

product details

← back



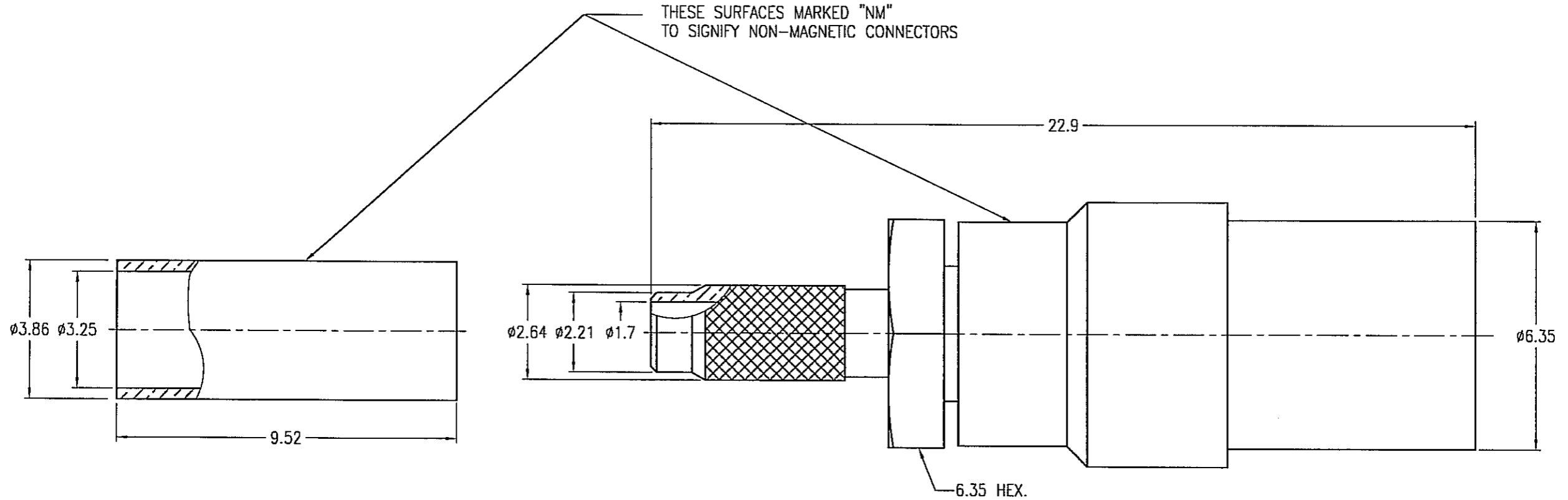
Please note: Images are for reference only

Amphenol Part Number:	903-NM285P-51S
Description:	Non-Magnetic Straight Plug for RG-316
Product Series:	SMB
Product Type:	Connectors » Cable
Body Plating:	White Bronze
Connector Body Style:	Straight
Contact Plating:	Gold
Gender:	Plug
Impedance:	50 Ohm
Non Magnetic:	Yes
RoHS Compliant:	Yes

NOTES:

1. MATERIALS AND FINISHES (PLATING THICKNESS IN MICRO-INCHES):
 BODY - BERYLLIUM COPPER, WHITE BRONZE PLATING (COPPER-TIN-ZINC)
 CONTACT - BERYLLIUM COPPER, GOLD PLATING
 INSULATOR - PTFE
2. ELECTRICAL:
 A. IMPEDANCE: 50 OHM
 B. FREQUENCY RANGE: DC 0-4 GHz
 C. VSWR (RETURN LOSS): 1.3 MAX.
 D. DIELECTRIC WITHSTANDING VOLTAGE: 1000 VRMS, MIN.
3. MECHANICAL:
 A. DURABILITY: 500 CYCLES MIN.
 B. TEMPERATURE RANGE: - 40°C to +155°C
4. OTHER
 A. CRIMPED FERRULE: HEX CRIMP SIZE .128"
 B. SOLDER CONTACT CONDUCTOR

903-NM285P-51S		REVISIONS			
PART NO.	REV	DESCRIPTION	DATE	ECO	APPR
THIRD ANGLE PROJ.	A	RELEASE TO MFG.	8/8/06	46108	CISSY



CUSTOMER OUTLINE DRAWING
ALL OTHER SHEETS ARE FOR INTERNAL USE ONLY

UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN METRIC AND TOLERANCES ARE:
 0.5 - 6mm ±0.1mm 6 - 30mm ±0.2mm 30 - 120mm ± 0.3mm ANGLES ±1°

NOTICE - These drawings, specifications, or other data (1) are, and remain the property of Amphenol Corp. (2) must be returned upon request; and (3) are confidential and not to be disclosed to any person other than those to whom they are given by Amphenol Corp. The furnishing of these drawings, specifications, or other data by Amphenol Corp., or to any other person to anyone for any purpose is not to be regarded by implication or otherwise in any manner licensing, granting rights or permitting such holder or any other person to manufacture, use or sell any product, process or design, patented or otherwise, that may in any way be related to or disclosed by said drawings, specifications, or other data.

