

Description

SMA is an acronym for SubMiniature version A and was developed in the 1960's. It uses a threaded interface.

50 ohm SMA connectors are semi-precision, sub-miniature units which provide excellent electrical performance from DC to 18 GHz. These high performance connectors are compact in size and mechanically have outstanding durability.

Built in accordance with MIL-C-39012 and CECC 22110/111. They can be mated with all connectors which meet these spec mating diameters regardless of manufacturer.

Features/Benefits

- Broadband performance DC to 18 GHz with low reflection stainless steel construction with 1/4-36 threaded coupling offers high performance in a compact design.
- Low cost Commercial Grade (Brass SMA) available in nickel or gold plating, flexible provides approximately 30% reduction in cost with 250 mating cycles.
- Various flexible cable groups including: .086 and .141 semi-rigid allows customer flexibility in their design with a durable connector.

Application

- Base Stations
- Cable Assemblies
- Components
- Instrumentation
- Mil/Aero
- PC/LAN
- Process Controls
- Telecom



Stainless Steel

| | |
|--------------------|-------|
| Specifications | 56-57 |
| Plugs | 58-61 |
| Jacks | 62-63 |
| Receptacles | 64-73 |
| In-Series Adapters | 74-75 |

Brass

| | |
|----------------|-------|
| Specifications | 76 |
| Plugs, Jacks | 77-78 |
| Receptacles | 79-82 |

Phase Adjustable Connectors

| | |
|--------------------|----|
| Specifications | 83 |
| Plugs and Adapters | 84 |

ELECTRICAL

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|---------------------------------|--|
| Impedance | 50 ohms |
| Frequency range | .141" & .085" O.D. copper jacket semi-rigid cable. 0-18GHz. Flexible cables: 0-12.4 GHz. |
| Voltage rating | RG-55, 58, 141, 142, 223, 303: 500 volts peak RG-122, 174, 188, 316: 375 volts peak |
| Dielectric withstanding voltage | .141" & RG-58 group: 1,000 VRMS. .085" & RG-316 group: 750 VRMS. |
| VSWR (straight connectors) | .141" O.D. copper jacket cable: 1.05 + .005 f (GHz) RG-55 group: 1.15 + .011 f (GHz) RG-122 group: 1.15 + .02 f (GHz) RG-178 group: 1.20 + .025 f (GHz) |
| (angle connectors) | .141" O.D. copper jacket cable: 1.10 + .01 f (GHz) RG-55 group: 1.15 + .02 f (GHz) RG-122 group: 1.15 + .03 f (GHz) RG-178 group: 1.20 + .03 f (GHz) |
| Contact resistance | Center: 2.0 milliohms Body: 2.0 milliohms Braid to body: 0.5 milliohms |
| Insulation resistance: | 5000 megohms |
| RF leakage | -60 dB minimum |
| Insertion loss: | .03 $\sqrt{f(\text{GHz})}$ dB max. |

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 (test cond. D) |
| Shock | MIL-Std. 202 method 213 (test cond. I) No discontinuity permitted. |
| Corrosion | MIL-Std. 202 method 101 (test cond. B) 5% salt solution. |
| Moisture resistance | MIL-Std. 202 method 106, except step 7b (vibration) omitted, and high humidity measurements do not apply. |
| Weatherproofing | Crimp type: heat shrink tubing Solder type: silicone rubber gaskets |
| Altitude | MIL-Std. 202 method 105 (test cond. C), no corona at 70,000 ft. .141" & RG-55 group: 250 VRMS. .085" & RG-122 group: 190 VRMS. |

MECHANICAL

| | |
|-----------------------------------|---|
| Mating | .250-36 threaded coupling |
| Mating torque | Minimum: 2 inch pounds 22 N.cm Recommended: 7 to 10 inch pounds 80-110 N.cm Maximum: 15 inch pounds 170 N.cm |
| Coupling nut retention | Axial force: 100 lbs. min., 300 N.cm Torque: 15 in. lbs. min. 76 N.cm Jacks: N/A |
| Connector affixment to cable | Crimp types, solder types |
| Cable affixment to center contact | Solder, except as noted |
| Contact captivation | All types, except as noted |
| Cable retention | Crimp type for RG-58, .141, 303=60 lbs min.; for RG-55, 142, 223 = 80 lbs min. 400 N.cm |
| Connector durability | 500 mating and unmating cycles @ 12 cycles per min. |

MATERIAL

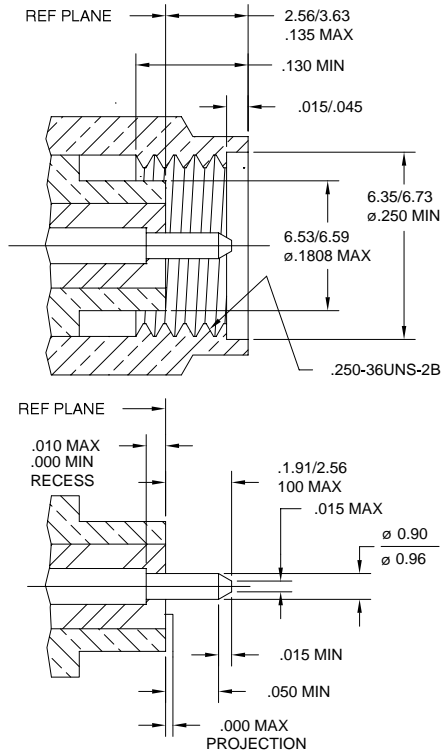
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| Bodies, coupling nuts, other metal parts (except as noted) | Non-magnetic stainless steel per QQ-S-764, Type 303. |
| Contacts | Beryllium copper per QQ-C-530, heat treated per MIL-H-7199. |
| Plating: Center contacts. | .00005" min. gold per MIL-G-45204, type 1, grade C. Gold over nickel unless otherwise requested. |
| Plating: Other metal parts | Gold plated or passivated to meet the finish and corrosion requirements of MIL-C-39012. |
| Insulators | TFE fluorocarbon per ASTM D1457. |
| Gaskets | Silicone rubber, per MIL-R-5847 and ZZ-R-765. class IIB, grade 65-75. |
| Lockwashers | Stainless steel, internal-tooth supplied with all bulkhead mounted connectors. |
| Crimp ferrules | Seamless copper tubing alloy # 122 (DHP), hard drawn to Rockwell 58-77 on 30-T scale per ASTM B75. |

MILITARY SPECIFICATIONS

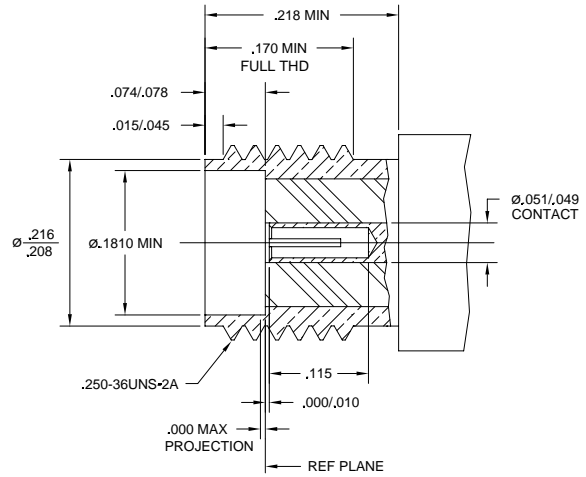
| | |
|--|---------------|
| MIL-C-39012 & MIL-C-83517 SMA specification sheets | As applicable |
|--|---------------|

NOTE: These characteristics are typical and may not apply to all connectors.

Plug



Jack






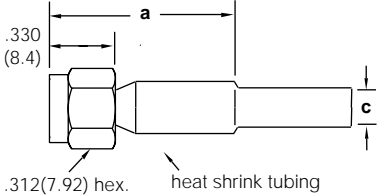
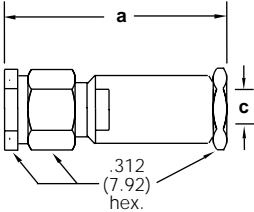
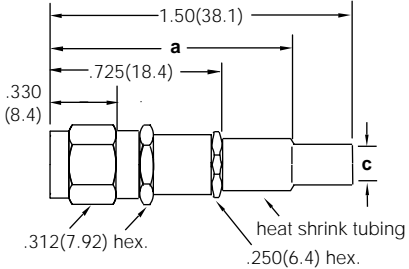
CECC = Cenelec Electronic Components Committee in Europe

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| <p>Fig. 1</p> <p>SMA Plugs - Solder to Body 901-9201-2A for .085" (2.2mm) S/R, RG-405 (M17/133) Gold Plated Nut [VSWR = 1.07 + .008(GHz) DC-18GHz] 901-9201-2ASF for .085" (2.2mm) S/R, RG-405 (M17/130) Gold Plated Passivated Nut 901-9201-1A for .141" (3.6mm) S/R, RG-402 (M17/130) Gold Plated Nut, without Contact & Insulator 901-9201-1ASF for .141" (3.6mm) S/R, RG-402 (M17/130) Gold Plated Passivated Nut</p> | | <p>Fig. 2</p> <p>VSWR = 1.35 max. DC-22GHz</p> <p>SMA Plugs - Solder to Body/ Pre-assembled Factory-Set Interface 901-9723-10 Passivated Nut, 100 piece Bulk Pack 901-9723-10 Passivated Nut, Single Pack for .085" (2.2mm) S/R, RG-405 (M17/133)</p> | |
| <p>Fig. 3</p> <p>VSWR = 1.35 max. DC-22GHz</p> <p>901-9808-1 Gold Body, Passivated Nut 901-9808-1 Gold Body and Nut 901-9808-2 Gold Body, Passivated Nut Preassembled Factory Set Interface Single Pack for .141" (3.6mm) S/R , RG-402 (M17/130)</p> | | <p>Fig. 4</p> <p>SMA Plugs - Solder to Body/ Pre-assembled Factory-Set Interface 901-9805-HP Passivated Nut, Single Pack for .085" (2.2mm) S/R, RG-405 (M17/133)</p> | |

SMA PLUGS FOR SEMI-RIGID CABLE – 50Ω impedance

| Cable RG-/U | Cable Attachment | | Dim. In. (mm) | | CAI | Plt. | Ins. | Construction Notes | Amphenol Number | Fig. |
|--|------------------|----------|---------------|-----------|-----|------|------|-----------------------|---------------------------------|------|
| | Outer | Inner | a | c | | | | | | |
| .085" (2.2mm) Semi-Rigid RG-405 (M17/133) | Solder | Solder | .438(11.1) | .090(2.3) | C47 | P10 | D1 | — | 901-9201-2A | 1 |
| | Solder | Plugable | .400(10.2) | .090(2.3) | C48 | P10 | D1 | — | 901-9201-2ASF | 1 |
| | Solder | Plugable | .400(10.2) | .090(2.3) | C48 | P10 | D1 | — | ▲ 901-9723 | 2 |
| | Solder | Plugable | .400(10.2) | .090(2.3) | C48 | P11 | D1 | — | 901-9723-10 | 2 |
| | Solder | Plugable | .531(13.5) | .090(2.3) | C48 | P11 | D1 | — | 901-9805-HP | 4 |
| .141" (3.6mm) Semi-Rigid RG-402 (M17/130) | Solder | None | .445(11.3) | .145(3.7) | C50 | P14 | — | w/o Cont. & Ins. | 901-9201-1A | 1 |
| | Solder | None | .445(11.3) | .145(3.7) | C50 | P14 | — | Gold plated body⊗ | ▲ 901-9201-1ASF | 1 |
| | Solder | Plugable | .438(11.1) | .145(3.7) | C48 | P10 | D1 | Gold plated body⊗ | 901-9808 | 3 |
| | Solder | Plugable | .438(11.1) | .145(3.7) | C48 | P10 | D1 | Gold plated body⊗ | 901-9808-1 | 3 |
| | Solder | Plugable | .438(11.1) | .145(3.7) | C48 | P10 | D1 | Gold plated body⊗ | 901-9808-2 | 3 |

▲ distributor stocked ⊗ passivated nut

| | | |
|--|---|--|
| <p>Fig. 1</p>  | <p>Fig. 2</p>  | <p>Fig. 3</p>  |
|  <p>SMA Plug Braid Solder to Body Captivated Solder Contact 901-9501-3 for RG-174, 179B, 187A, 188A, 316</p> |  <p>SMA Plugs BeCu Body, Solder to Nut 901-103•▲ for RG-55, 58, 142, 223 901-128-11• (M39012/55-4007) for RG-174, 316</p> |  <p>SMA Plugs Braid Crimp/ Captivated Solder Contact 901-9601-1SF▲ Passivated Body & Nut for RG-55B, 142B, 223, 400 901-9601-3▲ Gold Plt. Body & Nut 901-9601-3SF▲ Passivated Body & Nut for RG-174, 179, 187, 188, 316</p> |

SMA PLUGS FOR FLEXIBLE CABLE – 50Ω impedance

| Cable RG-/U | Cable Attachment | | Dim. In. (mm) | | CAI | Plt. | Ins. | Construction Notes | Mil. No. 39012/ | Amphenol Number | Fig. |
|----------------------------|------------------|--------|---------------|-----------|-----|------|------|-----------------------|--------------------|--------------------|------|
| | Outer | Inner | a | c | | | | | | | |
| 55, 58, 141, 142, 223 | Clamp | Solder | .969(24.6) | .219(5.6) | C43 | P9 | D1 | BeCu Body | — | •▲ 901-103 | 2 |
| 55B, 142B, 223, 400 | Crimp | Solder | 1.10(28.0) | .220(5.6) | C56 | P12 | D1 | Captivated Contact | — | ▲ 901-9601-1SF | 3 |
| 174, 179, 187, 188, 316 | Crimp | Solder | 1.10(28.0) | .128(3.3) | C56 | P9 | D1 | Captivated Contact | — | ▲ 901-9601-3 | 3 |
| | Crimp | Solder | 1.10(28.0) | .128(3.3) | C56 | P12 | D1 | Captivated Contact | — | ▲ 901-9601-3SF | 3 |
| 174, 179B, 187A, 188A, 316 | Solder | Solder | .690(17.5) | .128(3.3) | C46 | P11 | D1 | — | — | 901-9501-3 | 1 |
| 174, 316 | Clamp | Solder | .984(25.0) | .114(2.9) | C44 | P9 | D1 | BeCu Body | 55-4007 | • 901-128-11 | 2 |

• safety wire holes ▲ distributor stocked

Fig. 1

SMA Plugs
Braid Crimp/
Non-Captivated Solder Contact

901-9511-1▲
Gold Plt. Body & Nut
901-9511-1SF▲
Passivated Body & Nut
for RG-55B, 142B, 223, 400

