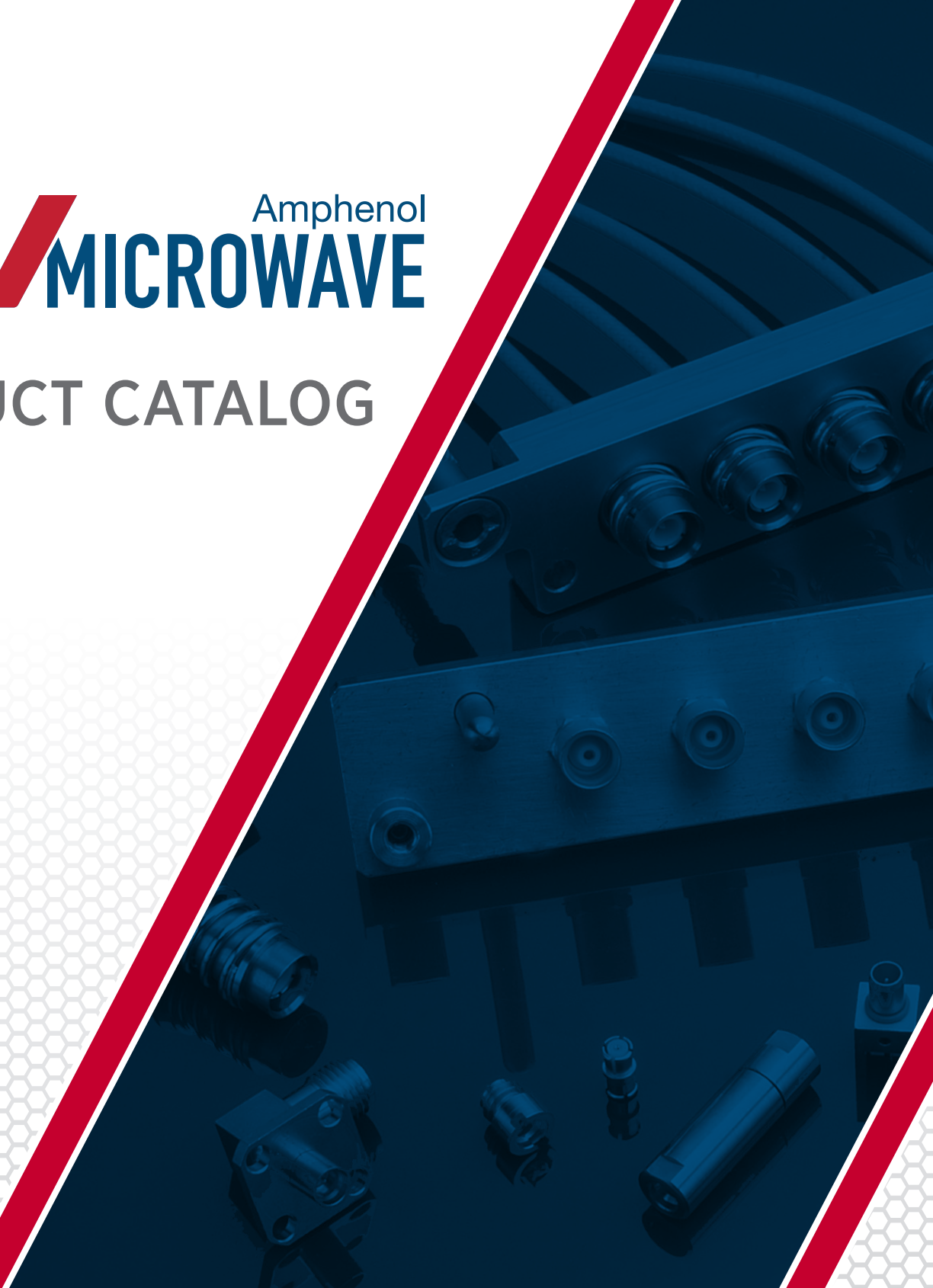




# PRODUCT CATALOG





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## SV Microwave - About Us

SV Microwave is a world leader in the RF/Microwave industry with over 40 years of proven performance. We design and manufacture RF/Microwave coaxial connectors, cable assemblies and passive components for military, satellite, aerospace, commercial and telecommunications applications.

We specialize in customized application specific solutions, but also offer a wide range of Commercial Off The Shelf (COTS) products shown in this catalog. When it comes to the design and manufacture of precision products, SV Microwave has set the standard.

SV Microwave is committed to helping our customers meet their RF/Microwave performance goals with our highly talented engineering team, outstanding customer service and precision manufacturing capabilities.

### Product Series

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### Appendix

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Rev. 1 (01/15)

# BMA SERIES

## BMA Interface at a Glance

Government designation BMA (Blindmate A) was developed in the 1980's. The originally designated OSP™ connector by M/A-Com has excellent electrical performance up to 22 GHz in a compact size. SV Microwave offers extended frequencies on most BMA connector designs up to 26.5 GHz. With a slide-on interface and a connector durability of 5000 cycles, the BMA blindmate is suitable for high performance microwave applications.

### Electrical Specifications

|                                 |               |
|---------------------------------|---------------|
| Impedance                       | 50Ω           |
| Frequency                       | 22 GHz        |
| VSWR                            | 1.02 + .008 f |
| Insertion Loss                  | .03 √ f       |
| Shielding Effectiveness         | ≥ -90 - f dB  |
| Dielectric Withstanding Voltage | 1000 VRMS     |

### Mechanical Specifications

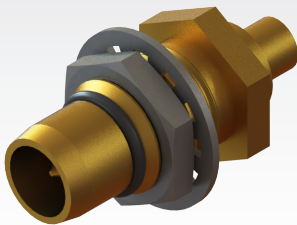
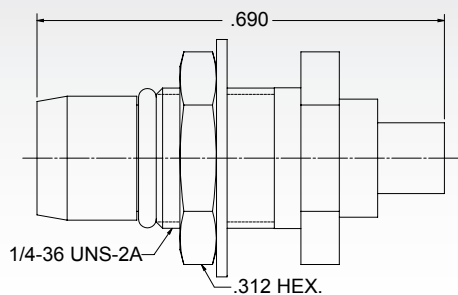
|                              |         |
|------------------------------|---------|
| Mating Cycles                | 5000    |
| Insertion Force              | 3.0 lbs |
| Withdrawal Force             | 1.5 lbs |
| Axial Float (Spring Loaded)  | .060"   |
| Radial Float (Spring Loaded) | .020"   |

### Environmental Specifications

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Temperature Rating             | -65°C to +165°C                                   |
| Corrosion (Salt Spray)         | MIL-STD-202, Method 101, Condition B              |
| Vibration                      | MIL-STD-202, Method 204, Condition D, 20 Gs       |
| Shock                          | MIL-STD-202, Method 213, Condition I, 100 Gs      |
| Thermal Shock                  | MIL-STD-202, Method 107. Cond. B, -65°C to +125°C |
| Moisture Resistance            | MIL-STD-202, Method 106, Less Step 7B             |
| Barometric Pressure (Altitude) | MIL-STD-202, Method 105, Condition C, 70k Ft.     |

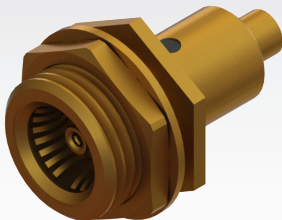
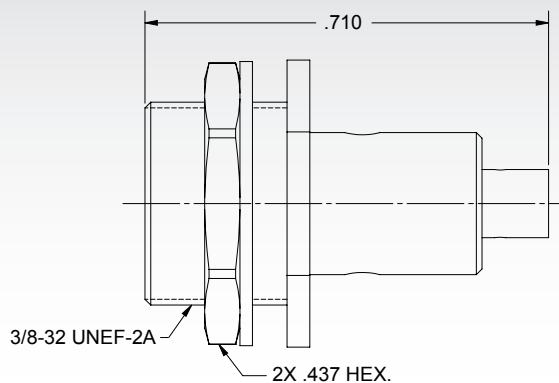
Note: Specifications, dimensions and images are typical for the series and may vary by part number

Male Bulkhead Cable Connector



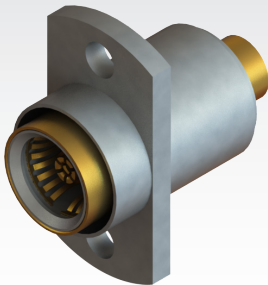
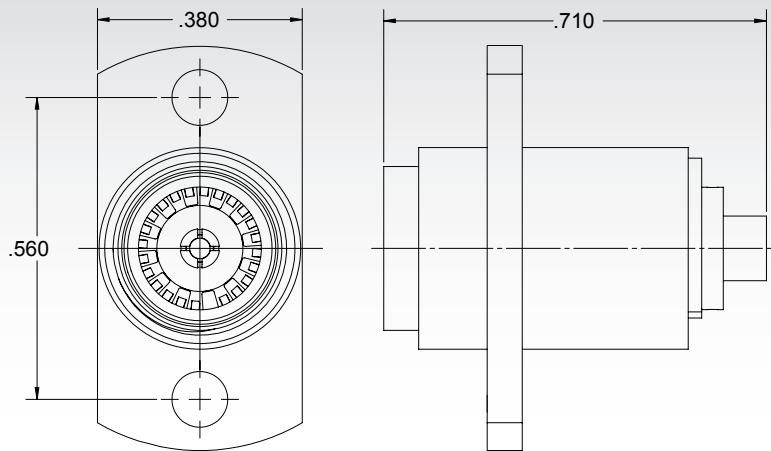
| Cable | P/N       |
|-------|-----------|
| .085  | 1708-0001 |
| .141  | 1709-6002 |

Female Bulkhead Cable Connector



| Cable | P/N       |
|-------|-----------|
| .085  | 1733-6008 |
| .141  | 1732-6012 |

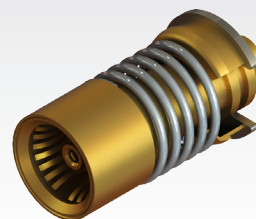
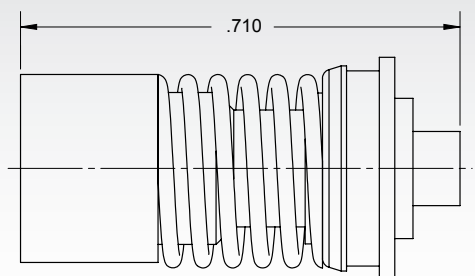
Female Flange Mount Cable Connector, 2 Hole



| Cable | P/N         |
|-------|-------------|
| .085  | SF1733-6006 |
| .141  | SF1732-6004 |

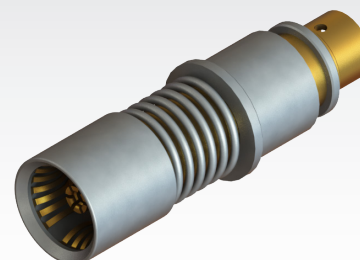
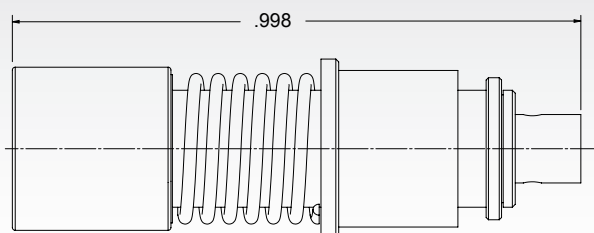
# BMA SERIES

## Female Snap-In Float Mount Cable Connector



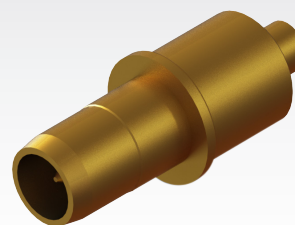
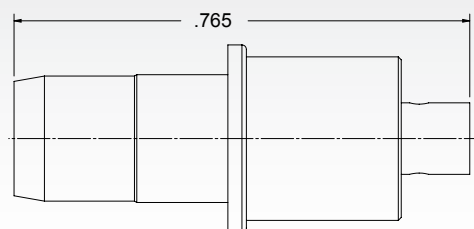
| Cable | P/N       |
|-------|-----------|
| .085  | 1740-6001 |
| .141  | 1742-6002 |

## Socket D38999 Cable Contact (Size 8)



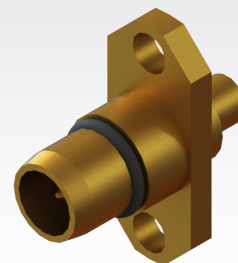
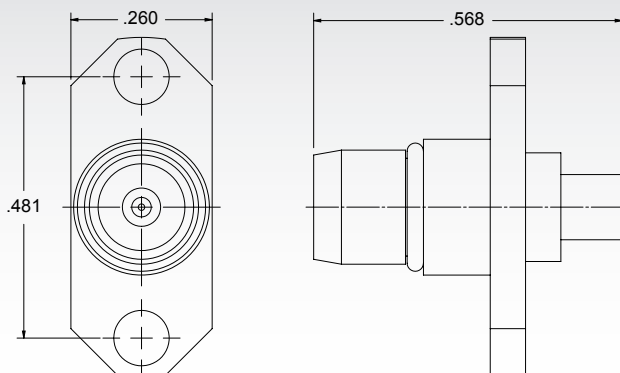
| Cable | P/N         |
|-------|-------------|
| .085  | SF9411-6000 |
| .141  | SF9411-6001 |

