MAX-GAIN SYSTEMS, INC.

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SMA female Crimp On for RG-174, RG-188, RG-188A/U, RG-316, RG-316/U Double Shield, LMR-100A, Belden 7805R, Belden 8216, Belden 83269, Belden 83284, Belden 84316, and other 0.100 Inch OD Coaxial cable

Technical Data Sheet

This SMA Female Crimp Connector is one of several thousand RF products available from Max-Gain Systems, Inc. This connector has a crimp on interface with the coax selected.

This connector is made from a Solid Brass body that is precision machined and plated with Gold for superior performance and value. This SMA female Crimp Connector has a PTFE dielectric and a gold plated brass center pin. The SMA female interface's jack and exterior threads provide a sub-miniature and tight-locking connection for use at higher frequencies. This RF connector fits (but not limited to) RG-174, RG-188, RG-188A/U, RG-316, RG-316/U Double Shield, LMR-100A, Belden 7805R, Belden 8216, Belden 83269, Belden 83284, Belden 84316, and other 0.100 Inch OD Coaxial cable.

Material Specifications

SMA female Crimp Connector for 0.100 Inch OD Coax **Part Number 7806-SMA-174**

Description	Material	Plating
Ferrule	**Brass**	**Gold**
Pin	**Phosphor Bronze**	**Gold**
Insulator	**PTFE**	**White**
Body	**Brass**	**Gold**

Electrical Specifications

Criteria	Dimension
Impedance (Nominal)	**50 Ohms**
Frequency Range	**DC to 18 GHz**
Working Voltage	**335**

Mechanical Specifications

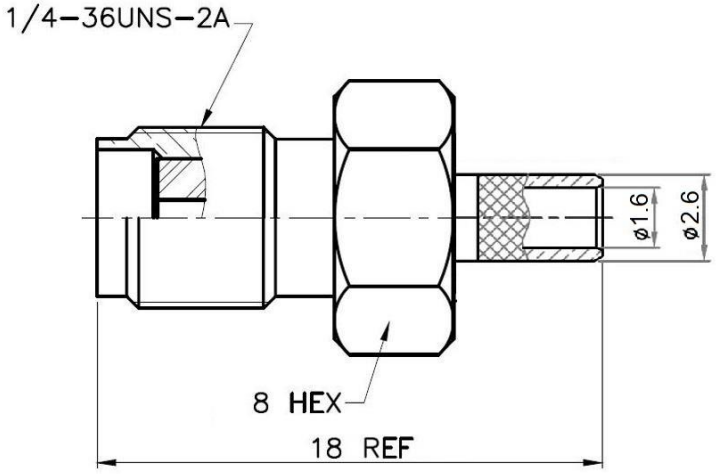
Size	Dimension
Length	**0.71 in (18 mm)**
Width	**0.32 in (8 mm)**
Height	**0.32 in (8 mm)**
Weight	**0.05 oz (1 g)**

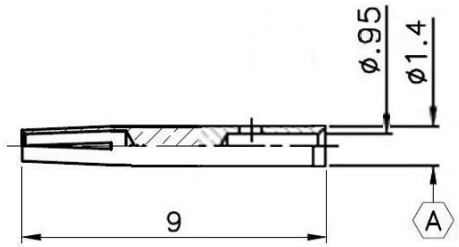
Environmental Specifications

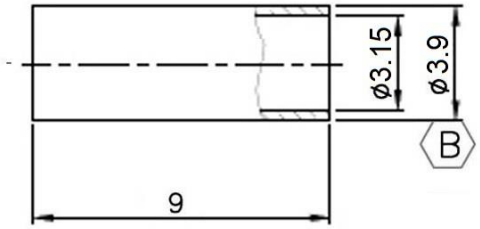
Temperature	Spec
Operating Range	**-65 to +165 deg C**

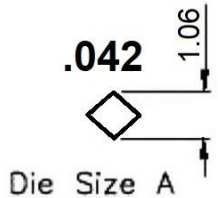
Compliance Certifications (see product page for current documentation)

Availability Click the following link (or enter part number in the “SEARCH” bar at the top of any page of the website) to obtain additional part information including price, inventory and certifications: https://mgs4u.com/product/sma-female-crimp-connector-for-0-100-inch-od-coax-7806-sma-174/