901-9511-3▲
Gold Plt. Body & Nut
901-9511-3SF▲
Passivated Body & Nut
for RG-174, 179, 187, 188, 316

901-9511-12SF▲
Passivated Body & Nut
for Double Braid RG-316

901-9511-2
Gold Plt. Body & Nut
901-9511-2SF
Passivated Body & Nut
for RG-58

901-10011
Passivated Body & Nut
for LMR 240

901-10012
Passivated Body & Nut
for LMR 200

Fig. 2

SMA Plugs
Braid Crimp/
Crimp Center Contact
with Passivated Body & Nut

901-9511-1SFC
for RG-55B, 142B, 223, 400

901-101-15†
BeCu Body
(M39012/55-4502)
for RG-142B, 400




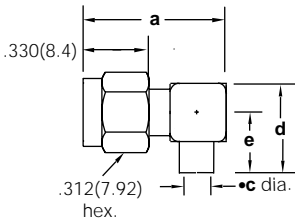
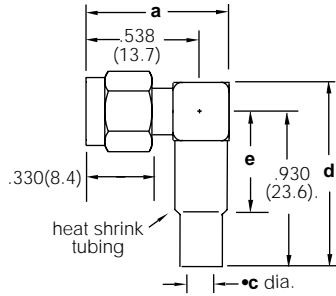
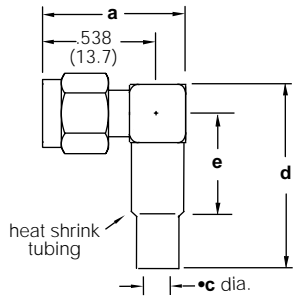
901-9511-3SFC
for RG-174, 179, 187, 188, 316

901-9511-12SFC
for Double Braid RG-316

SMA PLUGS FOR FLEXIBLE CABLE – 50Ω impedance

| Cable RG-/U | Cable Attachment | | Dim. In. (mm) | | CAI | Plt. | Ins. | Construction Notes | Mil. No. 39012/ | Amphenol Number | Fig. |
|-------------------------|------------------|--------|---------------|-----------|-----|------|------|-----------------------|--------------------|--------------------|------|
| | Outer | Inner | a | c | | | | | | | |
| 55B, 142B, 223, 400 | Crimp | Solder | .812(20.6) | .220(5.6) | C53 | P10 | D1 | Non-Captive Contact | — | ▲ 901-9511-1 | 1 |
| 55B, 142B, 223, 400 | Crimp | Solder | .812(20.6) | .220(5.6) | C53 | P13 | D1 | Non-Captive Contact | — | ▲ 901-9511-1SF | 1 |
| 58 | Crimp | Solder | .812(20.6) | .206(5.2) | C53 | P11 | D1 | — | — | 901-9511-2 | 1 |
| 58 | Crimp | Solder | .812(20.6) | .206(5.2) | C53 | P10 | D1 | — | — | 901-9511-2SF | 1 |
| 174, 187, 188, 316 | Crimp | Solder | .812(20.6) | .128(3.3) | C55 | P10 | D1 | Non-Captive Contact | — | ▲ 901-9511-3 | 1 |
| 174, 187, 188, 316 | Crimp | Solder | .812(20.6) | .128(3.3) | C55 | P13 | D1 | Non-Captive Contact | — | ▲ 901-9511-3SF | 1 |
| Dbl. Braid RG-188, 316 | Crimp | Solder | .812(20.6) | .142(3.6) | C55 | P13 | D1 | Non-Captive Contact | — | ▲ 901-9511-12SF | 1 |
| LMR 240 | Crimp | Solder | 1.03(26.2) | .261(6.6) | C53 | P13 | D1 | Non-Captive Contact | — | 901-10011 | 1 |
| LMR 200 | Crimp | Solder | .810(20.6) | .206(5.2) | C53 | P13 | D1 | Non-Captive Contact | — | 901-10012 | 1 |
| 55B, 142B, 223, 400 | Crimp | Crimp | .812(20.6) | .220(5.6) | C55 | P13 | D1 | — | — | 901-9511-1SFC | 2 |
| 142B, 400 | Crimp | Crimp | 1.03(26.2) | .220(5.6) | C55 | P9 | D1 | BeCu Body | 55-4502 | † 901-101-15 | 2 |
| 174, 179, 187, 188, 316 | Crimp | Crimp | .812(20.6) | .128(3.5) | C55 | P13 | D1 | — | — | 901-9511-3SFC | 2 |
| Dbl. Braid RG-188, 316 | Crimp | Crimp | .812(20.6) | .142(3.6) | C55 | P13 | D1 | — | — | 901-9511-12SFC | 2 |

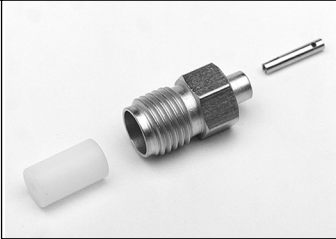
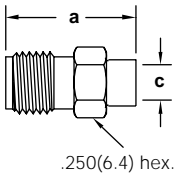

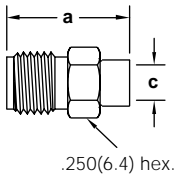

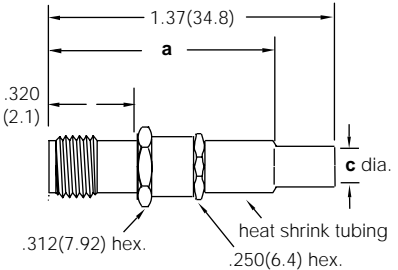
• safety wire holes † for crimping center contact, use Tool Handle M22520/1-01 and Crimp Die M22520/1-15 ▲ distributor stocked

| | | |
|---|--|---|
| <p>Fig. 1</p>  | <p>Fig. 2</p>  | <p>Fig. 3</p>  |
|  <p>SMA Angle Plugs Solder to Body 901-9221-2A Gold Plated Nut 901-9221-2ASF Passivated Nut for 085" (2.2mm) S/R RG-405 (M17/133) 901-9221-1A Gold Plated Nut 901-9221-1ASF Passivated Nut for 141" (3.6mm) S/R RG-402 (M17/130)</p> |  <p>SMA Angle Plugs Solder to Nut 901-9531-1▲ Gold Plt. Body & Nut for RG-55, 142, 223, 400 901-9531-2 Gold Plt. Body & Nut 901-9531-2SF Passivated Body for RG-58, 141 901-9531-1SF▲ Passivated Body for SF142B 901-9531-3▲ Gold Plt. Body & Nut 901-9531-3SF▲ Passivated Body for RG-174, 179, 187, 188, 316 901-9531-12▲ Gold Plt. Body & Nut 901-9531-12SF▲ Passivated Body for Double Braid RG-316 901-10014 Passivated Body & Nut for LMR240</p> |  <p>SMA Angle Plugs Braid Solder, Solder Contact 901-9521-3▲ for RG-174, 179, 187, 187A, 188, 188A, 316</p> |

SMA RIGHT ANGLE PLUGS FOR SEMI-RIGID & FLEXIBLE CABLE – 50Ω impedance

| Cable RG-/U | Cable Attachment | | Dim. In. (mm) | | | | CAI | Plt. | Ins. | Notes | Mil. No. 39012/ | Amphenol Number | Fig. |
|--|------------------|--------|---------------|-----------|------------|------------|-----|------|------|------------|--------------------|------------------------|------|
| | Outer | Inner | a | c | d | e | | | | | | | |
| .085" (2.2mm) Semi-Rigid RG-405 (M17/133) | Solder | Solder | .680(17.3) | .090(2.3) | .430(10.9) | .305(7.7) | C49 | P11 | D1 | — | — | 901-9221-2A | 1 |
| | Solder | Solder | .680(17.3) | .090(2.3) | .430(10.9) | .305(7.7) | C49 | P11 | D1 | — | — | 901-9221-2ASF | 1 |
| .141" (2.2mm) Semi-Rigid RG-402 (M17/130) | Solder | Solder | .680(17.3) | .145(3.7) | .430(10.9) | .305(7.7) | C49 | P11 | D1 | — | — | 901-9221-1A | 1 |
| | Solder | Solder | .680(17.3) | .145(3.7) | .430(10.9) | .305(7.7) | C49 | P11 | D1 | — | — | 901-9221-1ASF | 1 |
| 55, 141, 142, 223, 400 | Crimp | Solder | .682(17.3) | .220(5.6) | 1.05(26.7) | .550(14.0) | C53 | P11 | D1 | Cap. Cont. | — | ▲ 901-9531-1 | 2 |
| 58, 141 | Crimp | Solder | .682(17.3) | .206(5.2) | 1.05(26.7) | .550(14.0) | C53 | P11 | D1 | — | — | 901-9531-2 | 2 |
| | Crimp | Solder | .682(17.3) | .206(5.2) | 1.05(26.7) | .550(14.0) | C53 | P13 | D1 | — | — | 901-9531-2SF | 2 |
| 174, 187, 188, 316 | Crimp | Solder | .682(17.3) | .128(3.3) | 1.05(26.7) | .550(14.0) | C57 | P11 | D1 | Cap. Cont. | — | ▲ 901-9531-3 | 2 |
| | Crimp | Solder | .682(17.3) | .128(3.3) | 1.05(26.7) | .550(14.0) | C57 | P13 | D1 | Cap. Cont. | — | ▲ 901-9531-3SF | 2 |
| 174, 179, 187, 187A, 188, 188A, 316 | Solder | Solder | .675(17.1) | .128(3.3) | 1.12(28.4) | .440(11.2) | C46 | P11 | D1 | — | — | ▲ 901-9521-3 | 3 |
| SF 142B, Times AA-2423 | Crimp | Solder | .675(17.1) | .219(5.6) | 1.06(26.9) | .475(12.1) | C53 | P13 | D1 | — | — | ▲ 901-9531-1SF | 2 |
| Double Braid RG-316 | Crimp | Solder | .682(17.3) | .142(3.6) | 1.05(26.7) | .550(14.0) | C57 | P11 | D1 | Cap. Cont. | — | ▲ 901-9531-12 | 2 |
| | Crimp | Solder | .682(17.3) | .142(3.6) | 1.05(26.7) | .550(14.0) | C57 | P13 | D1 | Cap. Cont. | — | ▲ 901-9531-12SF | 2 |
| LMR 240 | Crimp | Solder | .682(17.3) | .261(1.7) | 1.00(25.4) | .685(17.4) | C57 | P13 | D1 | — | — | 901-10014 | 2 |

▲ distributor stocked

| | | |
|---|---|---|
| <p>Fig. 1</p>   <p style="text-align: center;">SMA Jacks Solder to Body Solder Center Contact 901-9202-1A for .141" (3.6mm) S/R RG-402 (M17/130) 901-9202-2A for .085" (2.2mm) S/R RG-405 (M17/133)</p> | <p>Fig. 2</p>   <p style="text-align: center;">SMA Jack Solder to Body Pre-assembled Center Contact 901-9704 Gold Plated for .141" (3.6mm) S/R RG-402 (M17/130)</p> | <p>Fig. 3</p>   <p style="text-align: center;">SMA Jacks Braid Crimp Solder Captive Contact 901-9602-1 Gold Plated, 901-9602-1SF Passivated for RG-55B, 142B, 223, 400 901-9602-3 Gold Plated, 901-9602-3SF Passivated for RG-174, 179, 187, 188, 316 901-9602-12SF Passivated for Double Braid RG-316</p> |
|---|---|---|

SMA JACKS FOR SEMI-RIGID & FLEXIBLE CABLES – 50Ω Impedance

| Cable RG-/U | Cable Attachment | | Dimensions In. (mm) | | CAI | Plt. | Ins. | Notes | Amphenol Number | Fig. |
|---|------------------|--------|---------------------|-----------|-----|------|------|---------------------|-------------------------------|------|
| | Outer | Inner | a | c | | | | | | |
| .085" (3.6mm) Semi -Rigid (RG-405) (M17/133) | Solder to Body | Solder | .500(12.7) | .088(2.2) | C47 | P9 | D1 | — | 901-9202-2A | 1 |
| .141" (3.6mm) Semi -Rigid RG-402 (M17/130) | Solder to Body | Solder | .500(12.7) | .144(3.7) | C47 | P10 | D1 | — | 901-9202-1A | 1 |
| | Solder to Body | Solder | .500(12.7) | .144(3.7) | C59 | P11 | D1 | Pre-assembled Cont. | 901-9704 | 2 |
| 55, 142, 223, 400 | Crimp | Solder | .965(24.5) | .220(5.6) | C56 | P9 | D1 | Captive Contact | 901-9602-1 | 3 |
| | Crimp | Solder | .965(24.5) | .220(5.6) | C56 | P12 | D1 | Captive Contact | 901-9602-1SF | 3 |
| 174, 179, 187, 188, 316 | Crimp | Solder | .965(24.5) | .128(3.3) | C56 | P9 | D1 | Captive Contact | 901-9602-3 | 3 |
| | Crimp | Solder | .965(24.5) | .128(3.3) | C56 | P12 | D1 | Captive Contact | 901-9602-3SF | 3 |
| Double Braid RG-316 | Crimp | Solder | .965(24.5) | .142(3.6) | C56 | P12 | D1 | Captive Contact | 901-9602-12SF | 3 |