## Pin D38999 Cable Contact (Size 8)



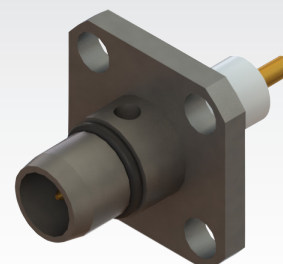
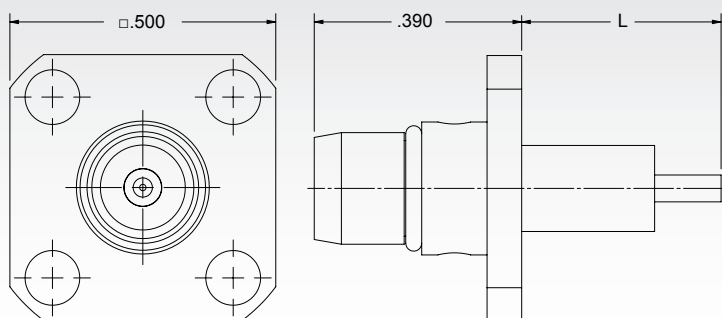
| Cable | P/N         |
|-------|-------------|
| .085  | SF9421-6000 |
| .141  | SF9421-6001 |

## Male Flange Mount Cable Connector, 2 Hole



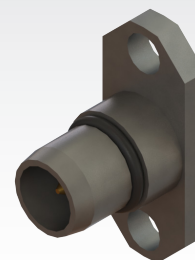
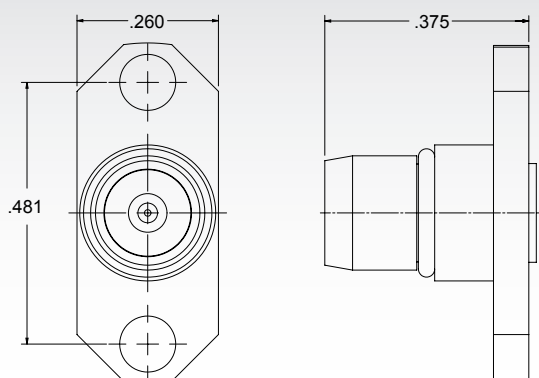
| Cable | P/N        |
|-------|------------|
| .085  | 1711-60008 |

## Male Flange Mount Connector, 4 Hole (Candlestick)



| P/N         | L     |
|-------------|-------|
| SF1755-6104 | .488" |
| SF1755-6105 | .375" |

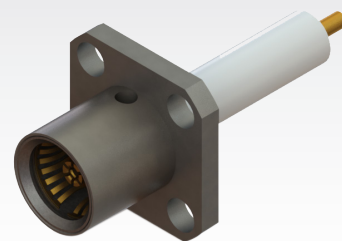
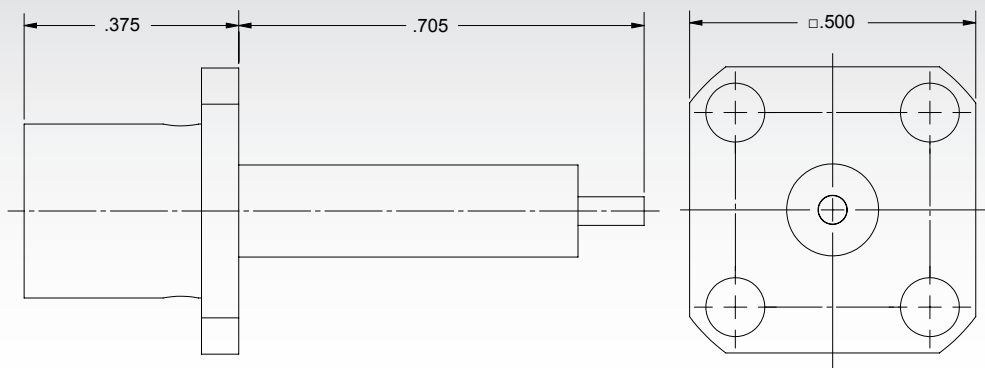
## Male Flange Mount Connector, 2 Hole (Accepts Ø.018" Pin)



| P/N          |
|--------------|
| SF1711-60013 |

# BMA SERIES

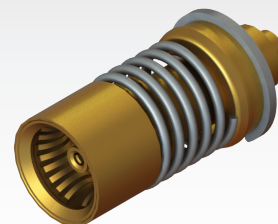
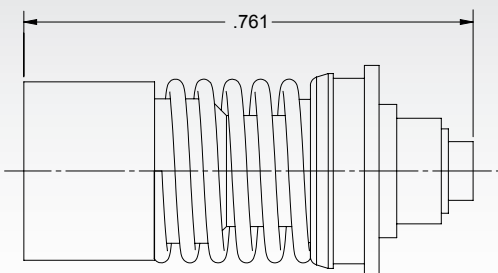
## Female Flange Mount Connector, 4 Hole (Candlestick)



P/N

SF1750-6101

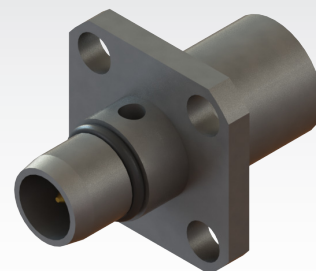
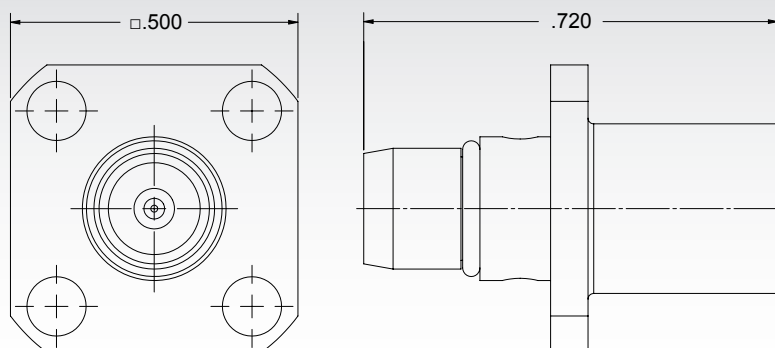
## Female Termination



P/N

8017-6002

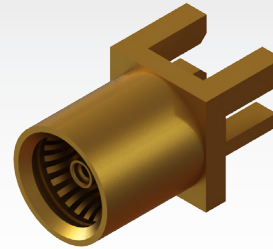
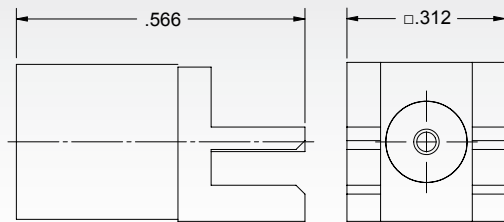
## Male Flange Mount Termination, 4 Hole



P/N

SF8017-6001

## Female Edge Launch Connector

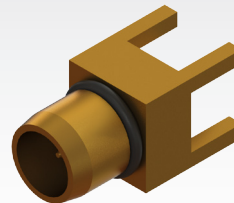
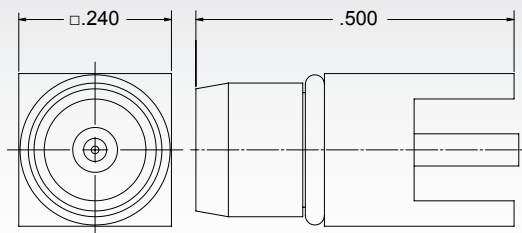


Contact SV directly to access our database of recommended PCB layouts

P/N

1785-0003

## Male PCB Thru-Hole Connector

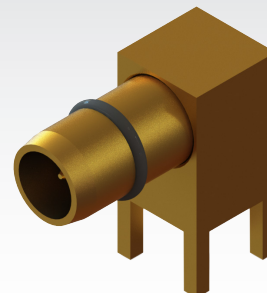
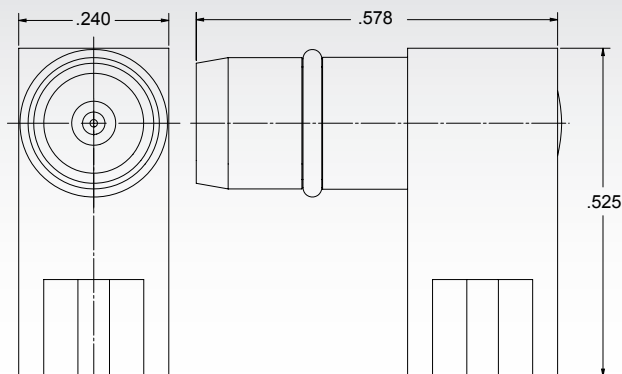


Contact SV directly to access our database of recommended PCB layouts

P/N

1785-6001

## Male PCB Thru-Hole Connector, R/A



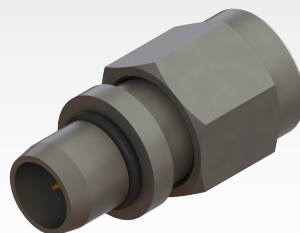
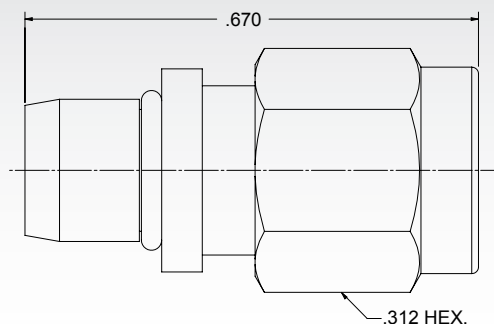
Contact SV directly to access our database of recommended PCB layouts

P/N

1789-6001

# BMA SERIES

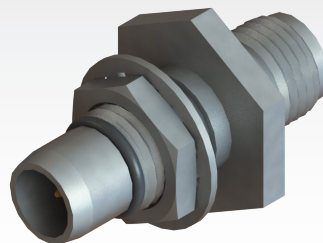
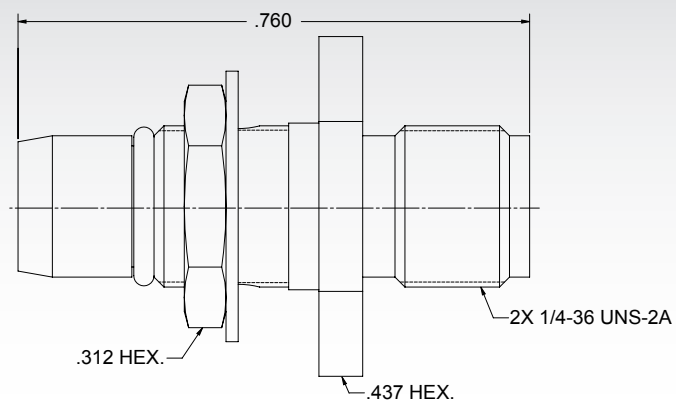
## BMA Male to SMA Male Adapter



P/N

SF1117-6018

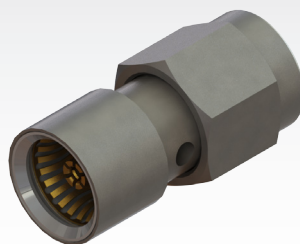
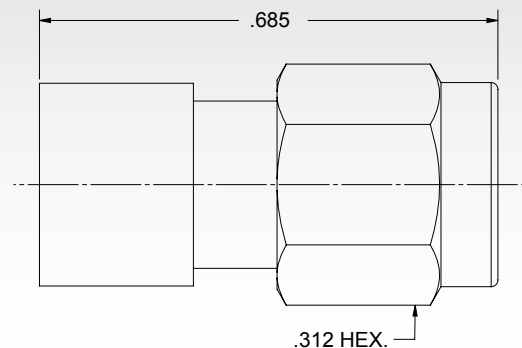
## BMA Male to SMA Female Adapter



P/N

SF1158-6001

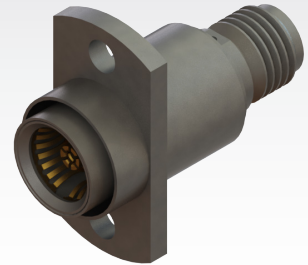
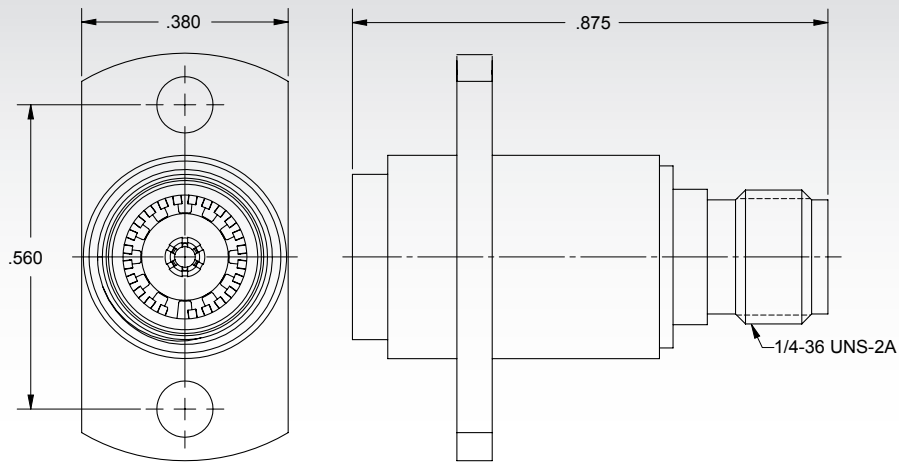
## BMA Female to SMA Male Adapter



P/N

SF1157-6013

## BMA Female to SMA Female Adapter , 2 Hole



| P/N         |
|-------------|
| SF1157-6009 |

# COAXIAL CONTACTS

## Coaxial Contacts Interface at a Glance

System design and platform needs have required smaller packaging with RF, D/C signal and power all in close proximity. Our proven designs and blindmate technology have enabled the integration of multiport RF signals into single housings for gang mating capability. Various existing form factors such as D38999, ARINC, Micro-D and D-Sub have provided standard components and familiar shell sizes. Hybrid technology fuses RF and D/C contacts into a single connector simplifying design and installation while eliminating discrete wiring.

