable	T	Tray
				1D	50	RG178, RG196		
		Type	1 Character Code	1F	50	RG174, RG188, RG316		
		Straight/Vertical	S	1G	50	RG58, RG141, RG142		
		Right Angle	R	P2	50	PCB Through Hole		
		Bulk Head	B					

1. The standard part number configuration is shown. TE Connectivity offers other product configurations that may not be shown. Contact your sales representative or visit TE.com for more information.
2. Only the most common termination groups are shown. TE Connectivity offers other termination groups, please contact your sales representative or visit TE.com for more information

FOR MORE INFORMATION

TE Technical Support Center

USA:	+1 (800) 522-6752
Canada:	+1 (905) 475-6222
Mexico	+52 (0) 55-1106-0800
Latin/S. America:	+54 (0) 11-4733-2200
Germany:	+49 (0) 6251-133-1999
UK:	+44 (0) 800-267666
France:	+33 (0) 1-3420-8686
Netherlands:	+31 (0) 73-6246-999
China:	+86 (0) 400-820-6015

Part numbers in this brochure are RoHS Compliant*, unless marked otherwise.
*as defined www.te.com/leadfree

For information on the complete TE RF interconnects portfolio, including KOAXXA interconnects, visit www.TE.com/products/RF-interconnects

te.com

© 2013 Tyco Electronics Corporation, a TE Connectivity Ltd. company. All Rights Reserved.

4-1773463-2 DTC PDF 2/2013

KOAXXA, TE Connectivity and the TE connectivity (logo) are trademarks. Other logos, product and company names mentioned herein may be trademarks of their respective owners.
IEC is a trademark of the International Electrotechnical Commission.

While TE has made every reasonable effort to ensure the accuracy of the information in this brochure, TE does not guarantee that it is error-free, nor does TE make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. TE reserves the right to make any adjustments to the information contained herein at any time without notice. TE expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this brochure are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult TE for the latest dimensions and design specifications.