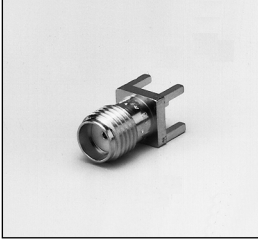

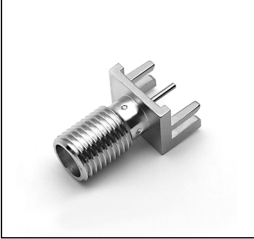
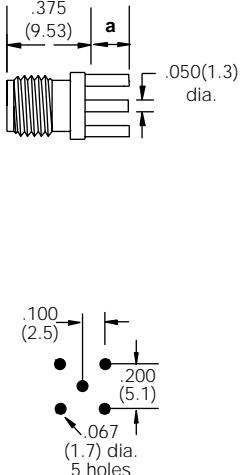
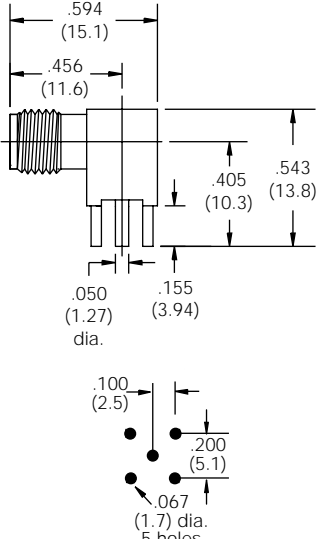
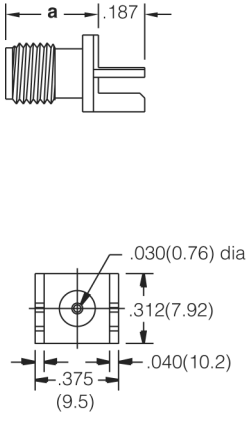
| | | |
|--|---|---|
| <p>Fig. 1</p> <p>SMA Bulkhead Jacks Solder to Body Solder Center Contact Gold Plated 901-9210-1 for .141" (3.6mm) S/R RG-402 (M17/130) 901-9210-2 for .085" (2.2mm) S/R RG-405 (M17/133)</p> | <p>Fig. 2</p> <p>SMA Bulkhead Jacks Braid Crimp Captive Contact Solder Center Contact 901-9610-1SF▲ Passivated for RG-55B, 142B, 223, 400 901-9610-3▲ Gold Plated 901-9610-3SF▲ Passivated for RG174, 179, 187, 188, 316 901-9610-12SF Passivated for Double Braid RG-316 901-10015 Passivated for LMR 240</p> | <p>Fig. 3</p> <p>SMA Bulkhead Jacks Braid Crimp Solder Center Contact 901-10021-1SF▲ Passivated for RG-55B, 142B, 223, 400 901-10021-3SF▲ Passivated for RG174, 179, 187, 188, 316 901-10021-12SF Passivated for Double Braid RG-316</p> |
|--|---|---|

SMA BULKHEAD JACKS FOR SEMI-RIGID & FLEXIBLE CABLES – 50Ω Impedance

| Cable RG-/U | Cable Attachment | | Dimensions In. (mm) | | CAI | Plt. | Ins. | Notes | Amphenol Number | Fig. |
|--|------------------|--------|---------------------|-----------|-----|------|------|-------------------|----------------------------------|------|
| | Outer | Inner | a | c | | | | | | |
| .085" (2.2mm) Semi-Rigid RG-405 (M17/133) | Solder to Body | Solder | .750(19.1) | .090(2.3) | C47 | P9 | D1 | — | 901-9210-2 | 1 |
| .141" (3.6mm) Semi-Rigid RG-402 (M17/130) | Solder to Body | Solder | .750(19.1) | 1.44(3.7) | C47 | P10 | D1 | — | 901-9210-1 | 1 |
| 55, 142, 223, 400 | Crimp | Solder | 1.50(38.1) | .220(5.6) | C56 | P13 | D1 | Capt. Contact | ▲ 901-9610-1SF | 2 |
| | Crimp | Solder | 1.50(38.1) | .220(5.6) | C56 | P13 | D1 | Non Capt. Contact | ▲ 901-10021-1SF | 3 |
| 174, 179, 187, 188, 316 | Crimp | Solder | 1.50(38.1) | .128(3.3) | C56 | P11 | D1 | Capt. Contact | ▲ 901-9610-3 | 2 |
| | Crimp | Solder | 1.50(38.1) | .128(3.3) | C56 | P11 | D1 | Non Capt. Contact | ▲ 901-10021-3SF | 3 |
| | Crimp | Solder | 1.50(38.1) | .128(3.3) | C56 | P13 | D1 | Capt. Contact | ▲ 901-9610-3SF | 2 |
| Double Braid 316 | Crimp | Solder | 1.50(38.1) | .128(3.3) | C56 | P13 | D1 | Non Capt. Contact | ▲ 901-10021-12SF | 3 |
| | Crimp | Solder | 1.50(38.1) | .142(3.6) | C56 | P13 | D1 | Capt. Contact | 901-9610-12SF | 2 |
| LMR 240 | Crimp | Solder | 1.08(27.4) | .261(6.6) | C56 | P13 | D1 | Capt. Contact | 901-10015 | 2 |

▲ distributor stocked

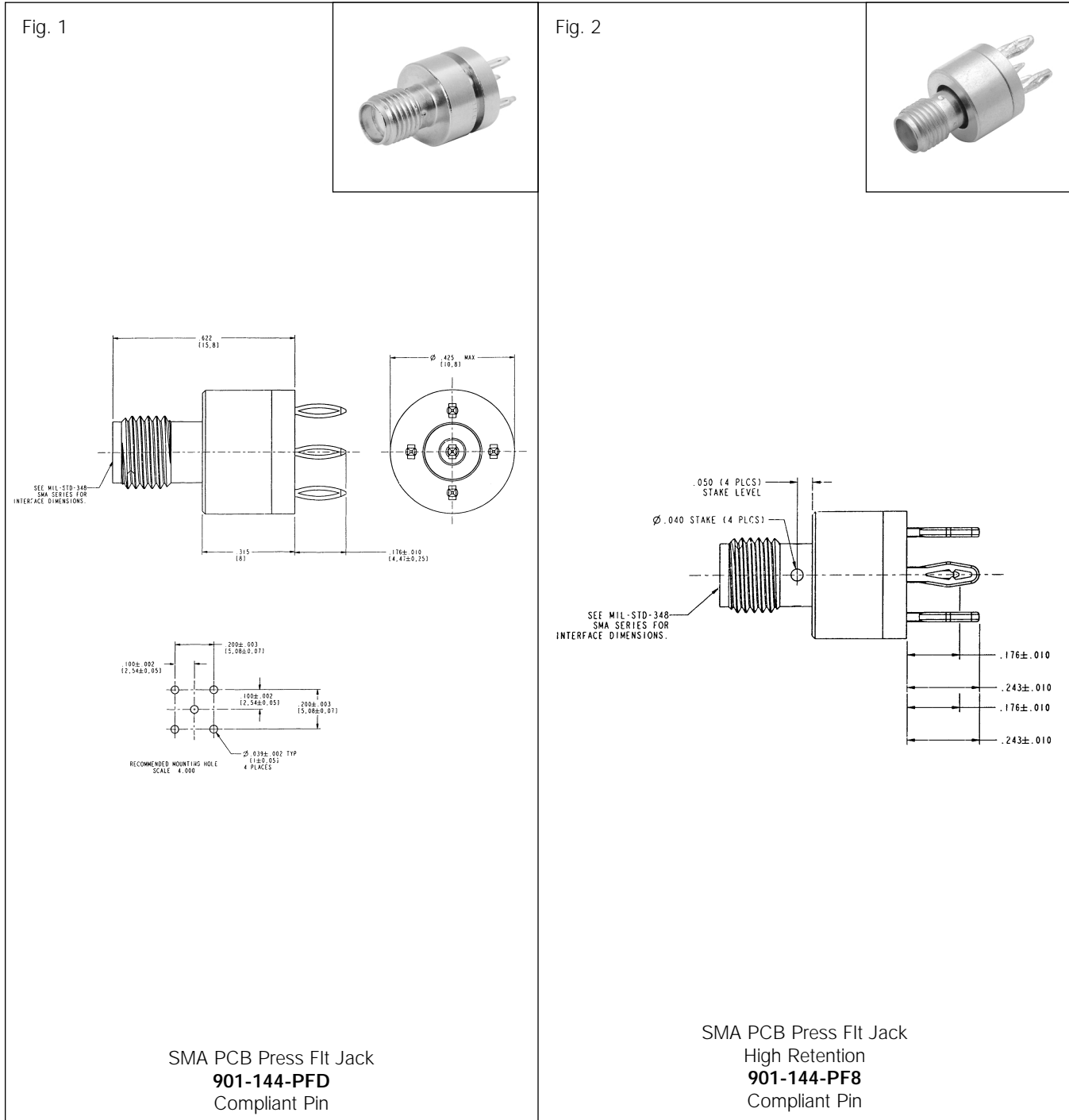
SMA PCB Jack Receptacles

| | | |
|---|--|--|
| <p>Fig. 1</p>  | <p>Fig. 2</p>  | <p>Fig. 3</p>  |
|  |  |  |
| <p>SMA Printed Circuit Receptacle Gold Plated Blunt Post Terminal Four Legs 901-144▲ .155(3.9) Legs & Term. 901-144-2 .105(2.7) Solder Dipped Legs & Term. 901-144-3 .155(3.9) Solder Dipped Legs & Term. 901-144-4 .200(5.1) Legs & Term with Stand-off Pads</p> | <p>SMA Printed Circuit Receptacle Gold Plated Blunt Post Terminal Four Legs .025 Stand-off Pads 901-143▲ .155(3.9) Legs & Term. 901-143-3 .155(3.9) Solder Dipped Legs & Term. 901-143-4 .105(2.7) Solder Dipped Legs & Term.</p> | <p>SMA Printed Circuit Receptacle Edge Mount 901-9850 for .062" Printed Circuit Board 901-10003 for .062" Printed Circuit Board 901-10019 for .032" Printed Circuit Board</p> |

SMA PRINTED CIRCUIT RECEPTACLES – female contacts

| Description | Terminal Type | Plt. | Ins. | MTG Hole | Construction Notes | Dim. a | Amphenol Number | Fig. |
|---|---------------|------|------|----------|---------------------------|------------|------------------|------|
| Printed Circuit Board Panel Jack Receptacle | Blunt Post | P11 | D1 | T | Captive Contact | .155(3.9) | ▲ 901-144 | 1 |
| | | | | | Solder Dipped Legs & Term | .105(2.7) | 901-144-2 | 1 |
| | | | | | Solder Dipped Legs & Term | .155(3.9) | 901-144-3 | 1 |
| | | | | | .025 Stand-off Pads | .200(5.1) | 901-144-4 | 1 |
| Printed Circuit Board Angle Jack Receptacle | Blunt Post | P11 | D1 | T | .025 Stand-off Pads | .155(3.9) | ▲ 901-143 | 2 |
| | | | | | Solder Dipped Legs & Term | .155(3.9) | 901-143-3 | 2 |
| | | | | | Solder Dipped Legs & Term | .105(2.7) | 901-143-4 | 2 |
| Printed Circuit Board Edge Mt Jack Receptacle | Blunt Post | P10 | D1 | — | For .062" Thick PCB | .475 (12) | 901-9850 | 3 |
| | | | | | For .062" Thick PCB | .375 (9.5) | 901-10003 | 3 |
| | | | | | For .032" Thick PCB | .350(8.9) | 901-10019 | 3 |


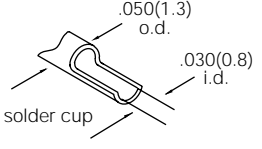
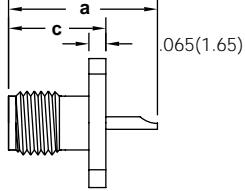
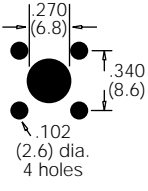
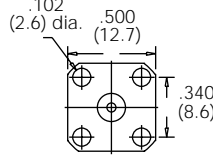

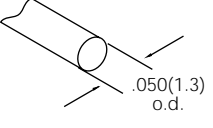
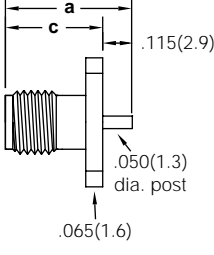
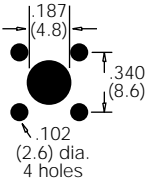
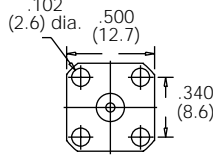

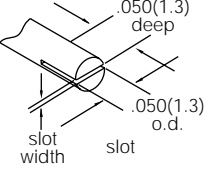
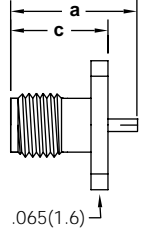
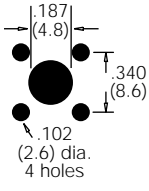
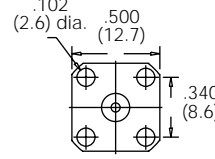
▲ distributor stocked



SMA PCB PRESS FIT JACKS

| Description | Terminal Type | Plt. | Ins. | Construction Notes | Amphenol Number | Fig. |
|------------------------|---------------|------|------|---------------------------------|-----------------------------|------|
| SMA PCB Press-Fit Jack | Compliant Pin | P11 | D1 | Gold Plated Body, Legs Tin/Lead | 901-144-PFD | 1 |
| SMA PCB Press-Fit Jack | Compliant Pin | P11 | D1 | Gold Plated Body, Legs Tin/Lead | 901-44-PF8 | 2 |