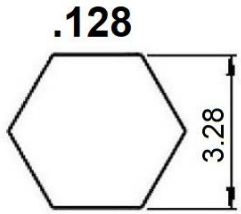




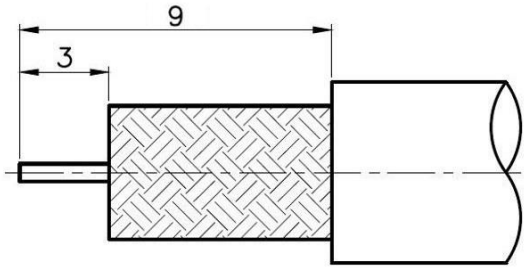




Die Size A



Die Size B



RECOMMENDED
CABLE STRIPPING DIM'S

NO.	DESCRIPTION	MATERIAL	FINISH	QTY
	FERRULE	BRASS	GOLD	1
	PIN	PHOSPHOR BRONZE	GOLD	1
	INSULATOR	TEFLON	WHITE	1
	BODY	BRASS	GOLD	1

UNLESS OTHERWISE SPECIFIED TOLERANCES
0.5–5 = ±0.2
5–30 = ±0.4
30–120 = ±0.6
120–315 = ±1
315–1000 = ±1.6
1000–2000 = ±2.4

UNIT: mm

SCALE: .

PART NO DATE

APPROVED DATE

CHECKED DATE

DRAWN DATE

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TITLE: SMA female Crimp Connector for RG-174, RG-316, and LMR-100A Coax

DRAWING NO: 7806-SMA-174

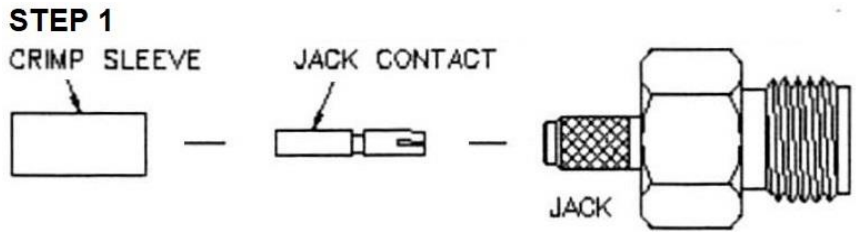
CAGE CODE: 7JZZ8

Installation Guide

We will begin by installing the SMA crimp-on connector on a piece of coax. This process is the same for all the types of coaxial cable that fit this BNC crimp-on connector. These connectors fit on a wide range of coax types, including: RG-174, RG-188, RG-188A/U, RG-316, RG-316/U Double Shield, LMR-100A, Belden 7805R, Belden 8216, Belden 83269, Belden 83284, Belden 84316, and other 0.100 Inch OD Coaxial cable.

Identify all connector parts (3 Parts):

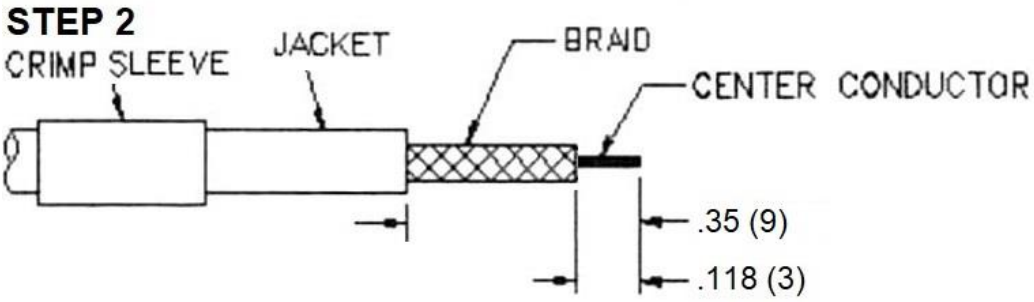
Each connector consists of one body assembly (jack), one rear ferrule (crimp sleeve), and one center pin (jack contact).