MATERIAL	DRAWN CISSY	DATE 29-Jul-06	TITLE SMB 50 OHM PLUG, CRIMP FOR RG-174, RG-188,316/U NON MAGNETIC		Amphenol RF Danbury CT USA, Tainan Taiwan, Shenzhen China www.amphenolrf.com	
REFERENCE 903-285P-51S	ENGINEER Geffery	DATE 29-Jul-06	APPROVED <i>B. Geffery</i> 8-8-06		DRAWING NO.	
FINISH	CAD FILE F:\DWG\CNPD\903\NM285P\51SSZ	SCALE: 6/1	SHEET 1 OF 1	ITEM NO.		PART NO. 903-NM285P-51S
		DWG SIZE B	CODE ID 74868	REV A		

Description

The SMB name derives from SubMiniature B (the second subminiature design). The SMB was developed in the 1960's.

SMB is a smaller version of the SMA with snap-on coupling.

Amphenol's SMB connectors conform to the requirements of MIL-C-39012 and their interface is in compliance with MIL-STD-348.

Available in 50 & 75 ohm impedance

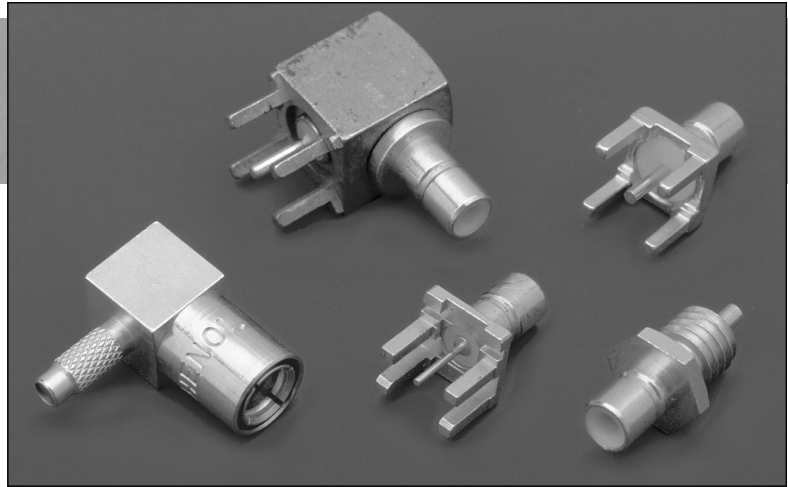
SMB provides broadband capability through 4 GHz with a snap-on connector design and utilizes die cast components on non-critical areas to provide a low cost solution.

Features and Benefits

- Broadband performance with low reflection DC to 4 GHz provides low cost connector combined with high quality.
- Quick connect/disconnect snap-on mating reduces installation time.
- Availability in 50 Ohm, 75 Ohm & High Density 75 Ohm ensures customer a solution to specific applications.
- Various plating options: Nickel, Gold, Tin Lead. Also selective plating provides corrosion resistance finish as well as good solderability characteristics.
- SMB PCB slide-on plug and jack allows board to board mounting with a low insertion force. Ideal for mating a high number of connectors on a pair of PCBs.

Application

- Antennas
- Automotive (GPS)
- Base Stations
- Cable Assemblies
- Components
- Instrumentation
- PC/LAN
- Process Controls
- Radio Boards
- Surge Protection
- Telecom
- Test and Measurement
- Video Systems



50 ohm Coaxial Connectors

Specifications	36
Plugs	37
Jacks	38
Bulkhead Receptacles	39-40
PCB Receptacles	41-43

75 ohm Coaxial Connectors

Specifications	44
Plugs, Jacks	45
Receptacles, PCB	46

75 ohm High Density Coaxial Connectors

Specifications	47
Plugs	48
PCB Receptacles	49

ELECTRICAL

Impedance	50 ohms
Frequency range	0-4 GHz with low reflection; usable to 10.0 GHz.
Voltage rating for RG-188/U cables	Sea level: 335 volts 70,000 ft: 85 volts
Dielectric withstanding voltage	750 VRMS RG-196 type 1000 VRMS for RG-188 type
VSWR straight connectors rt. angle connectors	RG-196/U series 1.30 + .04 f (GHz) 1.45 + .06 f (GHz)
	RG-188/U series 1.25 + .04 f (GHz) 1.35 + .04 f (GHz)
Contact resistance	Center contact: initial, 6.0 milliohms; After environmental, 8.0 Outer contact: initial, 1.0 milliohms; After environmental, 1.5 Braid to body: initial, 1.0 milliohms; After environmental, N/A
Insulation resistance	1000 megohms min.
RF leakage	-55 dB min. @ 2 - 3 GHz
Insertion loss: straight connectors rt. angle connectors	0.30 dB @ 1.5 GHz
	0.60 dB @ 1.5 GHz