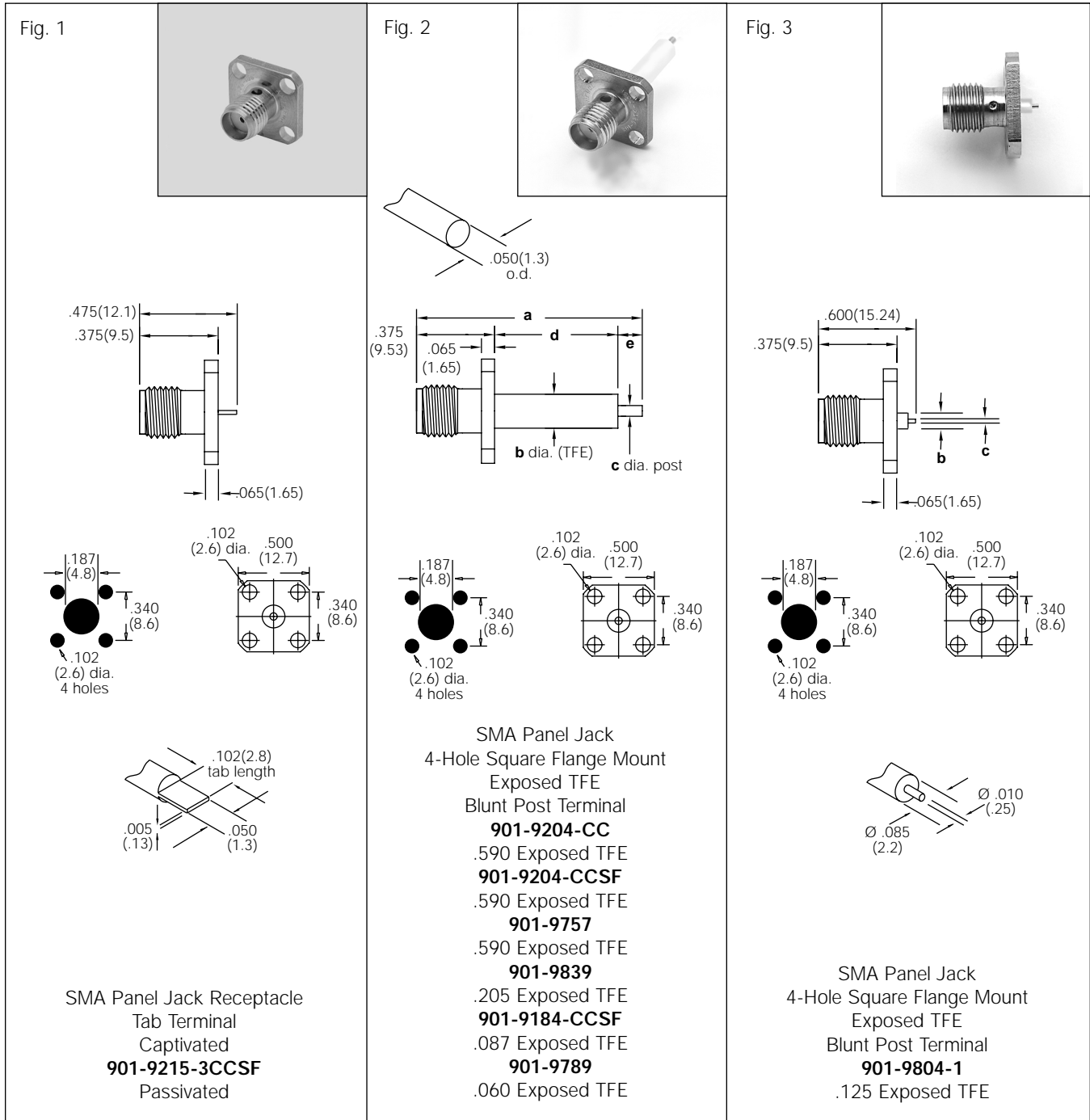
Panel Jack Receptacles – 4-hole Flange

| | | |
|--|--|---|
| <p>Fig. 1</p>      <p>SMA Panel Jack Receptacle 4-Hole Square Flange Mount Solder Cup Terminal 901-9215 Gold Plated Body 901-9215-SF Passivated Body</p> | <p>Fig. 2</p>      <p>SMA Panel Jack Receptacle 4-Hole Square Flange Mount Post Terminal Flush TFE Countersink Flange Holes 901-9758</p> | <p>Fig. 3</p>      <p>SMA Panel Jack Receptacle 4-Hole Square Flange Mount Slot Terminal 901-9204-4CC Gold Plated Body 901-9204-4CCSF Passivated Body 901-9204-3CCSF Passivated Body</p> |
|--|--|---|

SMA PANEL JACK RECEPTACLES – 4-hole square flange mount

| Terminal Type | Dimensions In. (mm) | | Plt. | Ins. | Notes | Amphenol Number | Fig. |
|------------------------------|---------------------|-----------|------|------|----------------------------------|--------------------------------|------|
| | a | c | | | | | |
| Solder Cup .200"(5.1mm) Long | .575(14.6) | .375(9.5) | P10 | D1 | Captive Contact, Gold Plt. Body | 901-9215 | 1 |
| | .575(14.6) | .375(9.5) | P13 | D1 | Captive Contact, Passivated Body | 901-9215-SF | 1 |
| Slot .015"(0.4mm) Wide | .425(10.8) | .375(9.5) | P9 | D1 | Captive Contact, Gold Plt. Body | 901-9204-4CC | 3 |
| | .425(10.8) | .375(9.5) | P12 | D1 | Captive Contact, Passivated Body | 901-9204-4CCSF | 3 |
| Slot .030"(0.8mm) Wide | .425(10.8) | .375(9.5) | P12 | D1 | Captive Contact, Passivated Body | 901-9204-3CCSF | 3 |
| Blunt Post .115"(2.9mm) Long | .490(12.4) | .375(9.5) | P13 | D1 | Captive Contact, Passivated Body | 901-9758 | 2 |

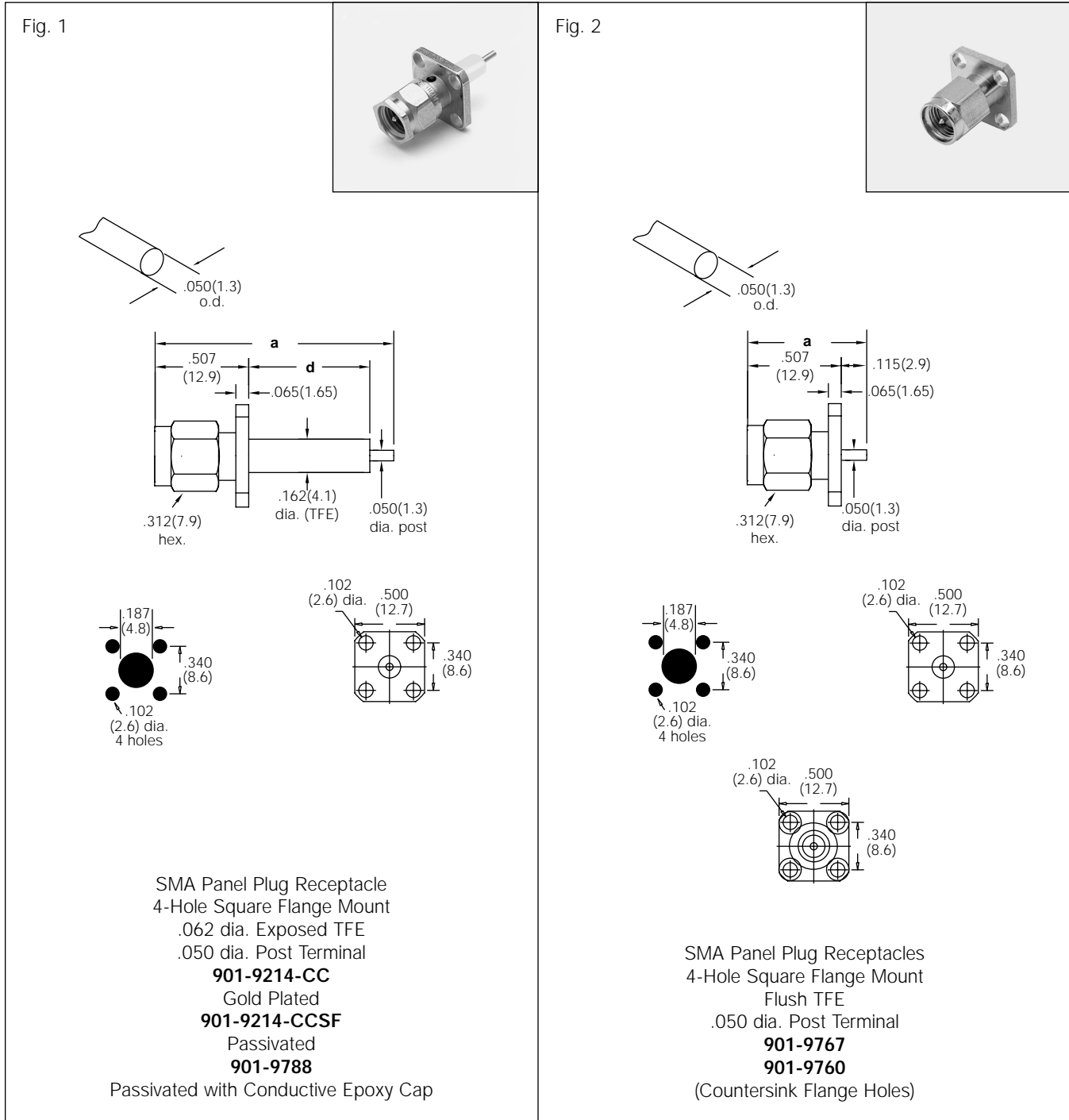
SMA Panel Jack Receptacles – 4-hole Flange



SMA PANEL JACK RECEPTACLES – 4-hole square flange mount

| Terminal Type | Dimensions In. (mm) | | | | | Plt. | Ins. | Amphenol Number | Fig. |
|---------------------------|--|---------------|---------------|------------|-----------|------|------|-----------------------|------|
| | a | b | c | d | e | | | | |
| Blunt Post | 1.08(27.4) | .162(4.1) dia | .050(1.3) dia | .590(15.0) | .115(2.9) | P9 | D1 | 901-9204-CC | 2 |
| | 1.08(27.4) | .162(4.1) dia | .050(1.3) dia | .590(15.0) | .115(2.9) | P13 | D1 | 901-9204-CCSF | 2 |
| Blunt Post | 1.08(27.4) | .162(4.1) dia | .050(1.3) dia | .590(15.0) | .115(2.9) | P13 | D1 | 901-9757 | 2 |
| Blunt Post | .640(16.2) | .162(4.1) dia | .050(1.3) dia | .205(5.2) | .060(1.5) | P13 | D1 | 901-9839 | 2 |
| Blunt Post | .562(14.3) | .162(4.1) dia | .050(1.3) dia | .087(2.2) | .100(2.5) | P13 | D1 | 901-9184-CCSF | 2 |
| Blunt Post | .560(14.2) | .162(4.1) dia | .050(1.3) dia | .060(1.5) | .125(3.2) | P13 | D1 | 901-9789 | 2 |
| Blunt Post, Solder Dipped | — | .085(2.2) dia | .010(0.3) dia | — | — | P13 | D1 | 901-9804-1 | 3 |
| Tab ± .100 (2.5) Long | Captive Contact, Flush TFE, Conforms to M83517/1-31004 (NQ)* | | | | | P12 | D1 | 901-9215-3CCSF | 1 |

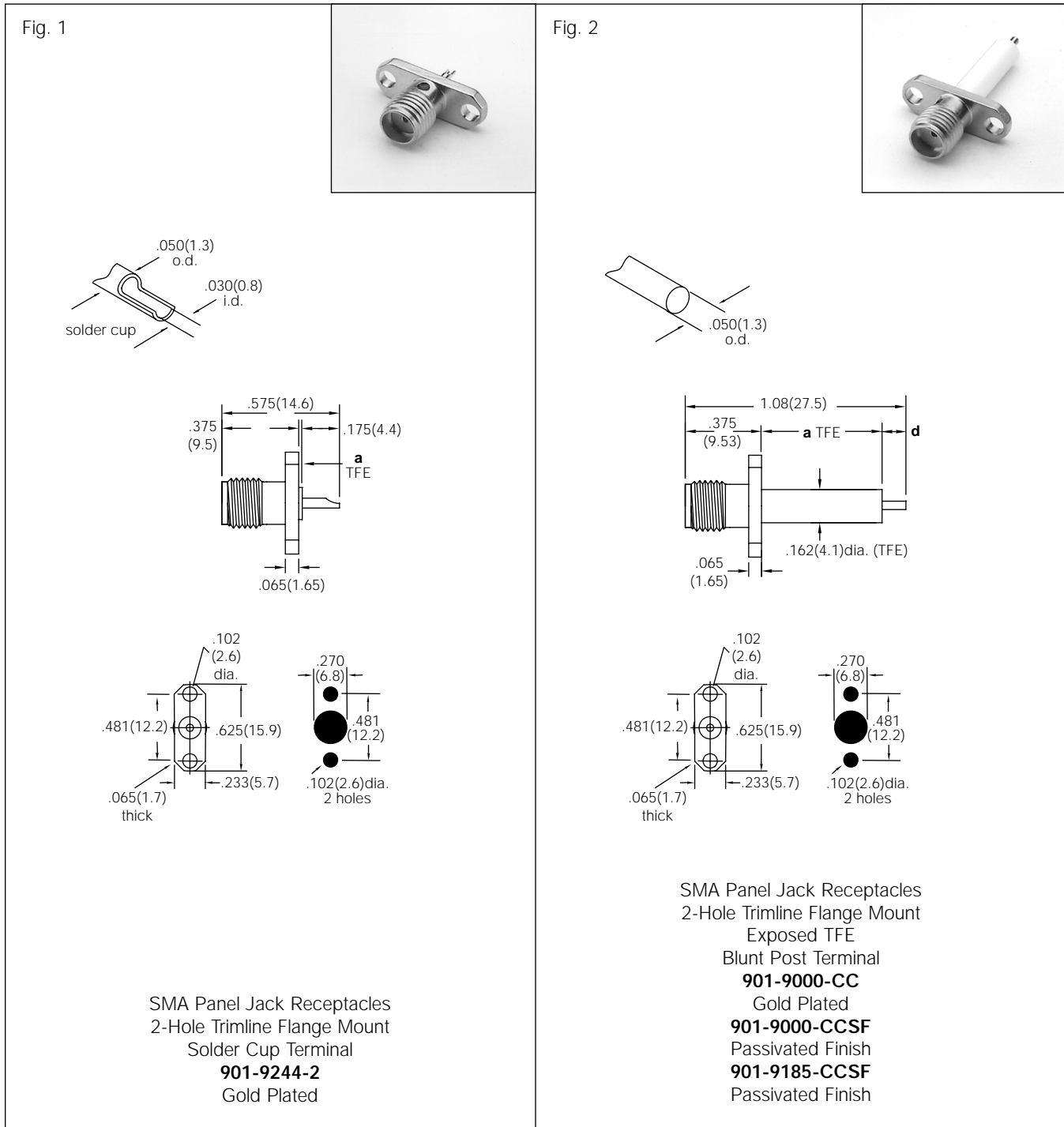
Panel Plug Receptacles – 4-hole Flange



SMA PANEL PLUG RECEPTACLES – 4-hole square flange

| Description | Dim Inches (mm) | | Plt. | Ins. | Construction Notes | Amphenol Number | Fig. | |
|---------------------------|-----------------|------------|------|------|--|------------------|----------------------|---|
| | a | d | | | | | | |
| Blunt Post/.158(4.0) Long | .995(25.3) | .330(8.4) | P9 | D1 | Captive Contact/.330(8.4) Exposed TFE | Gold Plated Body | 901-9214-CC | 1 |
| Blunt Post/.158(4.0) Long | .995(25.3) | .330(8.4) | P12 | D1 | Captive Contact/.330(8.4) Exposed TFE | Passivated Body | 901-9214-CCSF | 1 |
| Blunt Post/.115(2.9) Long | 1.21(30.8) | .590(15.0) | P13 | D1 | Captive Contact/.590(15.0) Exposed TFE | Passivated Body | 901-9788 | 1 |
| Blunt Post/.115(2.9) Long | .622(15.8) | — | P13 | D1 | Captive Contact/Flush TFE | Passivated Body | 901-9767 | 2 |
| Blunt Post/.115(2.9) Long | .622(15.8) | — | P13 | D1 | Captive Contact/Flush TFE C'sink Flange Holes | Passivated Body | 901-9760 | 2 |