Coax Stripping:

First cut your coaxial cable to the desired length and then strip the black jacket back approximately 9mm (0.35”). When the jacket is stripped back the dielectric 3mm (0.118”) from the fresh end down to the center conductor. The braid needs to be looked at to ensure it is cut back further than the dielectric to insure that none of the braid or foil is touching the center conductor which could cause a short.

Once the cable is prepped, make sure to put the ferrule (crimp sleeve) of the connector on the coaxial cable before you proceed.



Crimping and Soldering Install:

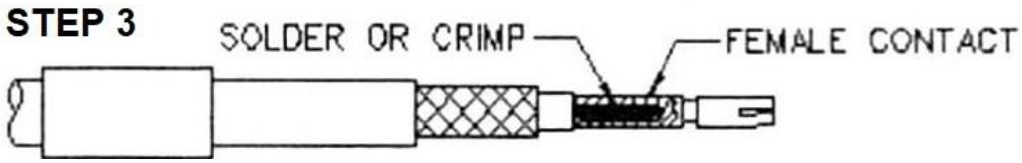
Place the center pin onto the conductor of the coaxial cable.

Soldering Guide (preferred):

This soldering guide is for soldering Max-Gain Systems, Inc. SMA crimp-on connectors. These are approximate measurements for our SMA crimp-on connectors, which adhere to industry standards for this type connector. If you choose to use this guide for connectors sold by others who do NOT adhere to these standards, the measurements could be off and result in a poor installation.

Now we begin soldering the center pin onto the center conductor of the coax. Begin by applying heat to the center pin of the SMA connector with your soldering iron. Before proceeding, allow sufficient time for the soldering iron tip to reach full operating temperature and clean the tip of the iron by wiping it with a damp sponge. Place the soldering iron UNDER the center pin and, with the solder hole of the center pin facing up, apply the solder into the hole. The heat rises and heats up the pin faster. When the pin is heated the solder will start to flow into the pin. Allow sufficient solder to flow into the center pin to make a good connection, but not too much that it begins to leak out and potential start to melt the dielectric of the coax.

Crimping Guide:

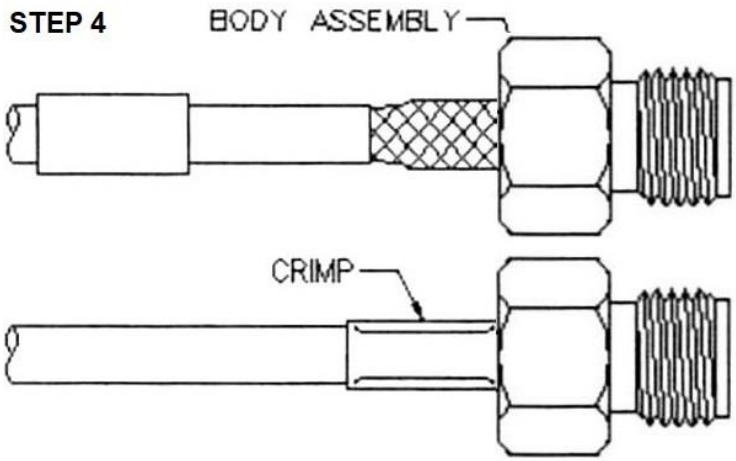


The center pin is crimpable by using the 0.042” hex die from your 7505-DIE-174 ratcheting crimper die to crimp the smaller tapered portion of the center pin. This crimp die is available by itself or as a kit with a ratcheting crimp handle.

DIE Only	Die and Tool Kit
P/N: 7505-DIE-174	P/N: 7505-HANDLE-174
	

Crimping The Ferrule:

Slide the ferrule (placed on the coax at the beginning of Step 2) over the braid and completely up against the connector body. Using the 0.213” hex die from the 7505-DIE-174 installed into the 7505-HANDLE ratcheting crimp handle, crimp the ferrule at the location shown in the picture below (on the ferrule, but right up against the main body of the connector).



Final Testing:

When this is completed, as a final test, you should always check resistance from the center pin to the body with an ohmmeter in a low resistance scale. After verifying that there are no braid – to – center pin shorts on the other end of the coaxial cable, you should see infinite resistance (open). This completes your SMA female crimp-on connector installation, and the connector is ready for use!