MECHANICAL

Mating	50 ohm snap-on coupling, per MIL-STD-348
Engagement forces	Initial 14 lbs. max. engagement. After 500 matings, 14 lbs. max engagement and disengagement. 2 lbs. min. disengagement.
Connector affixment to cable	Braid and jacket: hex crimp.
Cable affixment to center contact	Solder
Contact captivation	All types, except as noted
Cable retention	Equal to breaking strength of cable employed
Connector durability	500 mating and unmating cycles min.

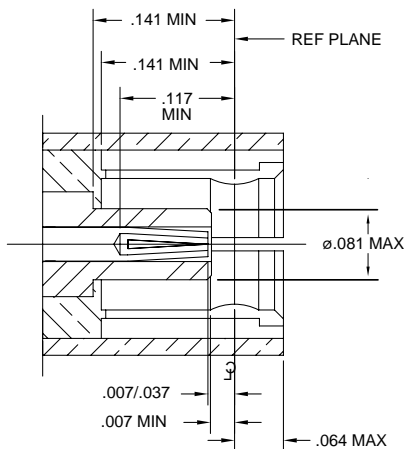
ENVIRONMENTAL

Temperature range	-65°C to + 165°C
Thermal shock	MIL-STD-202 method 107 (test cond. B) except high temp test @ + 200°C
Vibration	MIL-STD-202 method 204, snap-on (test cond. B) (15G's)
Shock	MIL-STD-202 method 213, snap-on (test cond. B) 75 G's @ 6 milliseconds 1/2 sine.
Corrosion	MIL-STD-202 method 101 (test cond. B) 5% salt solution.

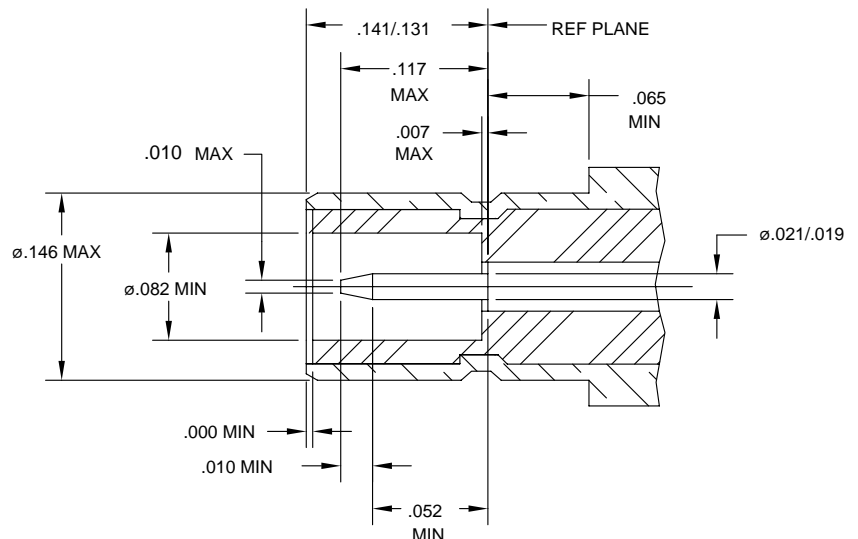
MATERIAL

Bodies	Brass per QOB-626 or zinc per ASTM B86-71, as specified, nickel (or gold) plated as listed
Center contacts	Female: beryllium copper, gold plated Male: brass or beryllium copper, gold plated
Outer contact	Nickel or gold plated as listed.
Crimp ferrules	Annealed copper alloy
Insulators	TFE