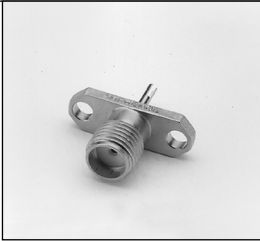
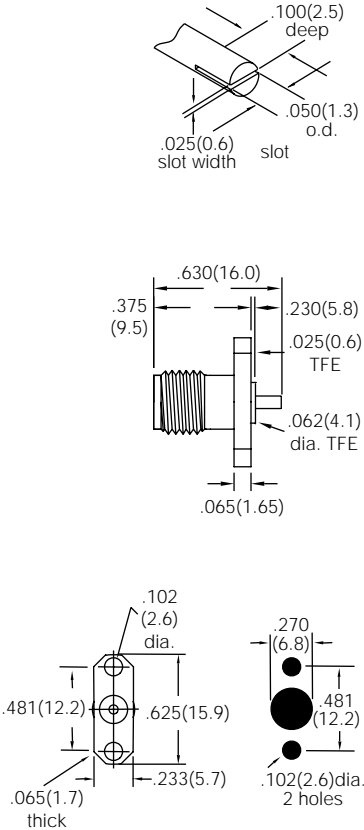
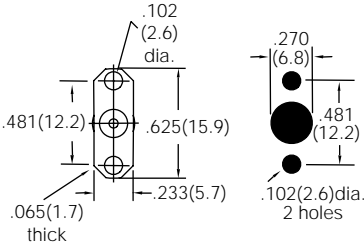
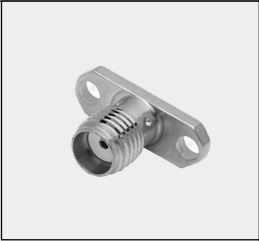
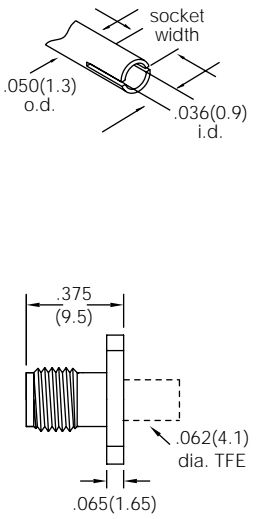
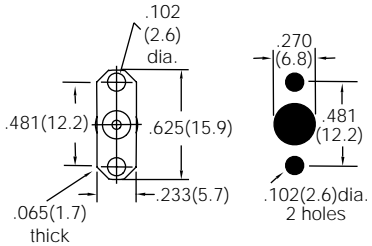
SMA Panel Jack Receptacles – 2-hole Flange



SMA PANEL JACK RECEPTACLES – 2-hole trimline flange

| Description | Terminal Type | Plt. | Ins. | Construction Notes | | Amphenol Number | Fig. |
|-----------------------|---------------|------|------|--|-------------|----------------------|------|
| Panel Jack Receptacle | Solder Cup | P10 | D1 | Captive Contact/ a= .025" (0.6mm) Exposed TFE | Gold Plated | 901-9244-2 | 1 |
| Panel Jack Receptacle | Blunt Post | P10 | D1 | Captive Contact/d=.117(3.0) Long Post a= .590" (15.0mm) Exposed TFE | Gold Plated | 901-9000-CC | 2 |
| | | P13 | D1 | | Passivated | 901-9000-CCSF | 2 |
| Panel Jack Receptacle | Blunt Post | P13 | D1 | Captive Contact/d=.103(2.6) Long Post a= .334" (8.5mm) Exposed TFE | Passivated | 901-9185-CCSF | 2 |

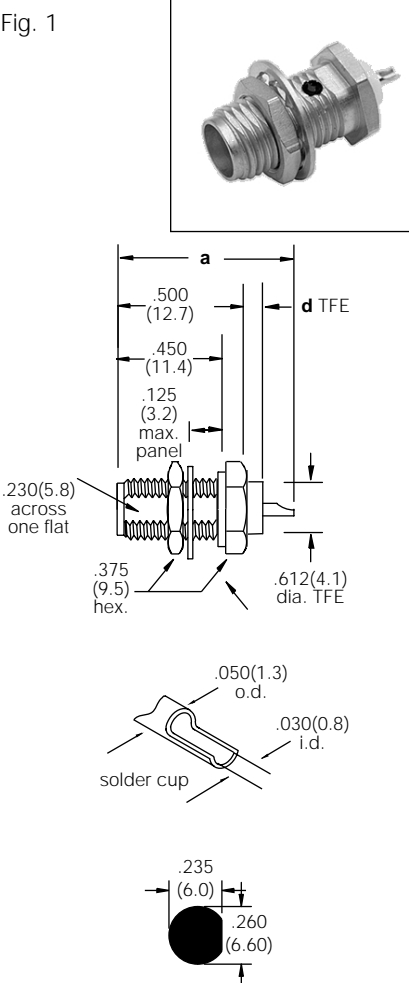
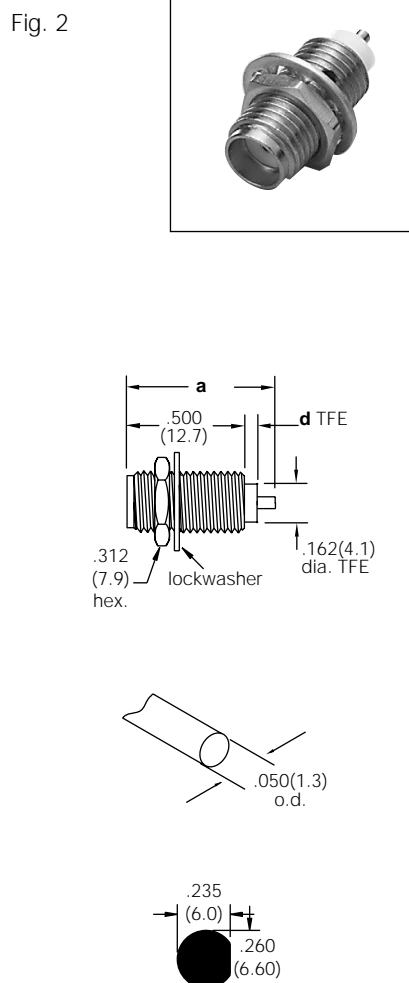
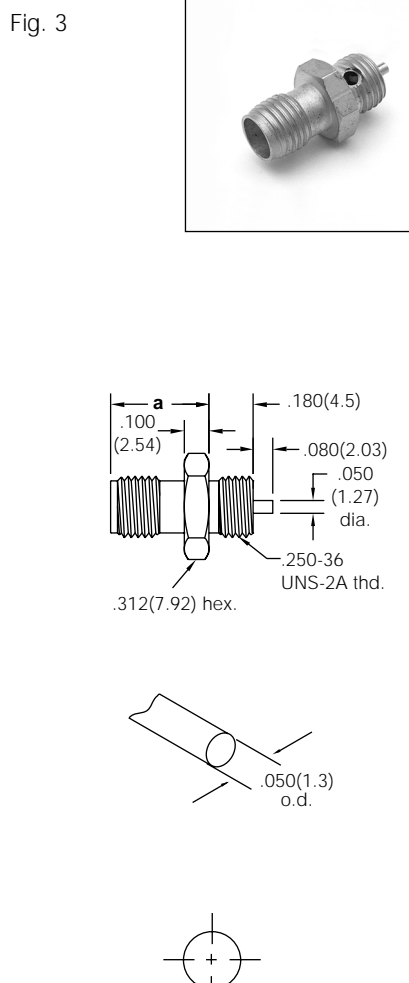
Panel Jack Receptacles – 2-hole Flange

| | |
|--|--|
| <p>Fig. 1</p>    <p style="text-align: center;">.223" Wide 2-Hole Trimline Flange</p> <p style="text-align: center;">SMA Panel Jack Receptacles Slot Terminal 901-9244-1 ‡ Gold Plated 901-9244-1SF ‡ Passivated Finish</p> | <p>Fig. 2</p>    <p style="text-align: center;">.223" Wide 2-Hole Trimline Flange</p> <p style="text-align: center;">SMA Panel Jack Receptacles Socket Terminal 901-9814 Flush TFE, Conductive Epoxy Cap 901-9770 .185 Exposed TFE</p> |
|--|--|

SMA PANEL RECEPTACLES – 2-hole trimline flange


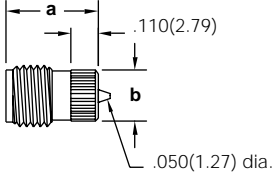
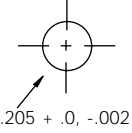

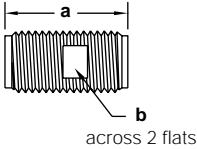
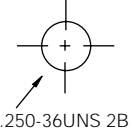

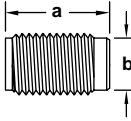
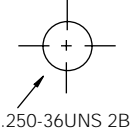
| Description | Terminal Type | Plt. | Ins. | Construction Notes | | Amphenol Number | Fig. |
|-----------------------|-------------------------|------|------|--|-----------------|-----------------------|------|
| | | | | | | | |
| Panel Jack Receptacle | Slot .025" (0.6mm) wide | P9 | D1 | Contact Shipped Unassembled/ .025" (0.6 mm) Exposed TFE | Gold Plated | ‡ 901-9244-1 | 1 |
| | | P13 | D1 | | Passivated | ‡ 901-9244-1SF | 1 |
| Panel Jack Receptacle | Socket | P13 | D1 | Flush TFE | Passivated Body | 901-9814 | 2 |
| Panel Jack Receptacle | Socket | P13 | D1 | .085 Exposed TFE | Passivated Body | 901-9770 | 2 |

‡ Contact shipped unassembled. User has option for slot orientation

| | | |
|---|---|---|
| <p>Fig. 1</p>  <p>SMA Bulkhead Receptacle Rear Mount Solder Cup Terminal Hex Flange 901-9211 Gold Plated, Epoxy Captivated 901-9211-SF Passivated Finish, Epoxy Captivated 901-10032-SF Gold Plated, Mechanically Captivated 901-10032 Passivated Finish, Mechanically Captivated</p> | <p>Fig. 2</p>  <p>SMA Bulkhead Receptacle Front or Rear Mount Blunt Post Terminal 901-9220 Gold Plated 901-9220-SF Passivated Finish 901-9835 Gold Plated/Flush TFE</p> | <p>Fig. 3</p>  <p>SMA Bulkhead Receptacle Front Mount Post Terminal Hex Flange 901-9841 Gold Plated without Nut & Washer</p> |
|---|---|---|


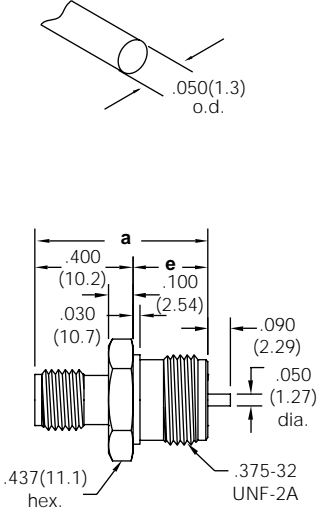
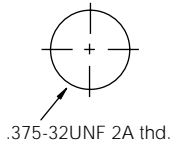
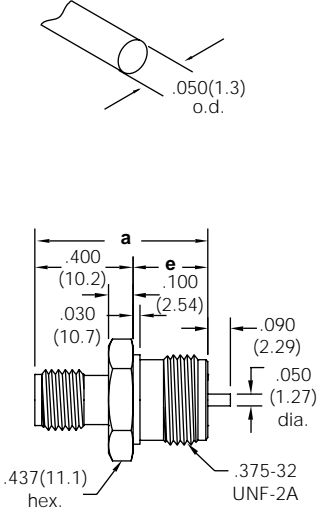
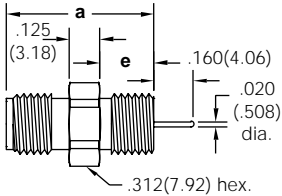
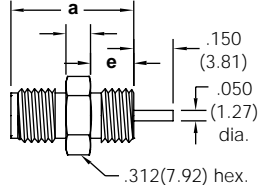

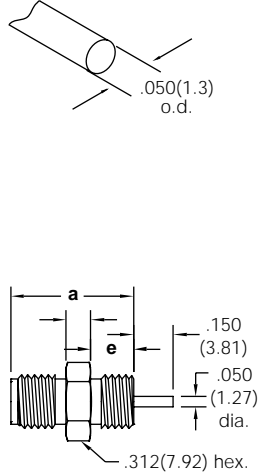

SMA BULKHEAD RECEPTACLES – female contacts

| Description | Terminal Type | Plt. | Ins. | Construction Notes | | Dim Inches (mm) | | Amphenol Number | Fig. |
|---------------------------|---------------|------|------|---|-------------|-----------------|-----------|------------------------------|------|
| | | | | | | a | d | | |
| Rear Mount/ Hex Flange | Solder Cup | P10 | D1 | Captive Contact/ .066(1.7mm) Exposed TFE | Gold Plated | .668(17.0) | .066(1.7) | 901-9211 | 1 |
| | Solder Cup | P13 | D1 | | Passivated | .668(17.0) | .066(1.7) | 901-9211-SF | 1 |
| Front or Rear Mount | Blunt Post | P10 | D1 | Captive Contact/ .076(1.9mm) Exposed TFE | Gold Plated | .660(16.7) | .076(1.9) | 901-9220 | 2 |
| | Blunt Post | P13 | D1 | | Passivated | .660(16.7) | .076(1.9) | 901-9220-SF | 2 |
| | Blunt Post | P11 | D1 | Captive Contact/Flush TFE | Gold Plated | .625(15.9) | .076(1.9) | 901-9835 | 2 |
| Front Mount | Post | P11 | D1 | Flush TFE | Gold Plated | .400(10.2) | — | 901-9841 | 3 |
| Rear Mount Hex. Flange | Solder Cup | P10 | D1 | Mechanically captivated | Gold Plated | .668(17.0) | .066(1.7) | 901-10032 | 1 |
| | Solder Cup | P13 | D1 | Mechanically captivated | Passivated | .668(17.0) | .066(1.7) | 901-10032-SF | 1 |

| | | |
|---|--|---|
| <p>Fig. 1</p>    <p>SMA Bulkhead Receptacle (Plug) Press-Fit Mount 901-9856</p> | <p>Fig. 2</p>    <p>SMA Bulkhead Receptacle (Jack) 901-9847</p> | <p>Fig. 3</p>    <p>SMA Launcher 901-9023</p> |
|---|--|---|