### Electrical Specifications

|                                 |                 |
|---------------------------------|-----------------|
| Impedance                       | 50Ω             |
| Frequency                       | 3 GHz           |
| VSWR                            | 1.20 + .04 f    |
| Insertion Loss                  | .11 √ f         |
| Shielding Effectiveness         | ≥ -80 dB        |
| Dielectric Withstanding Voltage | 250 - 1000 VRMS |

### Mechanical Specifications

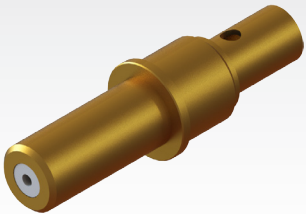
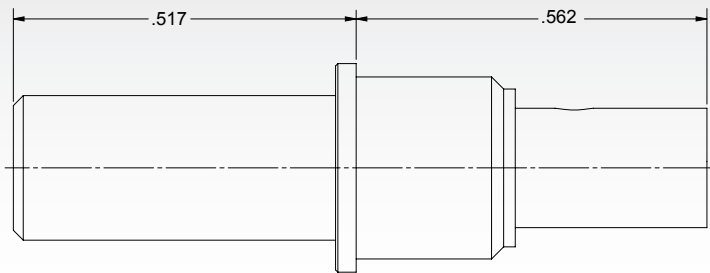
|                  |       |
|------------------|-------|
| Mating Cycles    | 500   |
| Insertion Force  | 30 oz |
| Withdrawal Force | 2 oz  |

### Environmental Specifications

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Temperature Rating             | -65°C to +165°C                                   |
| Corrosion (Salt Spray)         | MIL-STD-202, Method 101, Condition B              |
| Vibration                      | MIL-STD-202, Method 204, Condition D, 20 Gs       |
| Shock                          | MIL-STD-202, Method 213, Condition I, 100 Gs      |
| Thermal Shock                  | MIL-STD-202, Method 107. Cond. B, -65°C to +125°C |
| Moisture Resistance            | MIL-STD-202, Method 106, Less Step 7B             |
| Barometric Pressure (Altitude) | MIL-STD-202, Method 105, Condition C, 70k Ft.     |

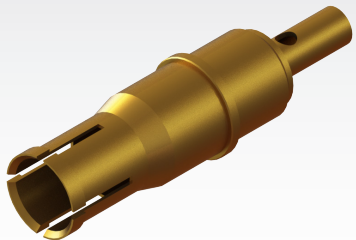
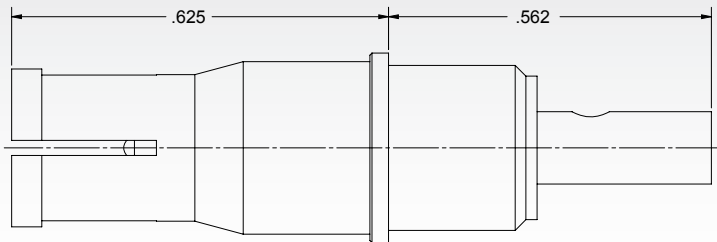
Note: Specifications, dimensions and images are typical for the series and may vary by part number

Pin D38999 Cable Contact (Size 8)



| Cable | P/N       |
|-------|-----------|
| .085  | 8001-4107 |
| .141  | 8001-4101 |

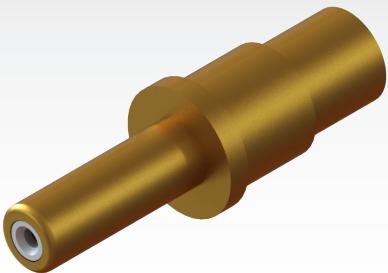
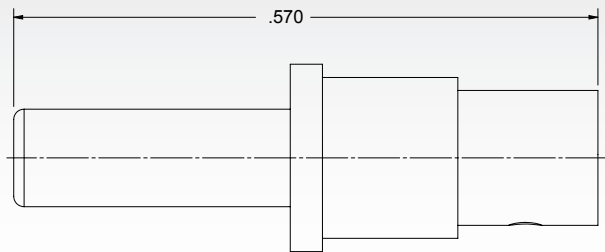
Socket D38999 Cable Contact (Size 8)



| Cable | P/N       |
|-------|-----------|
| .085  | 8001-4108 |
| .141  | 8001-4103 |

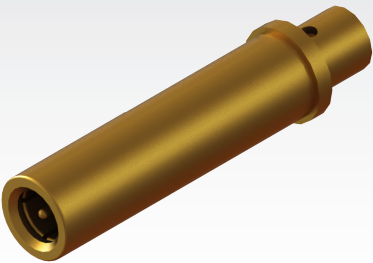
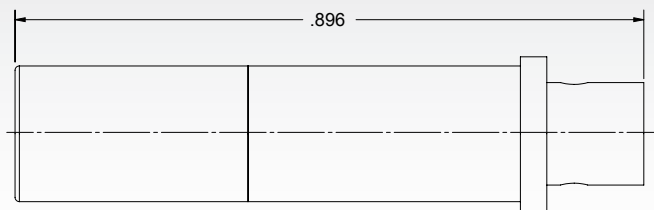
# COAXIAL CONTACTS

## Pin D38999 Cable Contact (Size 12)



| Cable | P/N       |
|-------|-----------|
| .085  | 8001-4102 |

## Socket D38999 Cable Contact (Size 12)



| Cable | P/N       |
|-------|-----------|
| .085  | 8001-4104 |



# SMA SERIES

## SMA Interface at a Glance

SMA is an acronym for SubMiniature version A and was developed in the 1960's. Using a threaded interface, 50 Ohm SMA connectors are precision subminiature units that provide excellent electrical performance from DC to 26.5 GHz. These high-performance connectors are compact in size and mechanically have outstanding durability. Built in accordance with MIL-PRF-39012 and CECC 22110/111, SMA connectors can be mated with all connectors that meet these spec mating diameters regardless of manufacturer.

### Electrical Specifications

|                                 |                                    |
|---------------------------------|------------------------------------|
| Impedance                       | 50Ω                                |
| Frequency                       | 18 GHz (select models to 26.5 GHz) |
| VSWR                            | 1.05 + .005 f                      |
| Insertion Loss                  | .03 √ f                            |
| Shielding Effectiveness         | ≥ -90 - f dB                       |
| Dielectric Withstanding Voltage | 1000 VRMS                          |

### Mechanical Specifications

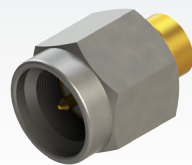
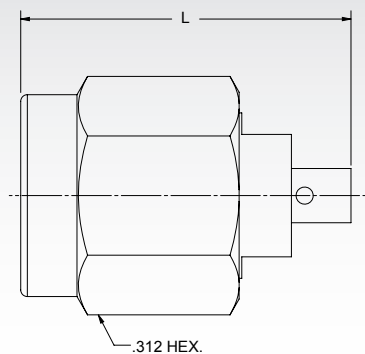
|               |                 |
|---------------|-----------------|
| Mating Cycles | 500             |
| Mating Torque | 7 - 10 in - lbs |

### Environmental Specifications

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Temperature Rating             | -65°C to +165°C                                   |
| Corrosion (Salt Spray)         | MIL-STD-202, Method 101, Condition B              |
| Vibration                      | MIL-STD-202, Method 204, Condition D, 20 Gs       |
| Shock                          | MIL-STD-202, Method 213, Condition I, 100 Gs      |
| Thermal Shock                  | MIL-STD-202, Method 107. Cond. B, -65°C to +125°C |
| Moisture Resistance            | MIL-STD-202, Method 106, Less Step 7B             |
| Barometric Pressure (Altitude) | MIL-STD-202, Method 105, Condition C, 70k Ft.     |

Note: Specifications, dimensions and images are typical for the series and may vary by part number

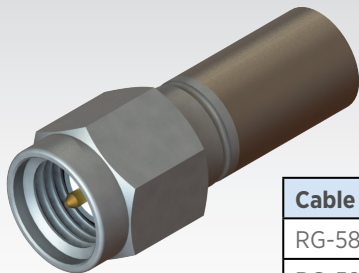
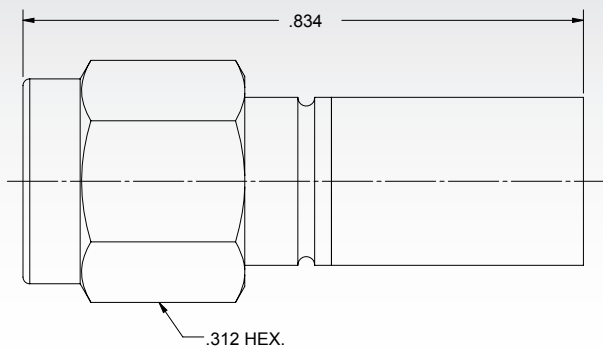
Male Cable Connector



| Cable | P/N            | L     |
|-------|----------------|-------|
| .047  | SF2911-60172   | .499" |
| .085  | 2906-6002      | .442" |
| .085  | SF2906-6002    | .442" |
| .085  | M39012/79B3101 | .449" |
| .141  | SF2902-6005    | .499" |
| .141  | SF2902-6001    | .330" |

'SF' denotes passivated Stainless Finish

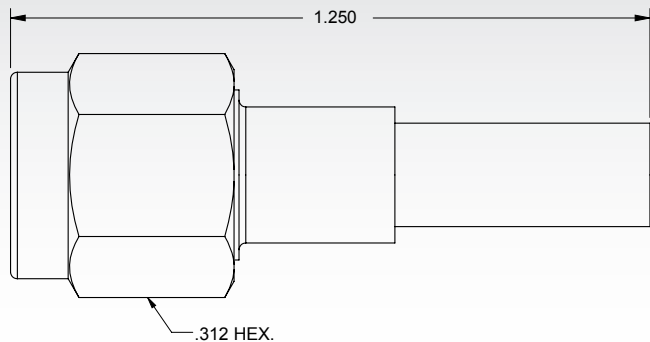
Male Cable Connector



| Cable  | P/N            |
|--------|----------------|
| RG-58  | 2900-6001      |
| RG-58  | SF2900-6001    |
| RG-58  | M39012/55B3115 |
| RG-174 | 2903-6001      |
| RG-174 | M39012/55-3126 |
| RG-174 | M39012/55-3128 |

'SF' denotes passivated Stainless Finish

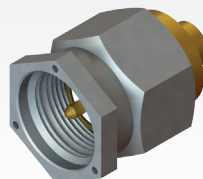
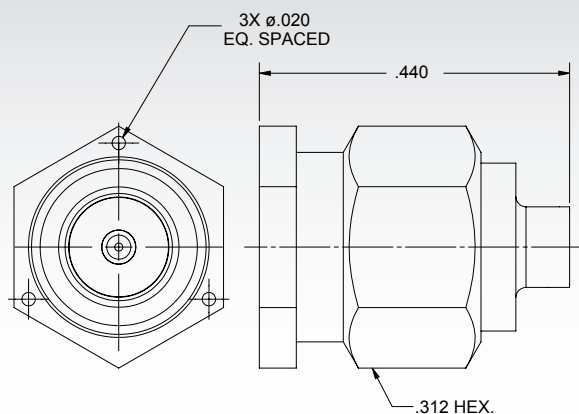
Male Cable Connector



| Cable  | P/N            |
|--------|----------------|
| RG-174 | M39012/55B3112 |