PLUG



JACK



SMB 50 ohm Coaxial Connectors

<p>Fig. 1</p>	<p>Fig. 1</p>	<p>Fig. 2</p>	<p>Fig. 2</p>																																																					
<p>Fig. 1A</p>	<p>Fig. 1A</p>	<p>50Ω SMB Angle Plugs - Braid Crimp/Solder Female Contact</p> <table border="1"> <tr> <td rowspan="4">RG-174 179, 187, 188, 316</td> <td>903-289P-51A</td> <td>Gold Plated</td> </tr> <tr> <td>903-289P-51A2▲*</td> <td>Gold Plated</td> </tr> <tr> <td>903-367P-51A</td> <td>Nickel Plated</td> </tr> <tr> <td>903-367P-51A1</td> <td>Nickel Plt. Body, Gold Plt Outer Cont.</td> </tr> <tr> <td rowspan="3">RG-178, 196</td> <td>903-291P-51A</td> <td>Gold Plated</td> </tr> <tr> <td>903-291P-51A1▲*</td> <td>Gold Plated</td> </tr> <tr> <td>903-368P-51A</td> <td>Nickel Plated</td> </tr> <tr> <td rowspan="2">Dbl. Br. RG-316</td> <td>903-368P-51A1▲*</td> <td>Nickel Plated</td> </tr> <tr> <td>903-369P-51A</td> <td>Nickel Plated</td> </tr> <tr> <td rowspan="4"> <p>50Ω SMB Plugs - Braid Crimp/Solder Female Contact</p> RG-174,179, 187,188, 316 </td> <td>903-285P-51S</td> <td>Gold Plated</td> </tr> <tr> <td>903-508P-51S●</td> <td>Gold Plated</td> </tr> <tr> <td>903-370P-51S▲</td> <td>Nickel Plated</td> </tr> <tr> <td>903-577P-51S1*</td> <td>Nickel Plated</td> </tr> <tr> <td rowspan="4">RG-178,196</td> <td>903-577P-51S*</td> <td>Gold Plated</td> </tr> <tr> <td>903-287P-51S</td> <td>Gold Plated</td> </tr> <tr> <td>903-509P-51S●</td> <td>Gold Plated</td> </tr> <tr> <td>903-371P-51S▲</td> <td>Nickel Plated</td> </tr> <tr> <td rowspan="3">Dbl. Br. RG-316</td> <td>903-578P-51S*</td> <td>Gold Plated</td> </tr> <tr> <td>903-578P-51S1*</td> <td>Nickel Plated</td> </tr> <tr> <td>903-401P-51S</td> <td>Gold Plated</td> </tr> <tr> <td rowspan="3"> <p>50Ω SMB Low Profile Angle Plugs, Braid Crimp/Solder Female Contact</p> RG-174,179, 187,188, 316 </td> <td>903-579P-51S*</td> <td>Gold Plated</td> </tr> <tr> <td>903-579P-51S1*</td> <td>Nickel Plated</td> </tr> <tr> <td>903-429P-51A</td> <td>Gold Plated</td> </tr> </table>		RG-174 179, 187, 188, 316	903-289P-51A	Gold Plated	903-289P-51A2▲*	Gold Plated	903-367P-51A	Nickel Plated	903-367P-51A1	Nickel Plt. Body, Gold Plt Outer Cont.	RG-178, 196	903-291P-51A	Gold Plated	903-291P-51A1▲*	Gold Plated	903-368P-51A	Nickel Plated	Dbl. Br. RG-316	903-368P-51A1▲*	Nickel Plated	903-369P-51A	Nickel Plated	<p>50Ω SMB Plugs - Braid Crimp/Solder Female Contact</p> RG-174,179, 187,188, 316	903-285P-51S	Gold Plated	903-508P-51S●	Gold Plated	903-370P-51S▲	Nickel Plated	903-577P-51S1*	Nickel Plated	RG-178,196	903-577P-51S*	Gold Plated	903-287P-51S	Gold Plated	903-509P-51S●	Gold Plated	903-371P-51S▲	Nickel Plated	Dbl. Br. RG-316	903-578P-51S*	Gold Plated	903-578P-51S1*	Nickel Plated	903-401P-51S	Gold Plated	<p>50Ω SMB Low Profile Angle Plugs, Braid Crimp/Solder Female Contact</p> RG-174,179, 187,188, 316	903-579P-51S*	Gold Plated	903-579P-51S1*	Nickel Plated	903-429P-51A	Gold Plated
RG-174 179, 187, 188, 316	903-289P-51A	Gold Plated																																																						
	903-289P-51A2▲*	Gold Plated																																																						
	903-367P-51A	Nickel Plated																																																						
	903-367P-51A1	Nickel Plt. Body, Gold Plt Outer Cont.																																																						
RG-178, 196	903-291P-51A	Gold Plated																																																						
	903-291P-51A1▲*	Gold Plated																																																						
	903-368P-51A	Nickel Plated																																																						
Dbl. Br. RG-316	903-368P-51A1▲*	Nickel Plated																																																						
	903-369P-51A	Nickel Plated																																																						
<p>50Ω SMB Plugs - Braid Crimp/Solder Female Contact</p> RG-174,179, 187,188, 316	903-285P-51S	Gold Plated																																																						
	903-508P-51S●	Gold Plated																																																						
	903-370P-51S▲	Nickel Plated																																																						
	903-577P-51S1*	Nickel Plated																																																						
RG-178,196	903-577P-51S*	Gold Plated																																																						
	903-287P-51S	Gold Plated																																																						
	903-509P-51S●	Gold Plated																																																						
	903-371P-51S▲	Nickel Plated																																																						
Dbl. Br. RG-316	903-578P-51S*	Gold Plated																																																						
	903-578P-51S1*	Nickel Plated																																																						
	903-401P-51S	Gold Plated																																																						
<p>50Ω SMB Low Profile Angle Plugs, Braid Crimp/Solder Female Contact</p> RG-174,179, 187,188, 316	903-579P-51S*	Gold Plated																																																						
	903-579P-51S1*	Nickel Plated																																																						
	903-429P-51A	Gold Plated																																																						
<p>Fig. 3</p>	<p>Fig. 3</p>																																																							