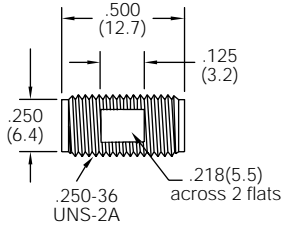

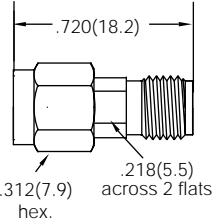
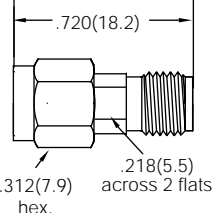
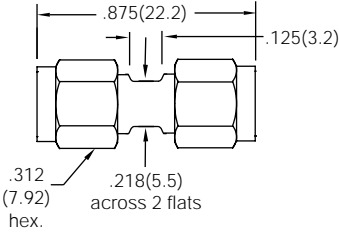
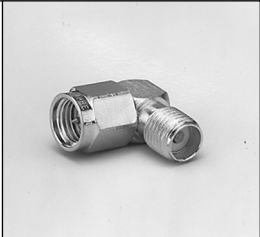
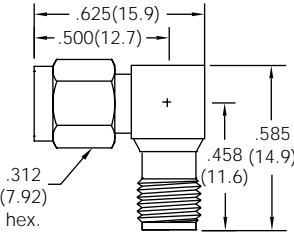
SMA BULKHEAD RECEPTACLES – female contacts

| Description | Terminal Type | Plt. | Ins. | Construction Notes | | Dim Inches (mm) | | Amphenol Number | Fig. |
|---------------------|---------------|------|------|-----------------------------|------------|-----------------|------------|-----------------|------|
| | | | | | | a | b | | |
| Press-Fit | Tab | P13 | D1 | Flush TFE | Passivated | .375(9.53) | .206(5.23) | 901-9856 | 1 |
| Front or Rear Mount | Socket | P13 | D1 | Flush TFE | Passivated | .500(12.7) | .210(5.33) | 901-9847 | 2 |
| | Socket | P13 | D1 | Flush TFE/ w/o Nut & Washer | Passivated | .425(10.8) | .210(5.33) | 901-9023 | 3 |

| | | |
|---|--|--|
| <p>Fig. 1</p>  | <p>Fig. 2</p>  | <p>Fig. 3</p>  |
|  |  |  |
|  <p>.375-32UNF 2A thd.</p> |  <p>.250-36UNS 2B</p> |  <p>.250-36UNS 2B</p> |
| <p>SMA Mid-Flange Bulkhead Receptacle Front Mount Post Terminal 901-9842</p> | <p>SMA Mid-Flange Bulkhead Receptacle Front Mount Post Terminal 901-9909</p> | <p>SMA Mid-Flange Bulkhead Receptacle Front Mount Post Terminal 901-9911</p> |




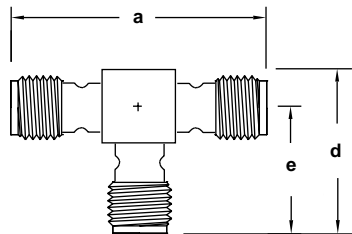
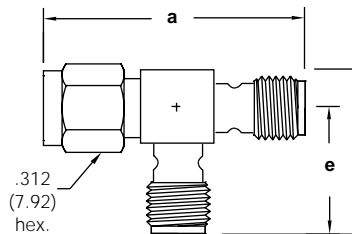
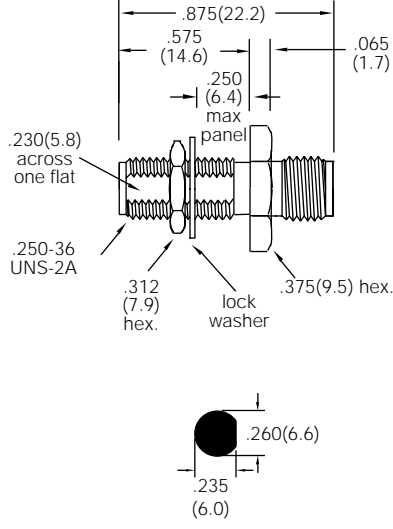
SMA MID-FLANGE BULKHEAD RECEPTACLES – female contacts

| Description | Terminal Type | Plt. | Ins. | Construction Notes | Dim Inches (mm) | | Amphenol Number | Fig. |
|-------------|---------------|------|------|--------------------------|-----------------|-------------------------|-----------------|------|
| | | | | | a | e | | |
| Front Mount | Blunt Post | P13 | D1 | Flush TFE | Passivated | .706(17.9) .306(7.77) | 901-9842 | 1 |
| Front Mount | Blunt Post | P13 | D1 | .020 Spherical Radius | Passivated | .600(15.2) .220(5.89) | 901-9909 | 2 |
| Front Mount | Blunt Post | P12 | D1 | Gold over Copper Contact | Passivated | .500(12.7) .188(4.78) | 901-9911 | 3 |

| | |
|---|---|
| <p>Fig. 1</p> <p>DC-18 GHz 1.14 VSWR max.</p>   <p>SMA Straight Adapter, Jack-Jack 901-9217 Gold Plated 901-9217-SF Passivated Finish</p> | <p>Fig. 2</p> <p>DC-18 GHz 1.14 VSWR max.</p>   <p>SMA Straight Adapter, Plug-Jack 901-9216 Gold Plated 901-9216-SF Passivated Finish</p> |
| <p>Fig. 3</p> <p>DC-18 GHz 1.14 VSWR max.</p>   <p>SMA Straight Adapter, Plug-Plug 901-9218 Gold Plated 901-9218-SF Passivated Finish</p> | <p>Fig. 4</p> <p>DC-18 GHz 1.23 VSWR max.</p>   <p>SMA Angle Adapter, Plug-Jack 901-125-11 Gold Plated 901-125-11SF (M55339/02-30001) Passivated</p> |

SMA IN-SERIES ADAPTERS

| Description | Plt. | Ins | Notes | Mil. No. M55339/ | Amphenol Number | Fig. |
|--------------------|------|-----|--|---------------------|------------------------------|------|
| Straight Jack-Jack | P9 | D1 | DC-18GHz Max. VSWR 1.14 Captive Contact | — | 901-9217 | 1 |
| | P12 | | | — | 901-9217-SF | |
| Straight Plug-Jack | P9 | D1 | DC-18GHz Max. VSWR 1.14 Captive Contact | — | 901-9216 | 2 |
| | P12 | | | — | 901-9216-SF | |
| Straight Plug-Plug | P10 | D1 | DC-18GHz Max. VSWR 1.14 Captive Contact | — | 901-9218 | 3 |
| | P12 | | | — | 901-9218-SF | |
| Angle Plug-Jack | P13 | D1 | DC-18GHz Max. VSWR 1.23 Captive Contact | — | 901-125-11 | 4 |
| | P13 | | | 02-30001 | 901-125-11SF | |

| | | |
|--|--|--|
| <p>Fig. 1</p>  | <p>Fig. 2</p>  | <p>Fig. 3</p>  |
|  <p>SMA Tee Adapter Jack-Jack-Jack 901-178 Gold Plated</p> |  <p>SMA Tee Adapter Plug-Jack-Jack 901-382-1 Gold Plated</p> |  <p>SMA Bulkhead Adapter Jack-Jack 901-9209-A Gold Plated 901-9209-ASF Passivated Finish</p> |

SMA IN-SERIES TEE ADAPTERS

| Description | Dimensions, Inches (millimeters) | | | Plt. | Ins | Notes | Amphenol Number | Fig. |
|-----------------------------|----------------------------------|------------|------------|------|-----|-----------|---------------------------|------|
| | a | d | e | | | | | |
| Tee Adapter, Jack-Jack-Jack | 1.00(25.4) | .687(17.5) | .500(12.7) | P9 | D1 | BeCu Body | 901-178 | 1 |
| Tee Adapter, Plug-Jack-Jack | 1.08(27.4) | .687(17.5) | .500(12.7) | P9 | D1 | BeCu Body | 901-382-1 | 2 |

SMA IN-SERIES BULKHEAD ADAPTERS

| Description | Plt. | Ins | Notes | Amphenol Number | Fig. |
|---|------|-----|--|------------------------------|------|
| Bulkhead Jack-Jack Front or Rear Mount | P11 | D1 | DC-18GHz Max. VSWR 1.14 Captive Contact | 901-9209-A | 3 |
| | P13 | | | 901-9209-ASF | |

Amphenol has available a line of 50 ohm SMA brass connectors as a cost effective solution for applications where stainless steel construction is not required. This gives the design engineer flexibility with performance to complete projects with world class components.

Amphenol series 901 SMA brass connectors are semi-precision, subminiature units which provide electrical performance from DC to 18 GHz. These high performance connectors are compact in size and mechanically have outstanding durability.

Features/Benefits

- Amphenol brass SMA connectors feature pre-assembled captive center contacts, brass body and coupling nuts.
- Connectors are built in accordance with MIL-C-39012.
- Can be mated with all connectors which meet the military specification mating diameters regardless of manufacturer.
- Available for .085" and .141" diameter semi-rigid cables and all the standard flexible cables including double shielded RG-316.
- Connectors are adaptable to the interconnection requirements of both systems and components.

SPECIFICATIONS*

ELECTRICAL

| | |
|---------------------------------|--|
| Impedance | 50 ohms |
| Frequency range | .141" & .085" O.D. copper jacket semi-rigid cable. 0-18GHz. Flexible cables: 0-12.4 GHz. |
| Voltage rating | RG-58,141,142: 500 volts peak RG-174, 188, 316:, 375 volts peak |
| Dielectric withstanding voltage | .141" & RG-58 group: 1,000 VRMS. .085" & RG-316 group: 750 VRMS. |
| VSWR (straight connectors) | .141" O.D. semi-rigid cable: 1.05 + .005 f RG-174 group: 1.15 + .02 f RG-58 group: 1.15 + .01 f RG-178 group: 1.20 + .025 f |
| Contact resistance | Center: 2.0 milliohms Body: 2.0 milliohms Braid to body: 0.5 milliohms |
| Insulation resistance: | 5000 megohms |
| RF leakage | -90 dB min. at 2.3 GHz |
| Insertion loss: | dB max. = $.06 \sqrt{f(\text{GHz})}$ Test frequency @ 6.0 GHz |

MATERIAL



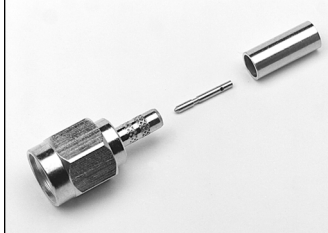
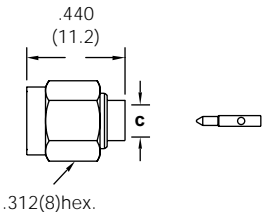
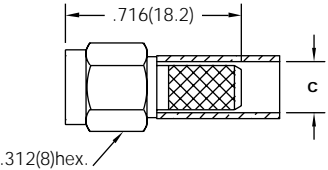
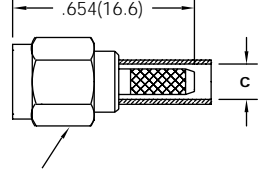
| | |
|--|---|
| Bodies, coupling nuts, other metal parts (except as noted) | Brass per QQ-B-626 |
| Contacts Male: Female: | Brass Beryllium copper, heat treated |
| Plating: Center contacts, | .000030" min. gold |
| Plating: Other metal parts | Standard .000010" gold or nickel plated |
| Insulators | TFE fluorocarbon |
| Gaskets | Silicone rubber |
| Crimp ferrules | Seamless copper tubing alloy |

MECHANICAL†

| | |
|----------------------|---|
| Mating | .250-36 Threaded coupling |
| Mating Torque | Minimum: 2 inch pounds 12 N.cm Recommended: 8 to 10 inch pounds 45 N.cm Maximum: 15 inch pounds 60 N.cm |
| Connector Durability | 100 matings |

* These characteristics are typical and may not apply to all connectors.

† Pressure applied on an SMA outer contact is extremely high; therefore inadequate torque of connector body will result in a slight deformation of the outer contact. Reflections will appear above 2GHz.

| | | |
|---|--|--|
| <p>Fig. 1</p>  | <p>Fig. 2</p>  | <p>Fig. 3</p>  |
|  <p>.440 (11.2) .312(8)hex. c</p> <p>SMA Solder Plug 901-9868-RFX▲ Gold Plated for .141" S/R 901-9867-RFX▲ Gold Plated for .085" S/R</p> |  <p>.716(18.2) .312(8)hex. c</p> <p>SMA Crimp Plug Captivated Center Contact 901-9870▲ Gold Plated for RG-58 901-9871▲ Gold Plated for RG-223, 141 901-9876-RFX▲ Nickel Plated for RG-58 901-10009-RFX Gold Plated for LMR 240 901-10010-RFX Gold Plated for LMR 200</p> |  <p>.654(16.6) .312(8)hex. c</p> <p>SMA Crimp Plug Captivated Center Contact 901-9877-RFX▲ Nickel Plated for RG-174, 188, 316 901-9916 Gold Plated for RG-174, 188, 316 901-10024-RFX Nickel Plated for RD-174, 188, 316 901-10025-RFX Gold Plated for RD-174, 188, 316</p> |

SMA BRASS PLUGS

| Cable RG-/U | Connector Description | Cable Attachment | | c Dia In. (mm) | CAI | Ins. | Notes | Amphenol Number | Fig. |
|------------------|-----------------------|------------------|--------|----------------|-----|------|-----------------|-----------------|------|
| | | Outer | Inner | | | | | | |
| 58 | Plug | Crimp | Solder | .210(5.3) | C53 | D1 | Captive Contact | ▲ 901-9870 | 2 |
| 58 | Plug | Crimp | Solder | .210(5.3) | C53 | D1 | Captive Contact | ▲ 901-9876-RFX | 2 |
| 174, 188, 316 | Plug | Crimp | Solder | .128(3.3) | C57 | D1 | Captive Contact | ▲ 901-9877-RFX | 3 |
| RD 174, 188, 316 | Plug | Crimp | Solder | .128(3.3) | C57 | D1 | Captive Contact | 901-9916 | 3 |
| RD 174, 188, 316 | Plug | Crimp | Solder | .128(3.3) | C57 | D1 | Captive Contact | 901-10024-RFX | 3 |
| 174, 188, 316 | Plug | Crimp | Solder | .128(3.3) | C57 | D1 | Captive Contact | 901-10025-RFX | 3 |
| 141, 223 | Plug | Crimp | Solder | .220(5.6) | C53 | D1 | Captive Contact | ▲ 901-9871 | 2 |
| .085" S/R | Plug | Solder | Solder | .090(2.3) | C47 | D1 | — | ▲ 901-9867-RFX | 1 |
| .141" S/R | Plug | Solder | Solder | .145(3.7) | C47 | D1 | — | ▲ 901-9868-RFX | 1 |
| LMR 240 | Plug | Crimp | Solder | .261(6.6) | C53 | D1 | Captive Contact | 901-10009-RFX | 2 |
| LMR 200 | Plug | Crimp | Solder | .206(5.2) | C53 | D1 | Captive Contact | 901-10010-RFX | 2 |