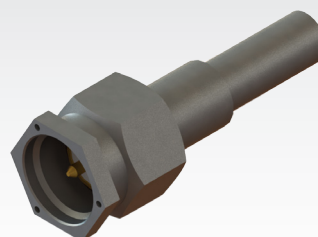
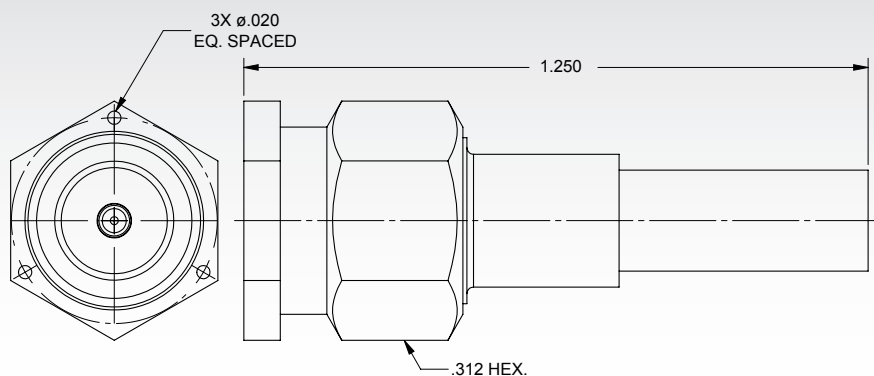
# SMA SERIES

## Male Cable Connector, Lockwire Holes



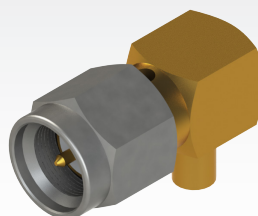
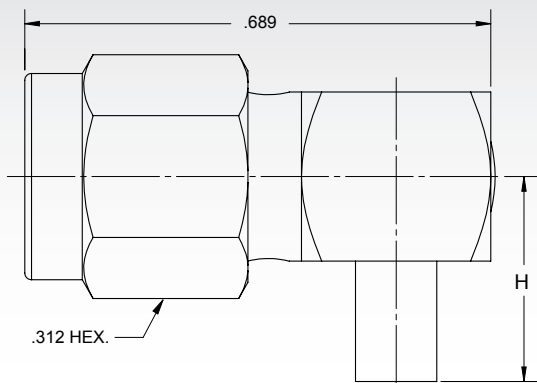
| Cable | P/N            |
|-------|----------------|
| .085  | M39012/79B3001 |
| .085  | M39012/79-3007 |

## Male Cable Connector, Lockwire Holes



| Cable         | P/N            |
|---------------|----------------|
| RG-58         | M39012/55B3015 |
| RG-174        | M39012/55B3012 |
| M17-152-00001 | M39012/55-3030 |

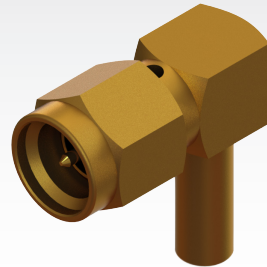
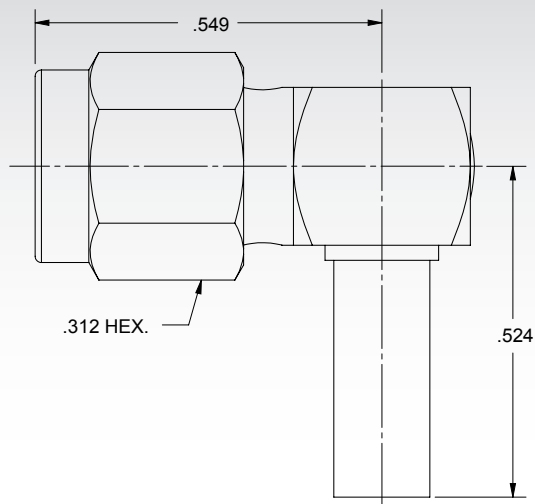
## Male Cable Connector, R/A



| Cable  | P/N            | H      |
|--------|----------------|--------|
| .085   | SF2915-6001    | .312"  |
| .085   | M39012/80B3101 | .310"  |
| .085   | M39012/80-3107 | .625"  |
| .141   | 2912-6001      | .312"  |
| .141   | SF2912-6001    | .312"  |
| .141   | M39012/80-3106 | .625"  |
| .141   | M39012/80-3108 | .625"  |
| RG-58  | M39012/56-3109 | .524"  |
| RG-174 | M39012/56-3107 | 1.125" |
| RG-178 | M39012/56-3106 | .524"  |

'SF' denotes passivated Stainless Finish

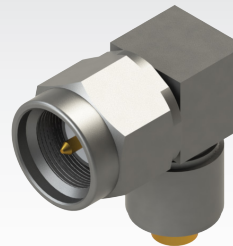
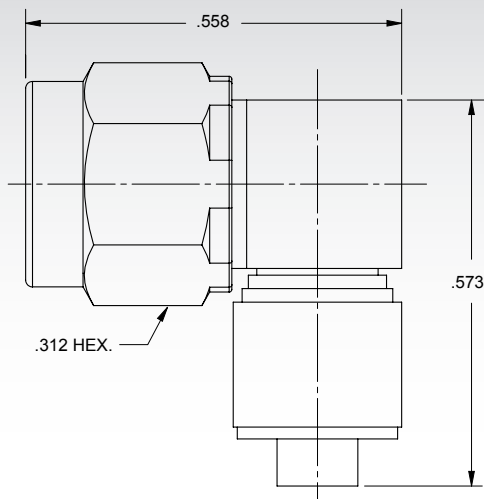
## Male Cable Connector, R/A



| Cable  | P/N            |
|--------|----------------|
| RG-58  | 2910-6001      |
| RG-58  | M39012/56B3114 |
| RG-58  | M39012/56B3116 |
| RG-58  | M39012/56B3117 |
| RG-58  | M39012/56-3128 |
| RG-174 | 2913-6001      |
| RG-174 | SF2913-6001    |
| RG-174 | M39012/56B3119 |
| RG-178 | M39012/56-3125 |

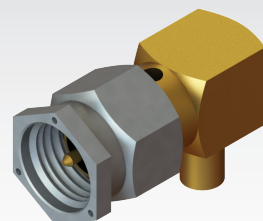
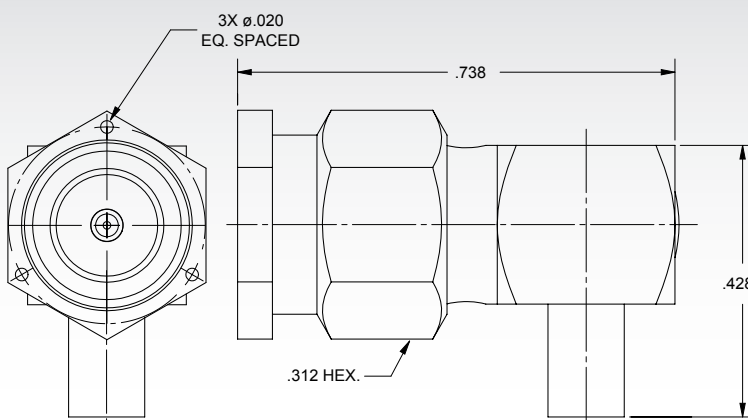
'SF' denotes passivated Stainless Finish

## Male Cable Connector, Swept R/A



| Cable | P/N          |
|-------|--------------|
| .047  | SF2912-60955 |
| .085  | SF2915-6605  |
| .141  | SF2912-6605  |

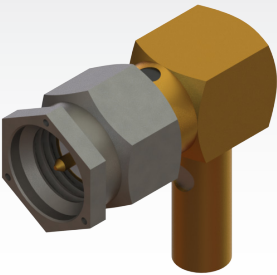
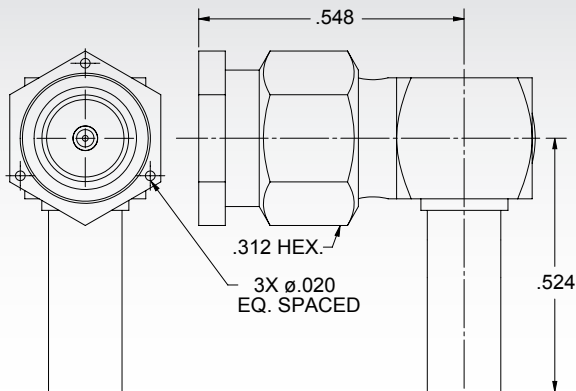
## Male Cable Connector, Lockwire Holes, R/A



| Cable         | P/N            |
|---------------|----------------|
| .085          | M39012/80-3005 |
| .141          | M39012/80-3006 |
| .141          | M39012/80-3008 |
| M17/152-00001 | M39012/56-3030 |

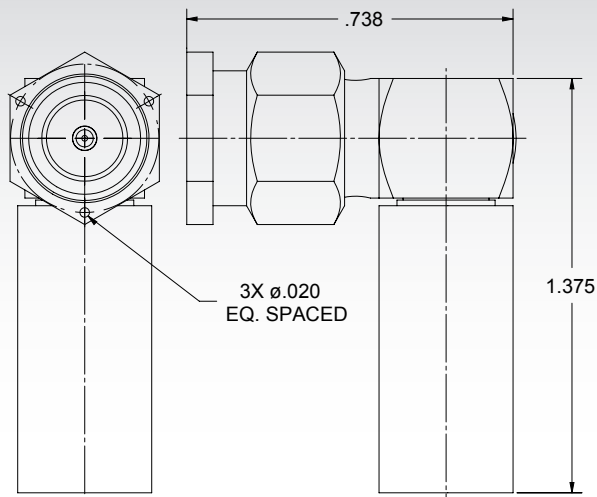
# SMA SERIES

## Male Cable Connector, Lockwire Holes, R/A



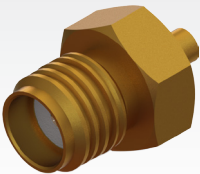
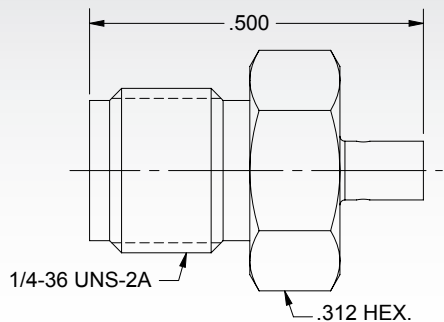
| Cable  | P/N            |
|--------|----------------|
| RG-174 | M39012/56-3007 |

## Male Cable Connector, Lockwire Holes, R/A



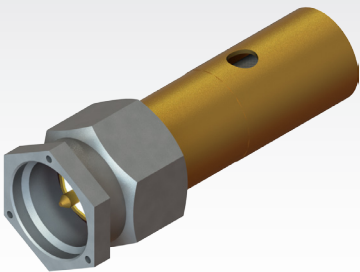
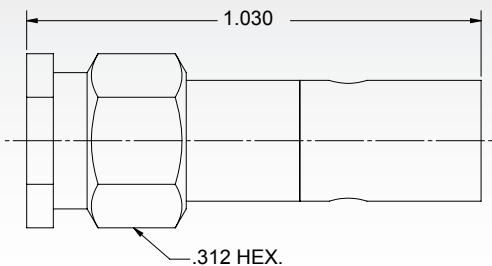
| Cable  | P/N            |
|--------|----------------|
| RG-58  | M39012/56B3014 |
| RG-58  | M39012/56B3016 |
| RG-58  | M39012/56B3017 |
| RG-58  | M39012/56B3022 |
| RG-58  | M39012/56-3028 |
| RG-174 | M39012/56B3019 |
| RG-174 | M39012/56-3026 |
| RG-178 | M39012/56-3006 |
| RG-178 | M39012/56B3011 |

## Female Cable Connector



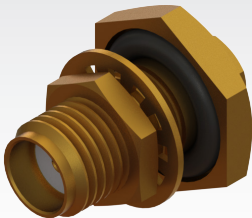
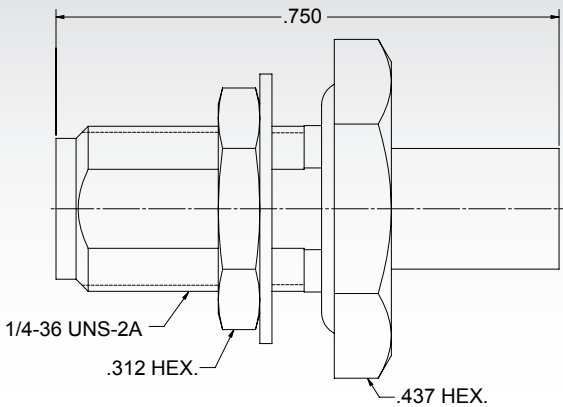
| Cable | P/N       |
|-------|-----------|
| .047  | 2926-6015 |
| .085  | 2921-6002 |
| .141  | 2922-6007 |