50 ohm SMB PLUGS & ANGLE PLUGS

Cable RG-/U	Connector Description	Cable Attachment		c Dia. In. (mm)	CAI	Plt.	Ins.	Notes	Amphenol Number	Fig.
		Outer	Inner							
RG-174,179,187, 188,316	Plug	Crimp	Solder	.128(3.3)‡	C60	P11	D1	Gold Plated Body	903-285P-51S	1
				.128(3.3)‡	C62	P11	D1	Gold Plated Body	● 903-508P-51S	1A
				.128(3.3)‡	C60	P15	D1	Nickel Plated Body	▲ 903-370P-51S	1
				.128(3.3)‡	C60	P15	D1	Nickel Plated Body	* 903-577P-51S1	1A
				.128(3.3)‡	C60	P15	D1	Gold Plated Body	* 903-577P-51S	1A
	Angle Plug	Crimp	Solder	.128(3.3)‡	C61	P11	D1	Gold Plated Body	● 903-289P-51A	2
				.128(3.3)‡	C61	P11	D1	Gold Plated Body	●▲* 903-289P-51A2	2
				.128(3.3)‡	C61	P15	D1	Nickel Plated Body	* 903-367P-51A	2
				.128(3.3)‡	C61	P15	D1	Nickel Plated Body	●▲* 903-367P-51A2	2
				.128(3.3)‡	C61	P15	D1	Nickel Plated Body ★	* 903-367P-51A1	2
Low Profile Angle Plug	Crimp	Solder	.128(3.3)‡	C61	P26	D1	Nickel Plated Body ★	* 903-429P-51A	3	
RG-178,196	Plug	Crimp	Solder	.100(2.5)‡	C60	P11	D1	Gold Plated Body	* 903-287P-51S	1
				.100(2.5)‡	C62	P11	D1	Gold Plated Body	● 903-509P-51S	1A
				.100(2.5)‡	C60	P15	D1	Nickel Plated Body	903-371P-51S	1
				.100(2.5)‡	C60	P15	D1	Gold Plated Body	* 903-578P-51S	1A
				.100(2.5)‡	C60	P15	D1	Nickel Plated Body	* 903-578P-51S1	1A
Angle Plug	Crimp	Solder	.100(2.5)‡	C61	P11	D1	Gold Plated Body	903-291P-51A	2	
			.100(2.5)‡	C61	P11	D1	Gold Plated Body	●▲* 903-291P-51A1	2	
			.100(2.5)‡	C61	P15	D1	Nickel Plated Body	903-368P-51A	2	
			.100(2.5)‡	C61	P15	D1	Nickel Plated Body	●▲* 903-368P-51A1	2	
			.100(2.5)‡	C61	P15	D1	Nickel Plated Body	●▲* 903-368P-51A1	2	
Dbl. Braid 316	Angle Plug	Crimp	Solder	.142(3.6)‡	C61	P22	D1	Nickel Plated Body	903-369P-51A	2
				.142(3.6)‡	C61	P15	D1	Nickel Plated Body	● * 903-369P-51A2	2
	Plug	Crimp	Solder	.142(3.6)‡	C60	P11	D1	Gold Plated Body	903-401P-51S	1
				.142(3.6)‡	C60	P11	D1	Gold Plated Body	* 903-579P-51S	1A
				.142(3.6)‡	C60	P15	D1	Nickel Plated Body	* 903-579P-51S1	1A

‡ i.d. of outer crimp ferrule ★ Gold plated outer contact ▲ Distributor stocked * Diecast outer body ● Commercial grade