▲ distributor stocked

SMA Brass Angle Plugs & Bulkhead Jacks

Fig. 1

SMA Angle Plug, Crimp
901-9872▲
 Gold Plated for RG-174, 188, 316
901-9873▲
 Gold Plated for RG-58
901-9874▲
 Gold Plated for RG-141, 223
901-9880-RFX▲
 Nickel Plated for RG-58
901-9881-RFX▲
 Nickel Plated for RG-174, 188, 316
901-10028-RFX
 Gold Plated for RD-174, 188, 316
901-10029-RFX
 Nickel Plated for RD-174, 188, 316

Fig. 2

SMA Low Profile Angle Plug, Crimp
901-9902
 Nickel Plated for RG-141, 223

Fig. 3

SMA Bulkhead Jack, Crimp
901-9875▲
 Gold Plated for RG-174, 188, 316
901-9879-RFX▲
 Nickel Plated for RG-174, 188, 316

Fig. 4

SMA Bulkhead Jack with O-Ring
901-10013-RFX
 RG-174, 188, 316

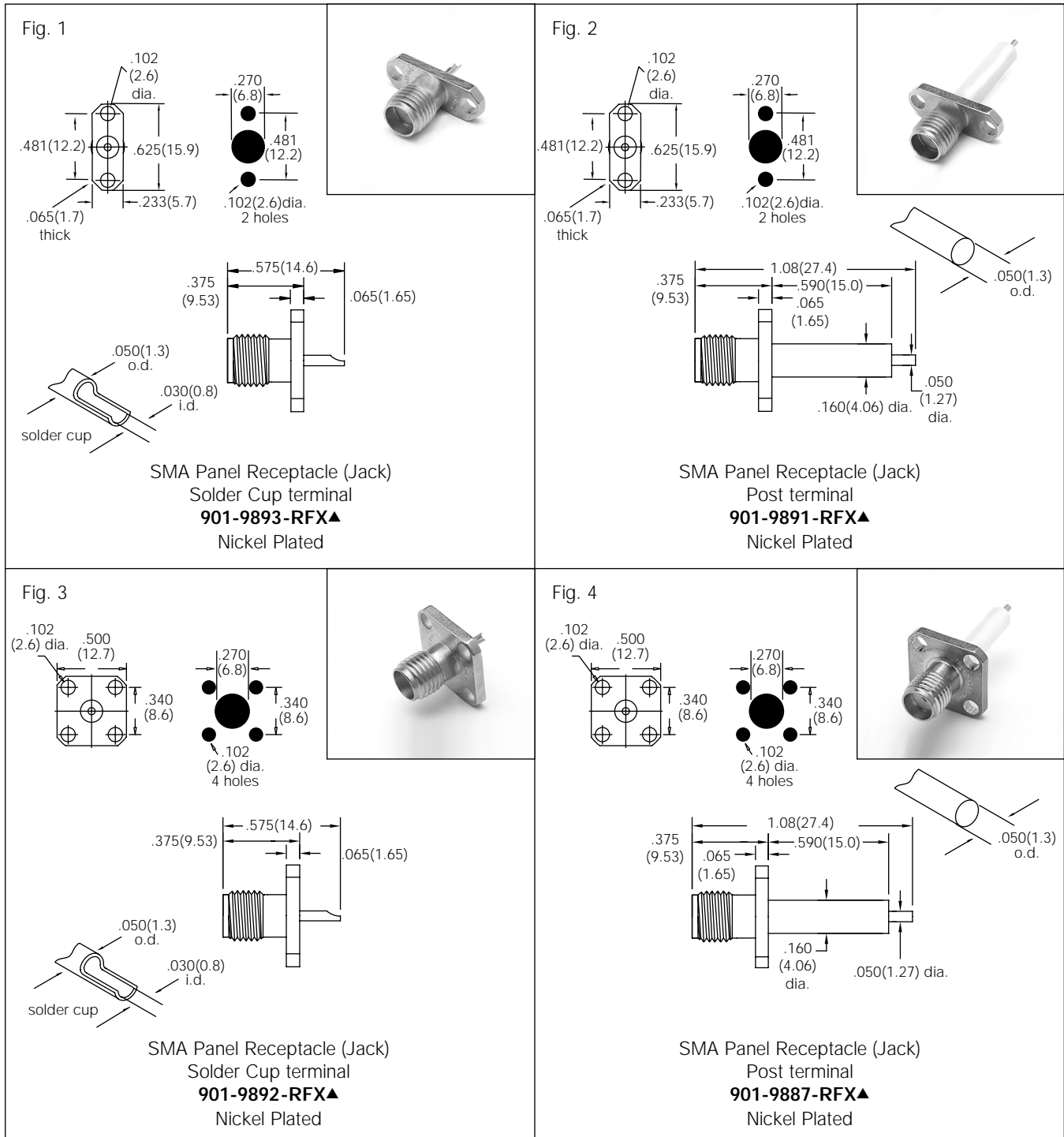
SMA BRASS ANGLE PLUGS

| Cable RG-/U | Connector Description | Cable Attachment | | c Dia In. (mm) | CAI | Ins. | Notes | Amphenol Number | Fig. |
|---------------|------------------------|------------------|--------|----------------|-----|------|--------------------|--------------------------------|------|
| | | Outer | Inner | | | | | | |
| 58 | Angle Plug | Crimp | Solder | .210(5.3) | C53 | D1 | Gold Plated Body | ▲ 901-9873 | 1 |
| | Angle Plug | Crimp | Solder | .210(5.3) | C53 | D1 | Nickel Plated Body | ▲ 901-9880-RFX | 1 |
| 174, 188, 316 | Angle Plug | Crimp | Solder | .128(3.3) | C57 | D1 | Nickel Plated Body | ▲ 901-9881-RFX | 1 |
| | Angle Plug | Crimp | Solder | .128(3.3) | C57 | D1 | Gold Plated Body | ▲ 901-9872 | 1 |
| | Angle Plug | Crimp | Solder | .128(3.3) | C57 | D1 | Gold Plated Body | 901-10028-RFX | 1 |
| | Angle Plug | Crimp | Solder | .128(3.3) | C57 | D1 | Nickel Plated Body | 901-10029-RFX | 1 |
| | Angle Plug | Crimp | Solder | .128(3.3) | C57 | D1 | Nickel Plated Body | 901-10029-RFX | 1 |
| 141, 223 | Angle Plug | Crimp | Solder | .220(5.6) | C53 | D1 | Gold Plated Body | ▲ 901-9874 | 1 |
| 141, 223 | Low Profile Angle Plug | Crimp | Solder | .220(5.6) | C53 | D1 | Plated Body | 901-9902 | 2 |

SMA BRASS BULKHEAD JACKS

| Cable RG-/U | Connector Description | Cable Attachment | | c Dia. In. (mm) | CAI | Ins. | Notes | Amphenol Number | Fig. |
|---------------|-----------------------|------------------|--------|-----------------|-----|------|--------------------|--------------------------------|------|
| | | Outer | Inner | | | | | | |
| 174, 188, 316 | Bulkhead Jack | Crimp | Solder | .128(3.3) | C53 | D1 | Gold Plated Body | ▲ 901-9875 | 3 |
| | Bulkhead Jack | Crimp | Solder | .128(3.3) | C53 | D1 | Nickel Plated Body | ▲ 901-9879-RFX | 3 |
| | Bulkhead Jack | Crimp | Solder | .128(3.3) | C53 | D1 | Nickel Plated Body | 901-10013-RFX | 4 |

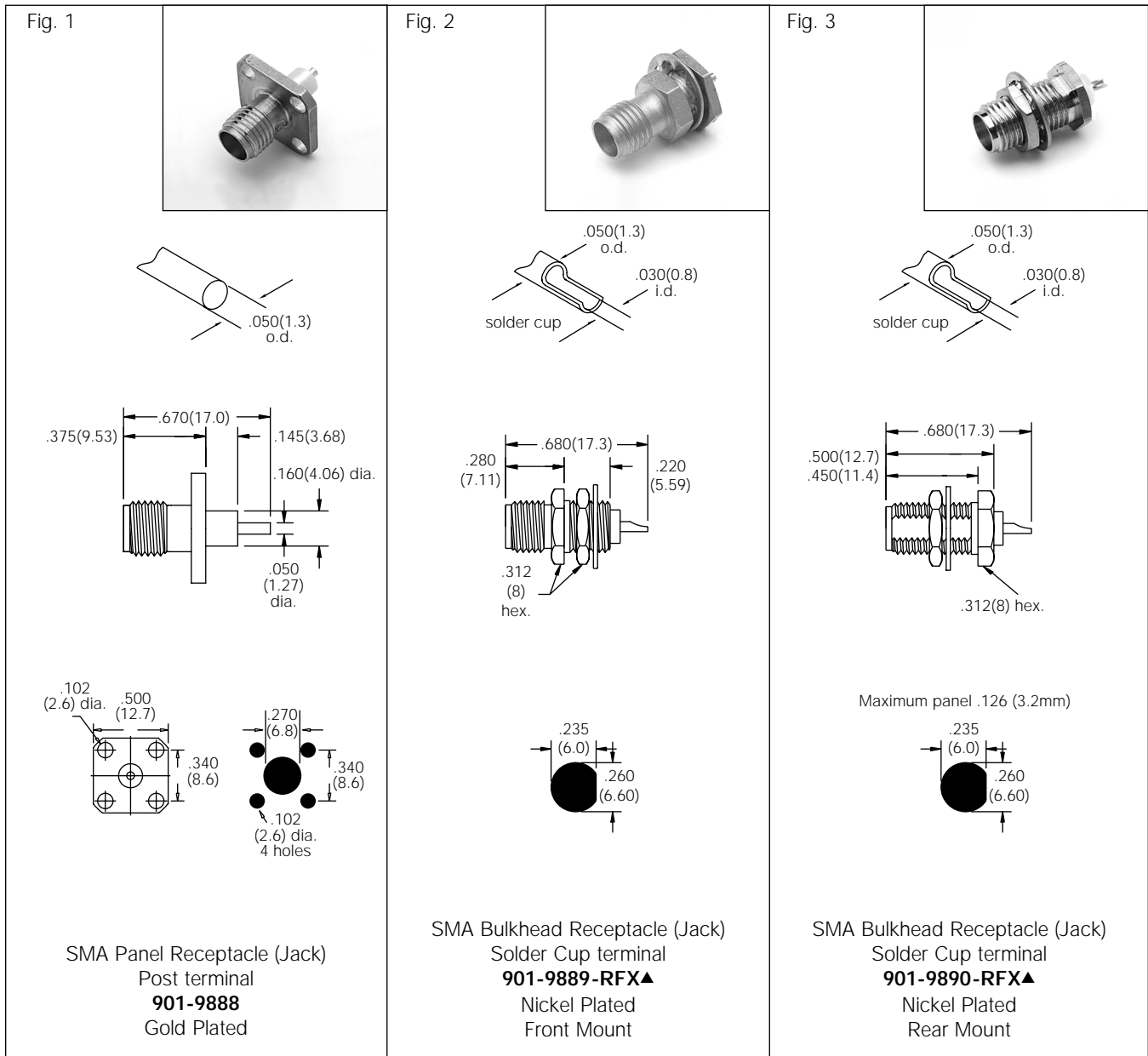
▲ distributor stocked



SMA BRASS PANEL JACK RECEPTACLES

| Connector Description | Terminal Type | Ins | Construction Notes | Amphenol Number | Fig. |
|-------------------------|---------------|-----|--------------------|--------------------------------|------|
| Panel Receptacle (Jack) | Solder Cup | D1 | Nickel Plated Body | ▲ 901-9893-RFX | 1 |
| Panel Receptacle (Jack) | Post | D1 | Nickel Plated Body | ▲ 901-9891-RFX | 2 |
| Panel Receptacle (Jack) | Solder Cup | D1 | Nickel Plated Body | ▲ 901-9892-RFX | 3 |
| Panel Receptacle (Jack) | Post | D1 | Nickel Plated Body | ▲ 901-9887-RFX | 4 |