Female Cable Connector, Lockwire Holes



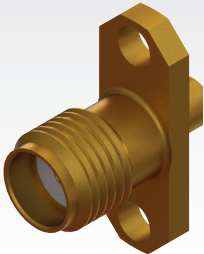
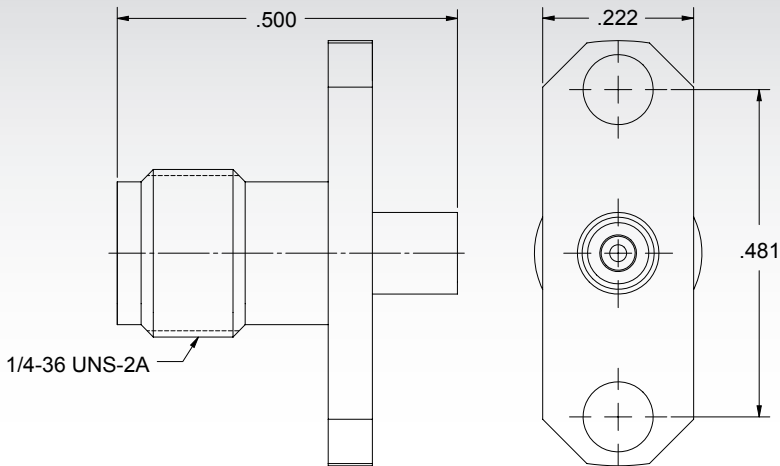
| Cable | P/N            |
|-------|----------------|
| RG-58 | M39012/55-3009 |

Female Bulkhead Cable Connector



| Cable | P/N       |
|-------|-----------|
| .047  | 2944-6001 |
| .085  | 2946-6012 |
| .141  | 2942-6045 |

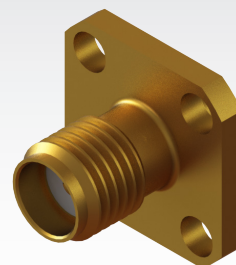
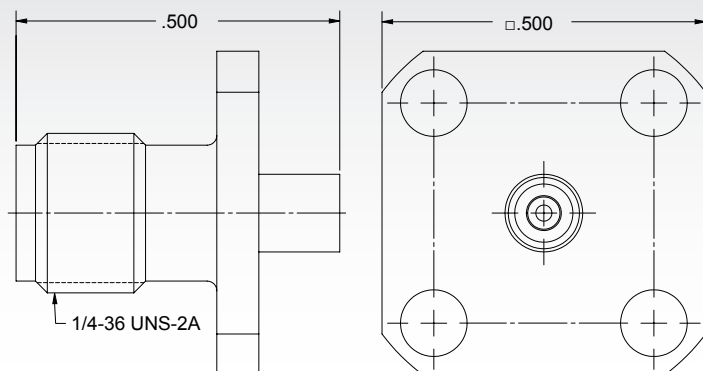
Female Flange Mount Cable Connector, 2 Hole



| Cable | P/N       |
|-------|-----------|
| .085  | 2933-6001 |

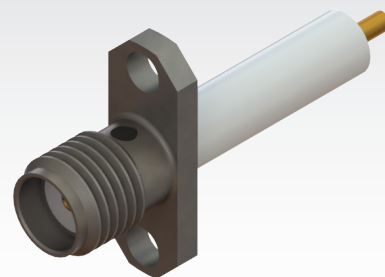
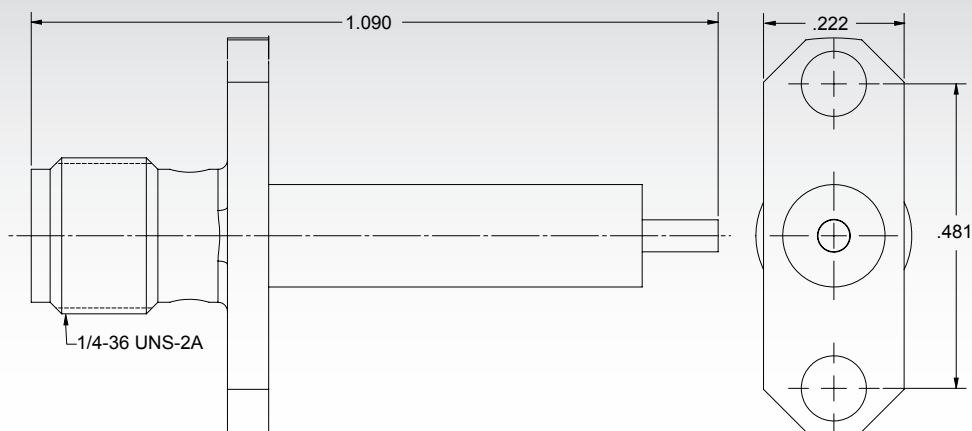
# SMA SERIES

## Female Flange Mount Cable Connector, 4 Hole



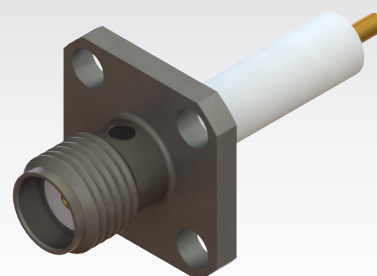
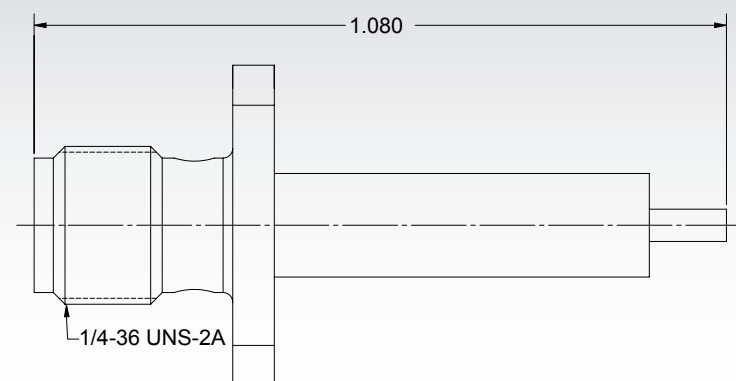
| Cable | P/N       |
|-------|-----------|
| .085  | 2933-6004 |

## Female Flange Mount Connector, 2 Hole (Candlestick)



| P/N         |
|-------------|
| SF2950-6200 |

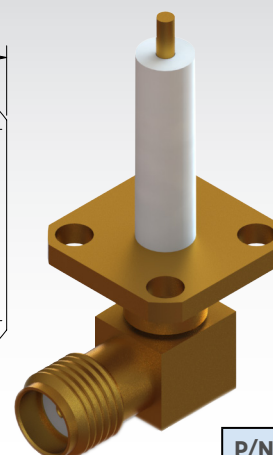
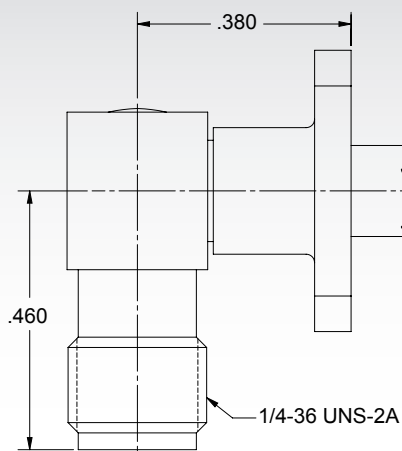
## Female Flange Mount Connector, 4 Hole (Candlestick)



| P/N         |
|-------------|
| 2950-6061   |
| SF2950-6061 |

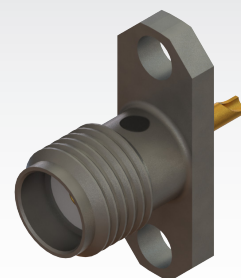
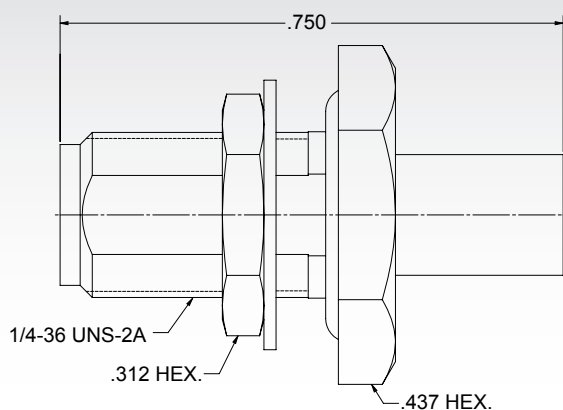
'SF' denotes passivated Stainless Finish

## Female Flange Mount Connector, 4 Hole, R/A (Candlestick)



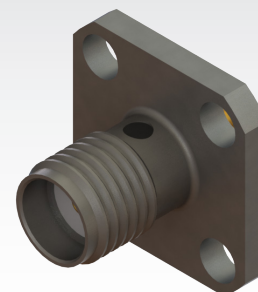
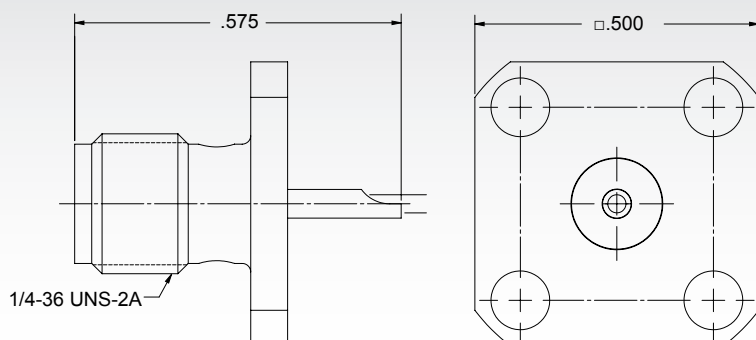
|            |
|------------|
| <b>P/N</b> |
| 2960-6025  |

## Female Flange Mount Connector, 2 Hole (Solder Pot)



|             |
|-------------|
| <b>P/N</b>  |
| SF2950-6062 |

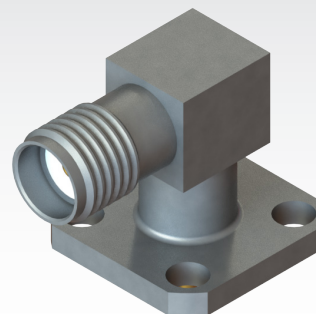
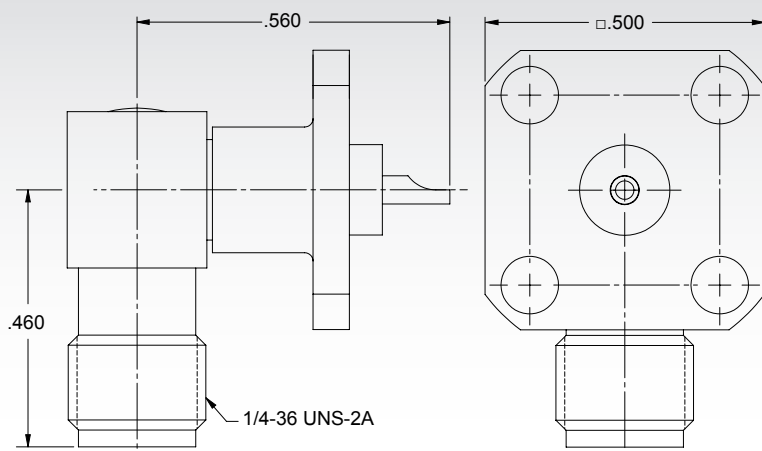
## Female Flange Mount Connector, 4 Hole (Solder Pot)



|             |
|-------------|
| <b>P/N</b>  |
| SF2950-6081 |

# SMA SERIES

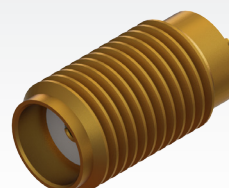
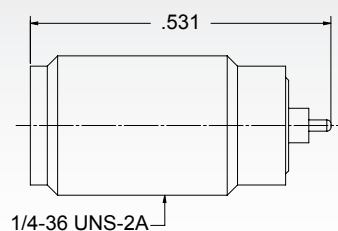
## Female Flange Mount Connector, 4 Hole, R/A (Solder Pot)



P/N

SF2960-6001

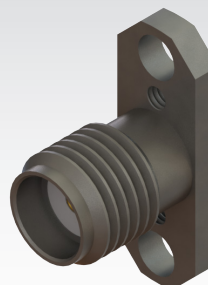
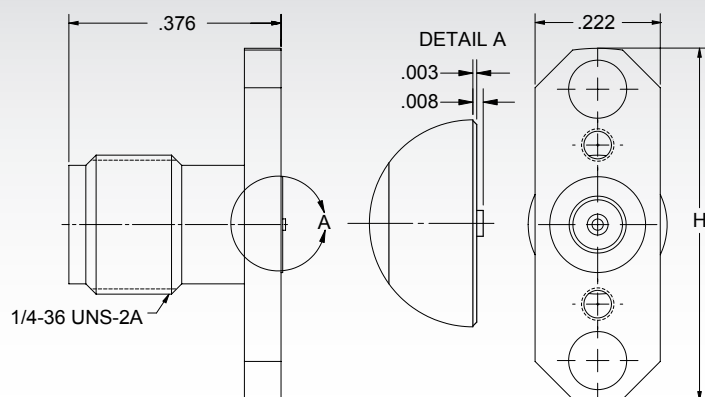
## Female Sparkplug Hermetic Connector



P/N

2975-6200

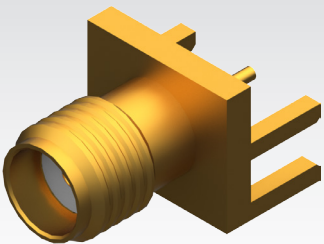
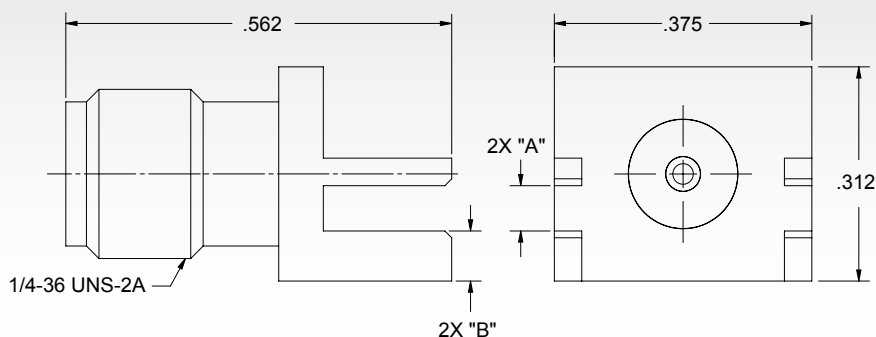
## Female Flange Compression Mount Connector, 2 Hole



| P/N          | Desc.           | H     |
|--------------|-----------------|-------|
| SF2921-6920  | Stripline       | .625" |
| SF2921-61356 | Stripline       | .400" |
| SF2921-61345 | CPW, Microstrip | .400" |

Contact SV directly to access our database of recommended PCB layouts

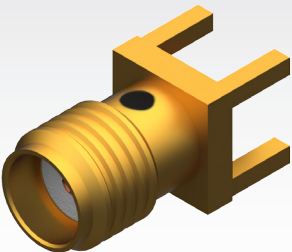
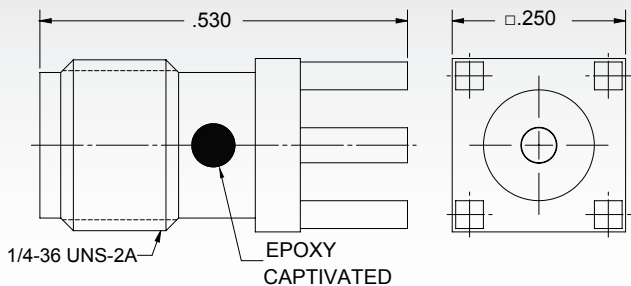
Female Edge Launch Connector



| P/N       | A     | B     |
|-----------|-------|-------|
| 2985-6035 | .068" | .073" |
| 2985-6036 | .048" | .093" |
| 2985-6037 | .037" | .104" |
| 2985-6038 | .099" | .042" |

Contact SV directly to access our database of recommended PCB layouts

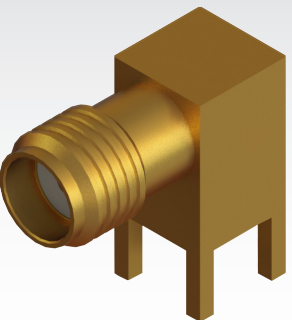
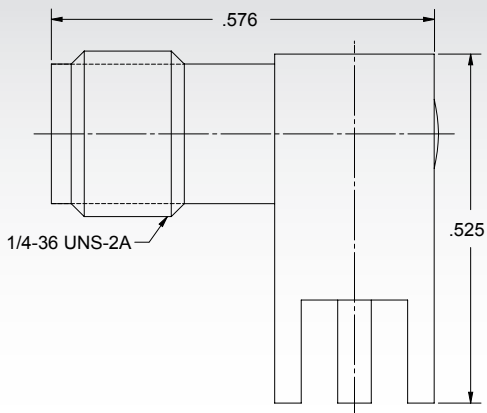
Female PCB Thru-Hole Connector



| P/N       |
|-----------|
| 2985-6004 |

Contact SV directly to access our database of recommended PCB layouts

Female PCB Thru-Hole Connector, R/A

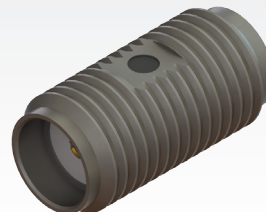
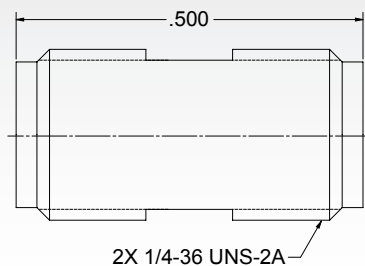


| P/N       |
|-----------|
| 2986-6001 |

Contact SV directly to access our database of recommended PCB layouts

# SMA SERIES

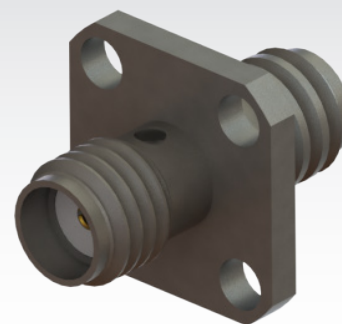
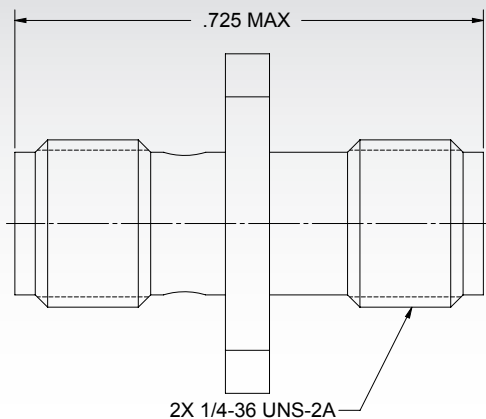
## SMA Female to Female Adapter



P/N

SF2992-6001

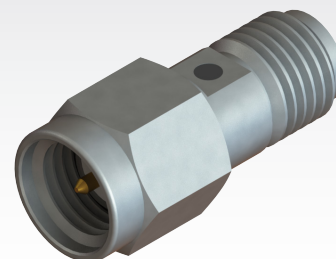
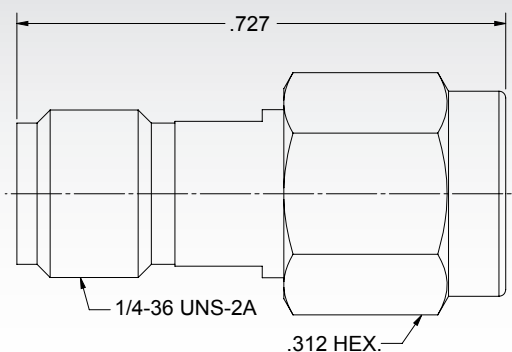
## SMA Female to Female Adapter , 4 Hole



P/N

M55339/28-30002

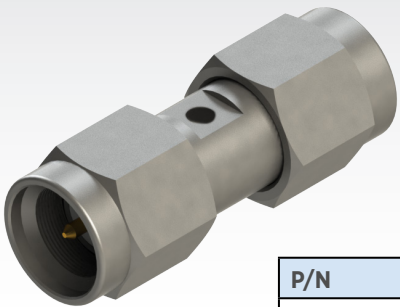
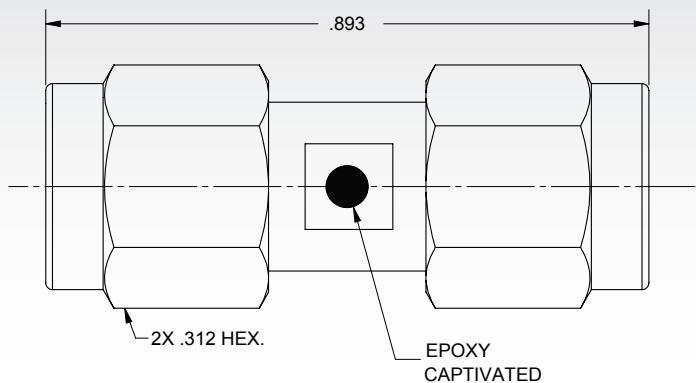
## SMA Female to Male Adapter



P/N

SF299 7-6003

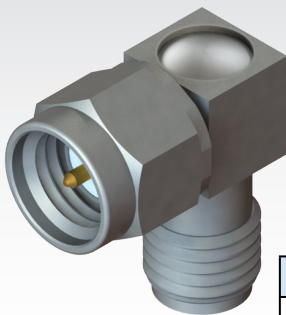
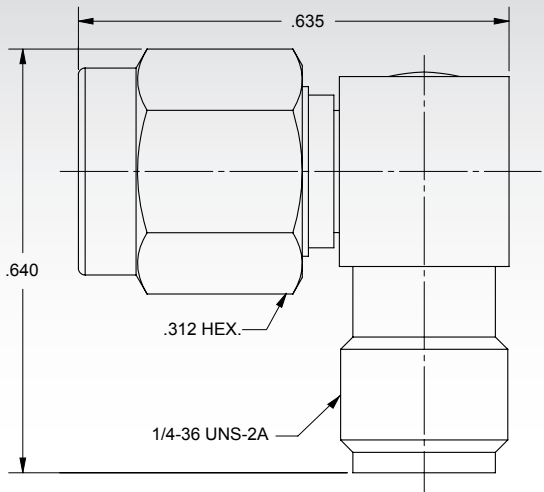
SMA Male to Male Adapter



| P/N         |
|-------------|
| 2993-6001   |
| SF2993-6001 |

'SF' denotes passivated Stainless Finish

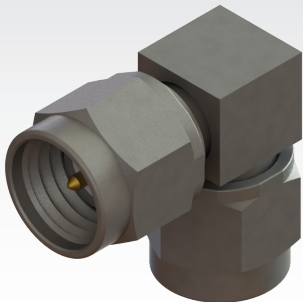
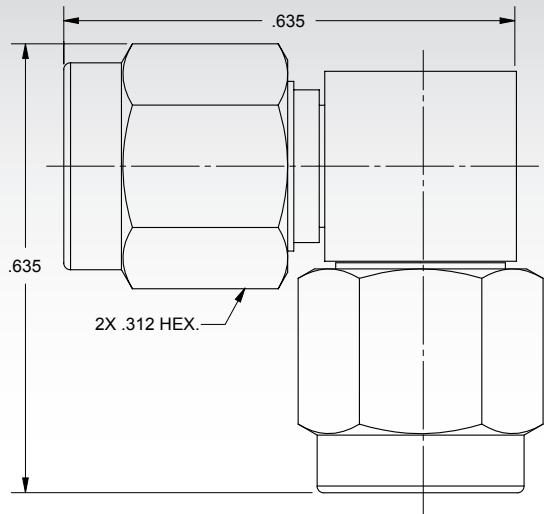
SMA Female to Male Adapter, R/A



| P/N             |
|-----------------|
| 2994-6001       |
| SF2994-6001     |
| M55339/02-30001 |

'SF' denotes passivated Stainless Finish

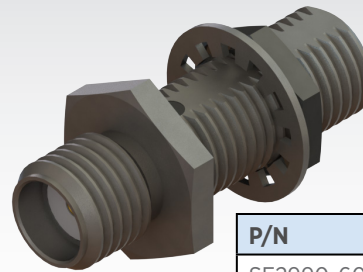
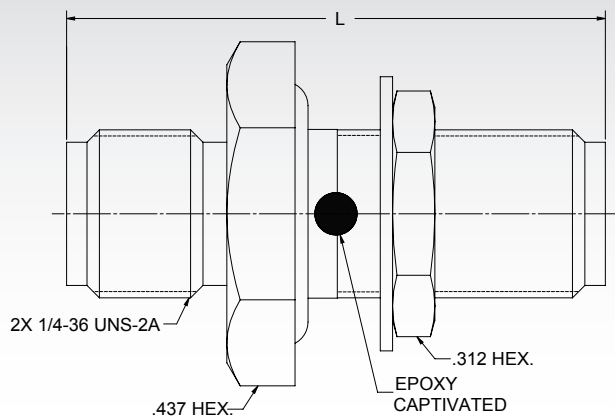
SMA Male to Male Adapter, R/A



| P/N             |
|-----------------|
| M55339/53-30001 |

# SMA SERIES

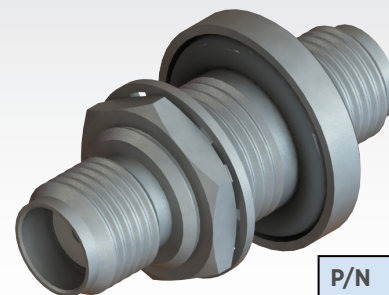
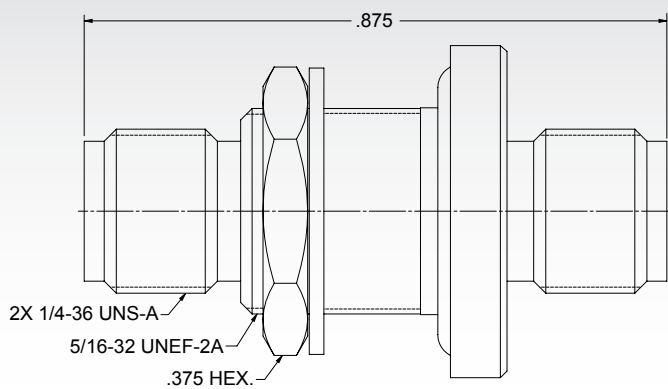
## SMA Female to Female Bulkhead Adapter



| P/N             | L     |
|-----------------|-------|
| SF2990-6002     | .790" |
| 2990-6005       | .875" |
| SF2990-6005     | .875" |
| M55339/28-30001 | .906" |