▲ distributor stocked



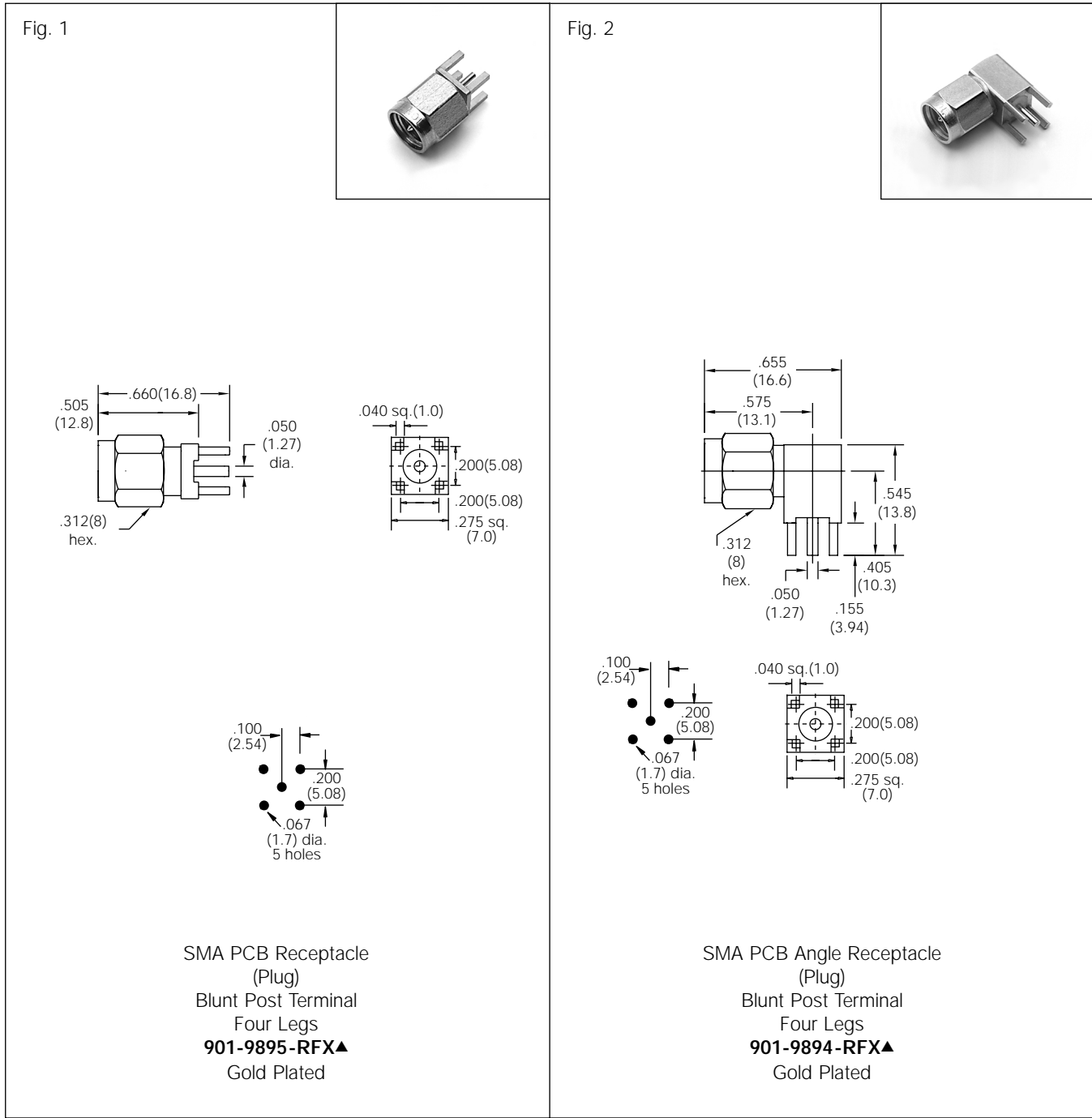
SMA BRASS PANEL JACK RECEPTACLES

| Connector Description | Terminal Type | Ins | Construction Notes | Amphenol Number | Fig. |
|-------------------------|---------------|-----|--------------------|-----------------|------|
| Panel Receptacle (Jack) | Post | D1 | Gold Plated Body | 901-9888 | 1 |

SMA BRASS BULKHEAD RECEPTACLES

| Connector Description | Terminal Type | Ins | Construction Notes | Amphenol Number | Fig. |
|---|---------------|-----|--------------------|-----------------------|------|
| Bulkhead Receptacle (Jack), Front Mount | Solder Cup | D1 | Nickel Plated Body | ▲ 901-9889-RFX | 2 |
| Bulkhead Receptacle (Jack), Rear Mount | Solder Cup | D1 | Nickel Plated Body | ▲ 901-9890-RFX | 3 |

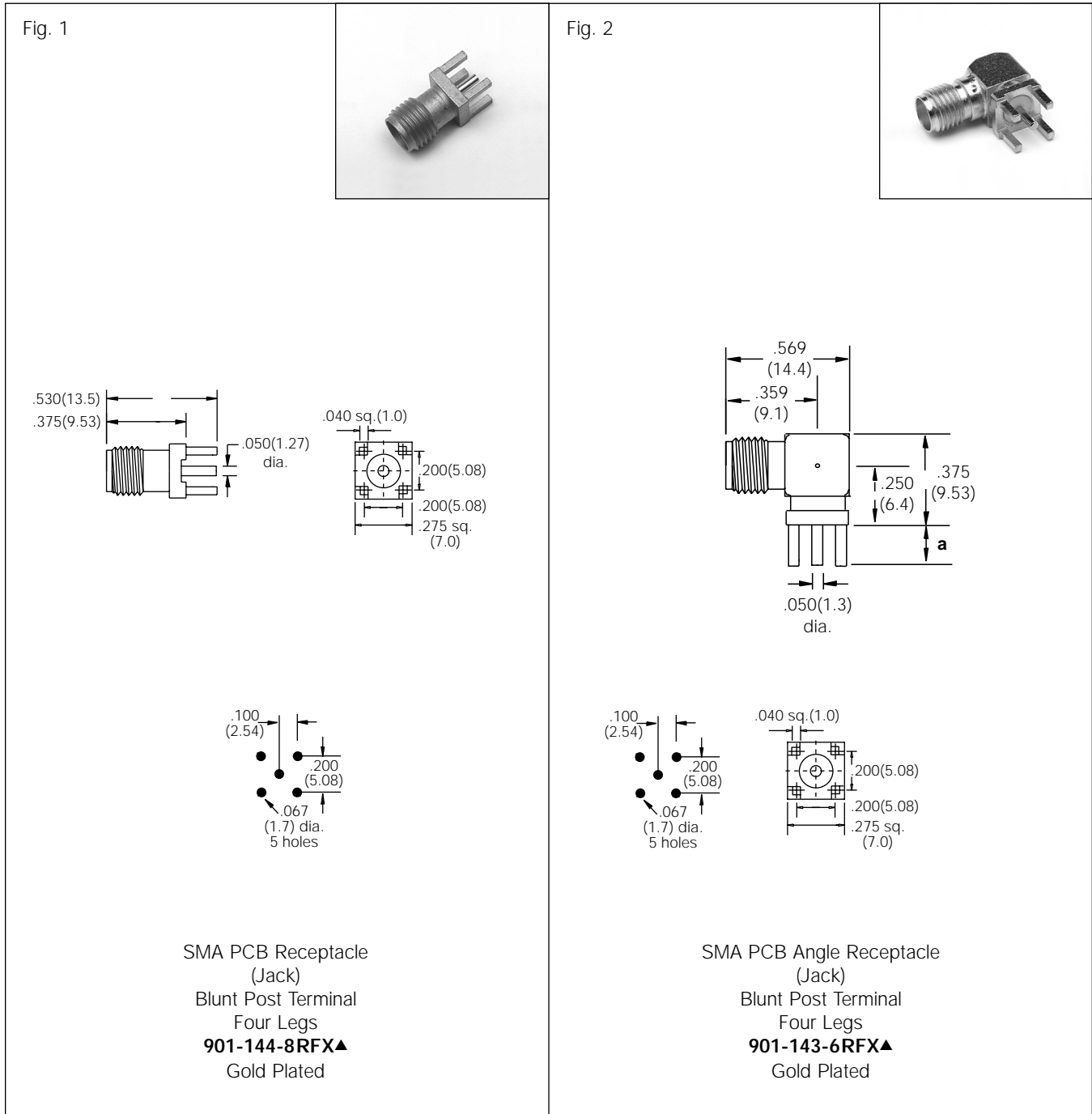
▲ distributor stocked



SMA BRASS PRINTED CIRCUIT BOARD PLUG RECEPTACLES

| Connector Description | Terminal Type | Ins | Construction Notes | Amphenol Number | Fig. |
|-------------------------------------|---------------|-----|--------------------|-----------------------|------|
| PCB Receptacle (P)/ Four Legs | Blunt Post | D1 | Gold Plated Body | ▲ 901-9895-RFX | 1 |
| PCB Angle Receptacle (P)/ Four Legs | Blunt Post | D1 | Gold Plated Body | ▲ 901-9894-RFX | 2 |

▲ distributor stocked



SMA BRASS PRINTED CIRCUIT BOARD JACK RECEPTACLES

| Connector Description | Terminal Type | Ins | Construction Notes | Amphenol Number | Fig. |
|-------------------------------------|---------------|-----|--------------------|-----------------------|------|
| PCB Receptacle (J)/ Four Legs | Blunt Post | D1 | Gold Plated Body | ▲ 901-144-8RFX | 1 |
| PCB Angle Receptacle (J)/ Four Legs | Blunt Post | D1 | Gold Plated Body | ▲ 901-143-6RFX | 2 |

▲ distributor stocked

For phase array radar, test equipment, ILS landing systems and other instrumentation using phase matching techniques, these SMA connectors for semi-rigid coaxial cables and the SMA plug-to-Jack adapter offer a precise and simple means of phase adjustment for microwave devices.

Features/Benefits

- Connectors incorporate a threaded interconnection of variable length.
- Adjustment nut creates incremental changes in connector length and angle.
- Proper phase setting for each cable is maintained by connector locking-nuts.
(For example, one revolution of the adjustment nut results in a phase angle change of 5.7° for a 9 GHz signal [0.636 x 9]°.)
- Connectors provide ease of mechanical screw adjustments, compared to the delays and expense of laborious cable-trimming.
- Allow phase matching to be performed at the final production stages.

SPECIFICATIONS*

ELECTRICAL

| | |
|--|---|
| Impedance | 50 ohms |
| Frequency range | DC-18GHz. |
| Insertion loss: | dB max. For Adapter 901-508 = $.1 \sqrt{f(\text{GHz})}$ For Plug 901-509 = $.08 \sqrt{f(\text{GHz})}$ |
| VSWR | See chart below |
| Phase Angle Adjustment Range in degrees | For Adapter 901-508 and Plug 901-509, = 0° to $[10 \times f(\text{GHz})]^\circ$ max |
| Phase Angle change per revolution of Adjustment Nut in degrees | For Adapter 901-508 and Plug 901-509, = $[0.636 \times f(\text{GHz})]^\circ$ |
| Voltage rating | 500 VRMS peak |

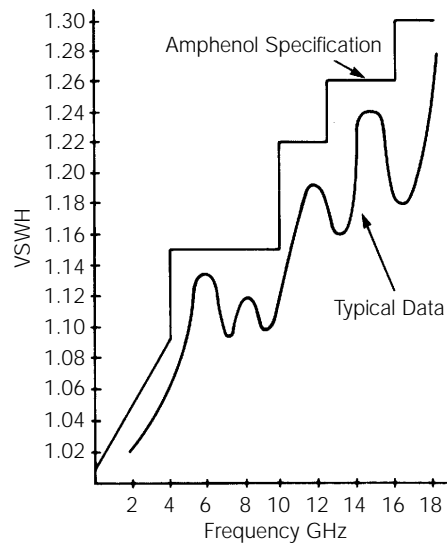
MECHANICAL

| | |
|----------------------|---|
| Mating | Mating face dimensions compatible with the mating requirements of MIL-C-39012/55 (Type SMA) |
| Connector Durability | (SMA interface) 500 cycles of mating and unmating without deterioration |

MATERIAL

| | |
|---------------------------------|--|
| Center Contact | Beryllium copper, Gold plated |
| Connector Body | Brass or Beryllium Copper, Gold plated |
| Adjusting Nuts and Locking Nuts | Brass with ASTRO plate finish |
| Connector Coupling Nut | Stainless Steel, Passivated |
| Insulation | TFE |

SWEPT VSWR DATA

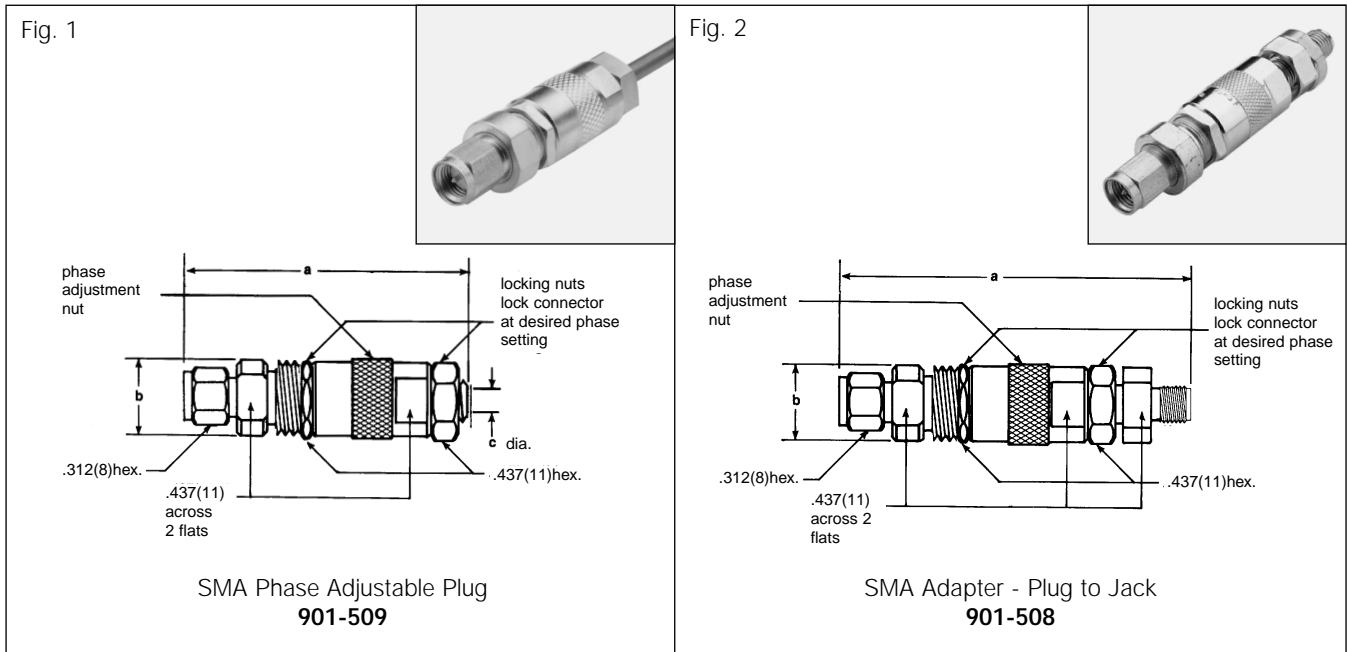


ENVIRONMENTAL

| | |
|-------------------|--|
| Shock | MIL-Std. 202 method 213 (test cond. I) |
| Vibration | MIL-Std. 202 method 204 (test cond. D) |
| Corrosion | MIL-Std. 202 method 101 (test cond. B) |
| Temperature range | -65°C to + 125°C |

* These characteristics are typical and may not apply to all connectors.

SMA Phase Adjustable Connectors



| Description | Semi-Rigid Cable Size | Cable Termination | Dimensions, Inches (millimeters) | | | CAI | Plt. | Ins. | Amphenol Number | Fig. | |
|-------------|-----------------------|-------------------|----------------------------------|----------------|------------|-----------|------|------|-----------------|---------|---|
| | | | a | | b | | | | | | c |
| | | | (Fully Extended) | (Fully Closed) | | | | | | | |
| Plug | .141"(3.6) dia. | Solder | 2.03(51.6) | 1.68(42.7) | .500(12.7) | .144(3.7) | C51 | PCF | D1 | 901-509 | 1 |
| Adapter | — | — | 2.50(63.5) | 2.15(54.6) | .500(12.7) | — | — | PCF | D1 | 901-508 | 2 |

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