'SF' denotes passivated Stainless Finish

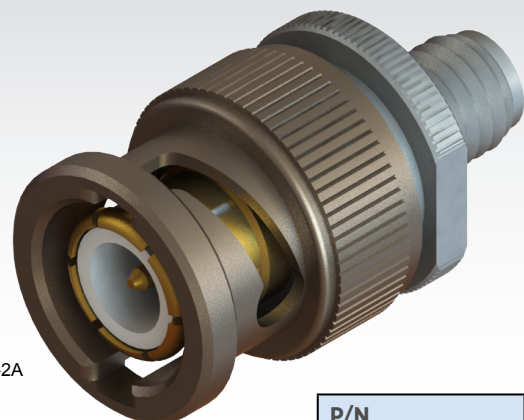
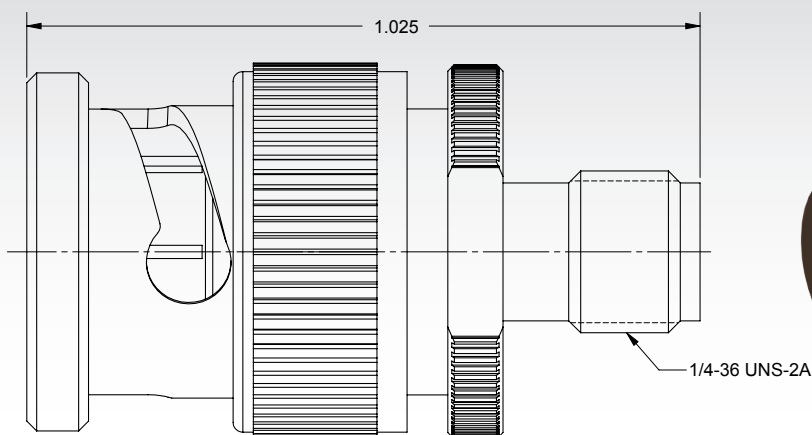
## SMA Female to Female Bulkhead Hermetic Adapter



| P/N         |
|-------------|
| 2991-6002   |
| SF2991-6002 |

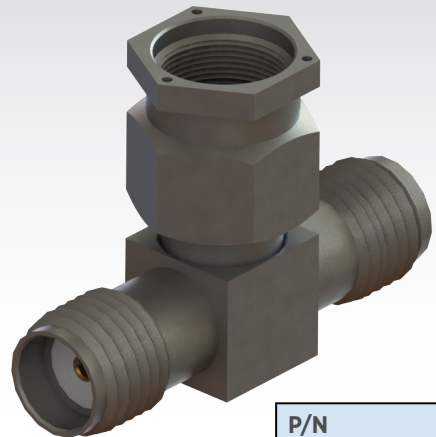
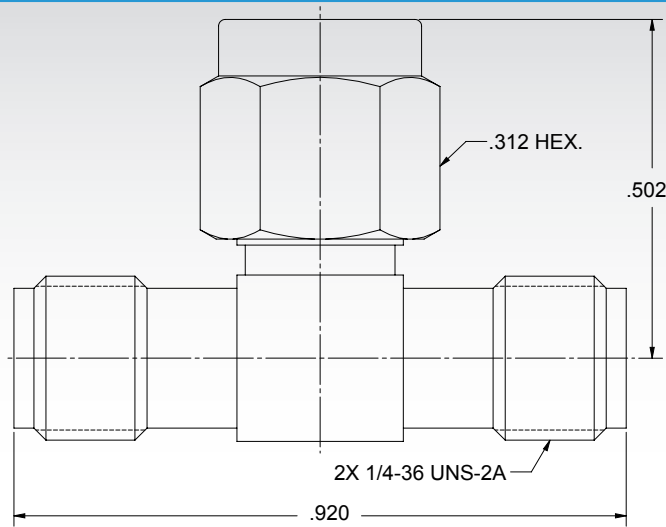
'SF' denotes passivated Stainless Finish

## SMA Female to BNC Male Adapter



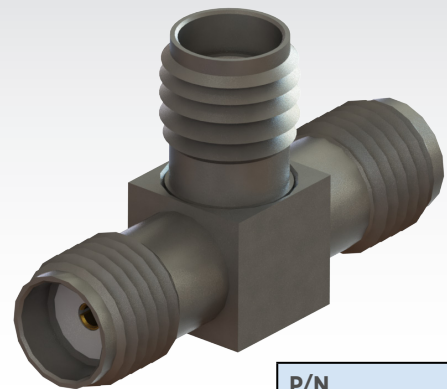
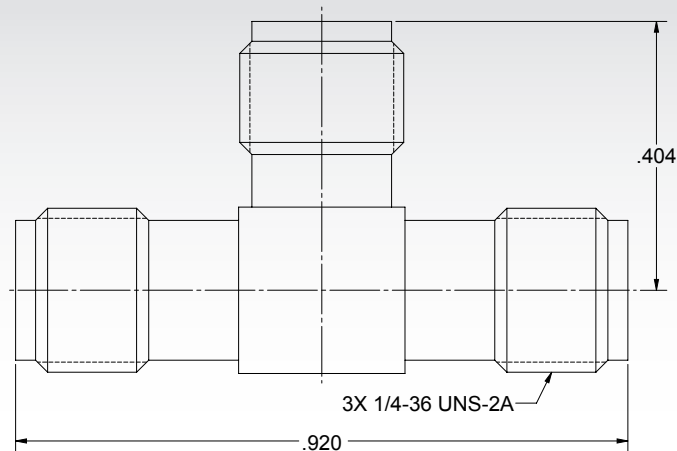
| P/N             |
|-----------------|
| M55339/44-30001 |

## SMA Female to Female to Male Adapter



| P/N             |
|-----------------|
| M55339/30-30101 |

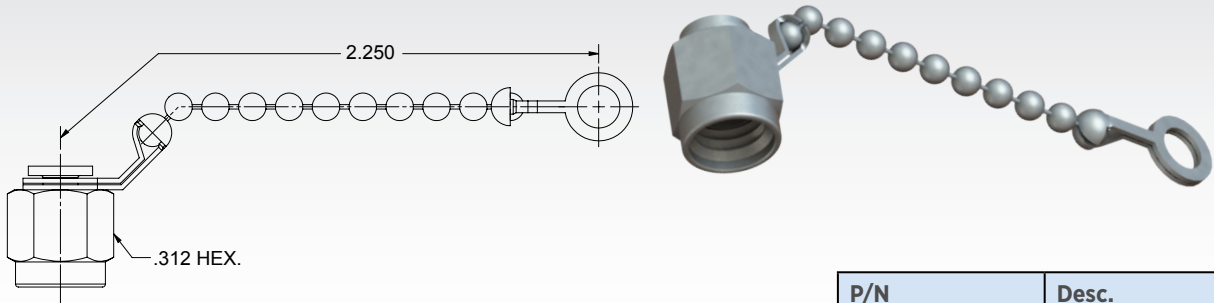
## SMA Female to Female to Female Adapter



| P/N             |
|-----------------|
| M55339/30-30003 |

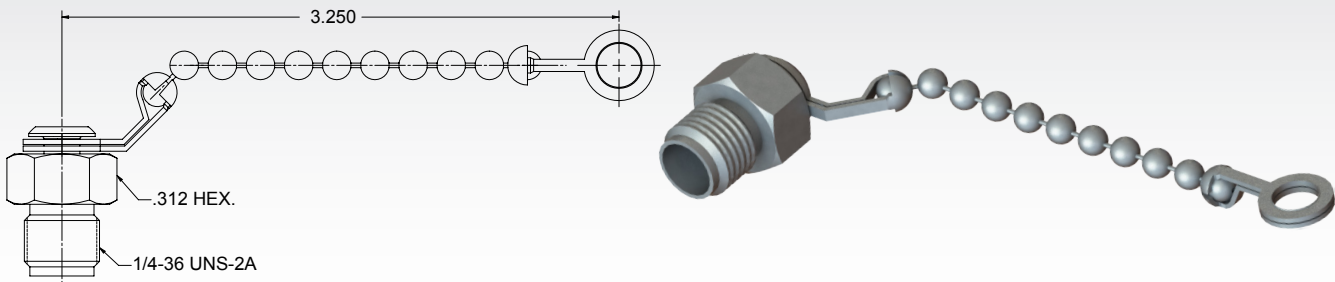
# SMA SERIES

## Male Dust Cap



| P/N            | Desc.      |
|----------------|------------|
| M39012/25-3024 | Bead Chain |
| M39012/25-3025 | Link Chain |
| M39012/25-3124 | Rope Chain |

## Female Dust Cap



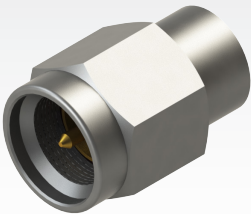
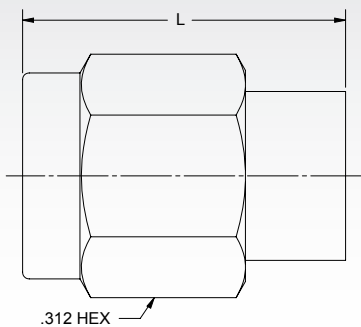
| P/N            | Desc.      |
|----------------|------------|
| M39012/25-3026 | Bead Chain |

## Male Short



| P/N         |
|-------------|
| SF8018-6007 |

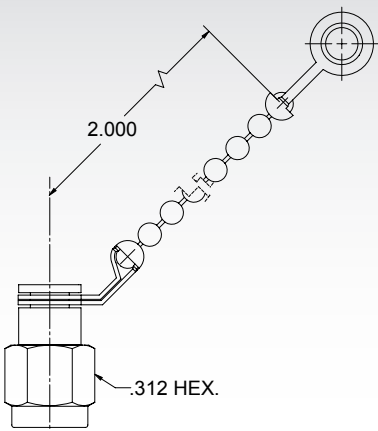
Male Termination



| P/N         | L     |
|-------------|-------|
| SF8018-6060 | .330" |
| 8018-6061   | .330" |
| SF8018-6061 | .330" |
| 8018-6172   | .500" |
| 8018-6173   | .500" |
| 8018-6005   | .520" |
| SF8018-6005 | .520" |

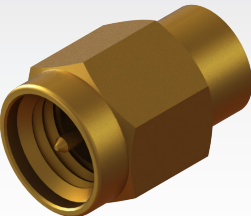
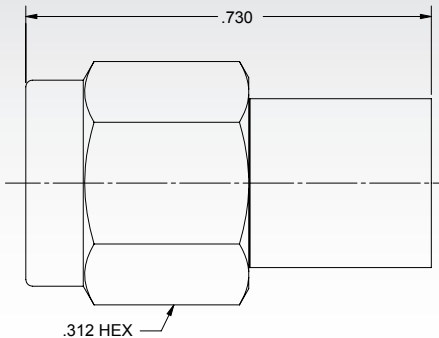
'SF' denotes passivated Stainless Finish

Male Termination



| P/N       | Desc.      |
|-----------|------------|
| 8018-6174 | Bead Chain |

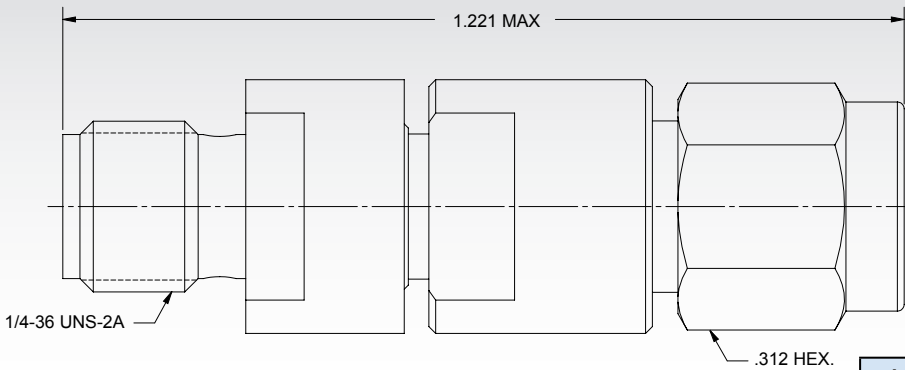
Male Termination



| P/N          | Desc.       |
|--------------|-------------|
| M39030/3-XXN | Nonscreened |
| M39030/3-XXS | Screened    |

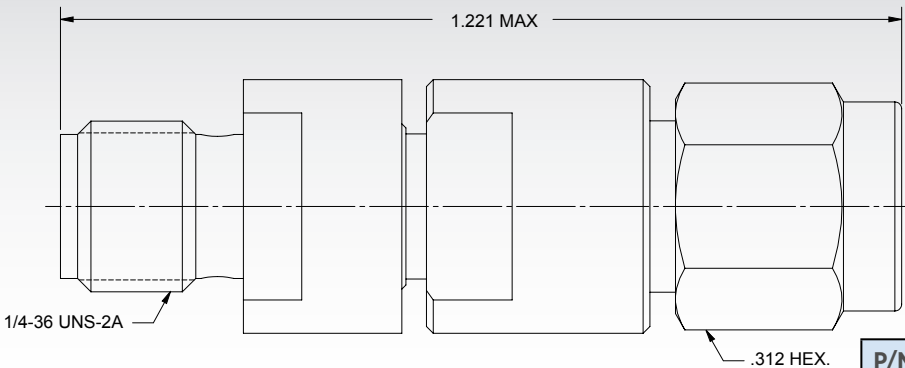
# SMA SERIES

## SMA Male to Female Attenuator, 12.4 GHz



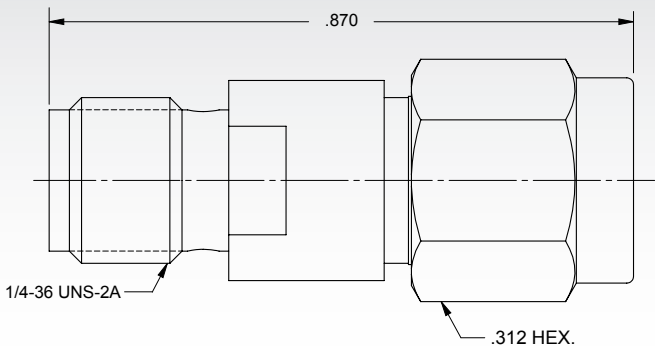
| P/N          | Desc.       |
|--------------|-------------|
| M3933/14-XXN | Nonscreened |
| M3933/14-XXS | Screened    |

## SMA Male to Female Attenuator, 18 GHz



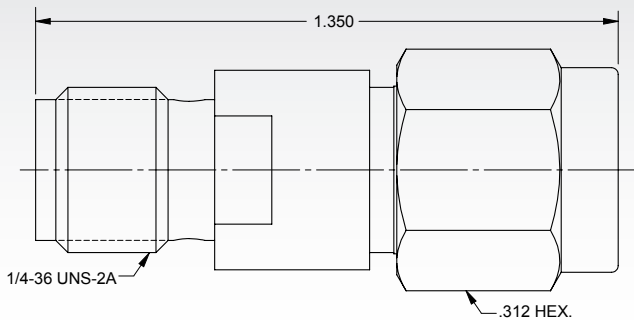
| P/N          | Desc.       |
|--------------|-------------|
| M3933/16-XXN | Nonscreened |
| M3933/16-XXS | Screened    |

## SMA Male to Female Attenuator, 18 GHz



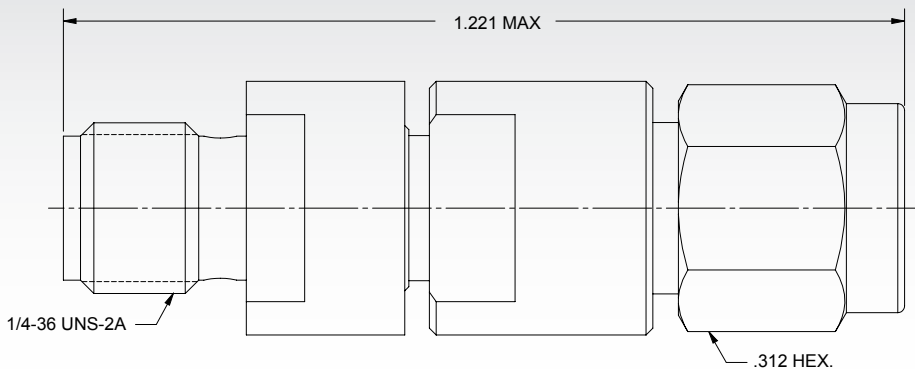
| P/N          | Desc.       |
|--------------|-------------|
| M3933/25-XXN | Nonscreened |
| M3933/25-XXS | Screened    |

SMA Male to Female Attenuator, 18 GHz



| P/N            |
|----------------|
| SF0929-6200-XX |

SMA Male to Female Attenuator, 18 GHz



| P/N            |
|----------------|
| SF0930-6200-XX |

## 2.92MM SERIES

### 2.92mm Interface at a Glance

The 2.92mm connector was developed for use to 40 GHz. The male pin is shorter than that of an SMA or 3.5mm to ensure that the outer contacts of the male and female connectors engage before the pin and female receptacle do. This ensures that the pin and socket will not see excessive wear and mating stress seen by misalignment in an SMA or 3.5mm connector. The 2.92mm connector also has a thicker wall than a standard SMA. The 2.92mm series mates with SMA and 3.5mm connectors.

#### Electrical Specifications

|                         |               |
|-------------------------|---------------|
| Impedance               | 50Ω           |
| Frequency               | 40 GHz        |
| VSWR                    | 1.03 + .005 f |
| Insertion Loss          | .04 √ f       |
| Shielding Effectiveness | ≥ 100 dB      |

#### Mechanical Specifications

|                    |                 |
|--------------------|-----------------|
| Mating Cycles      | 500             |
| Mating Torque      | 7 - 10 in - lbs |
| Inter-mate ability | SMA, 3.5mm      |

#### Environmental Specifications

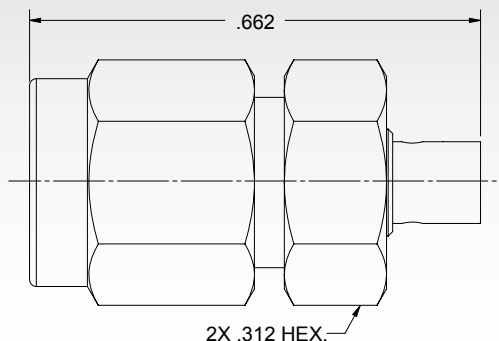
|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Temperature Rating             | -65°C to +165°C                                   |
| Corrosion (Salt Spray)         | MIL-STD-202, Method 101, Condition B              |
| Vibration                      | MIL-STD-202, Method 204, Condition D, 20 Gs       |
| Shock                          | MIL-STD-202, Method 213, Condition I, 100 Gs      |
| Thermal Shock                  | MIL-STD-202, Method 107. Cond. B, -65°C to +125°C |
| Moisture Resistance            | MIL-STD-202, Method 106, Less Step 7B             |
| Barometric Pressure (Altitude) | MIL-STD-202, Method 105, Condition C, 70k Ft.     |

Note: Specifications, dimensions and images are typical for the series and may vary by part number

# 2.92MM SERIES

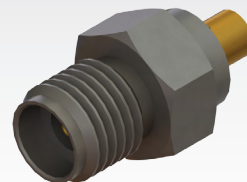
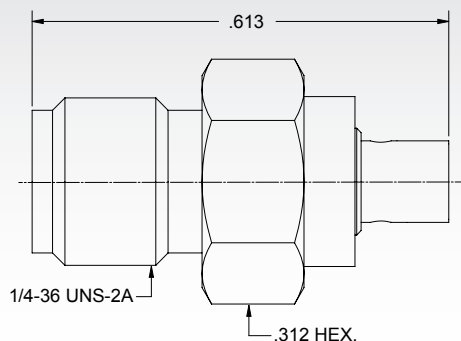
2.92MM SERIES

## Male Cable Connector



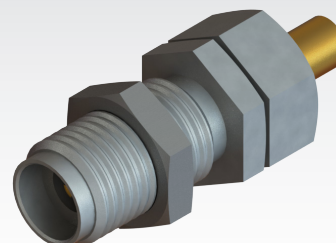
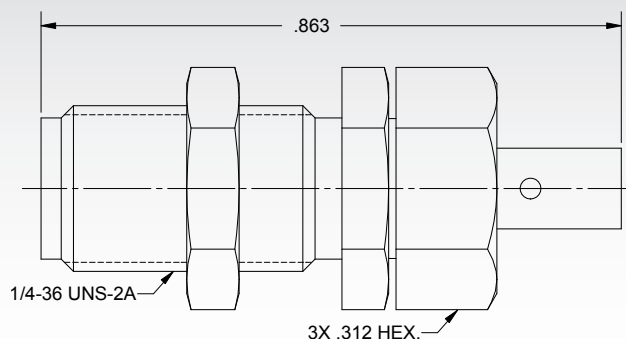
| Cable | P/N          |
|-------|--------------|
| .047  | SF1511-60069 |
| .085  | SF1511-60071 |
| .141  | SF1511-60044 |

## Female Cable Connector



| Cable | P/N          |
|-------|--------------|
| .047  | SF1521-60039 |
| .085  | SF1521-60077 |
| .141  | SF1521-60042 |

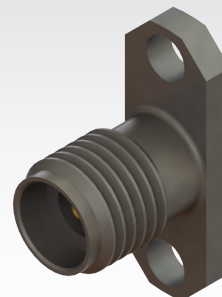
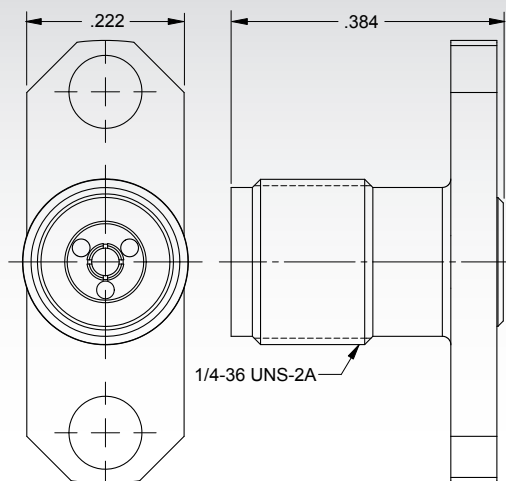
## Female Bulkhead Cable Connector



| Cable | P/N          |
|-------|--------------|
| .047  | SF1521-60045 |
| .085  | SF1521-60025 |
| .141  | SF1521-60044 |

## 2.92MM SERIES

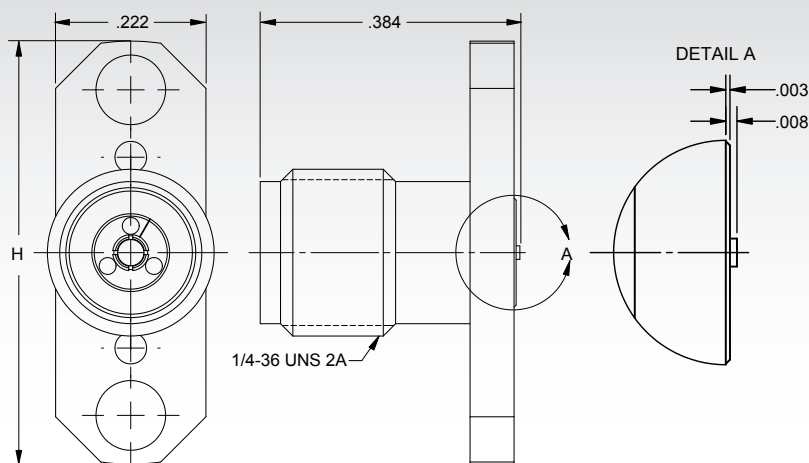
### Female Flange Mount Connector, 2 Hole (Accepts Ø.012" Pin)



P/N

SF1552-6002

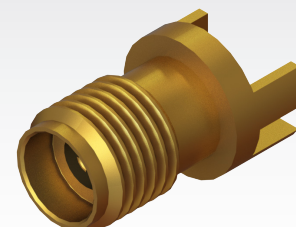
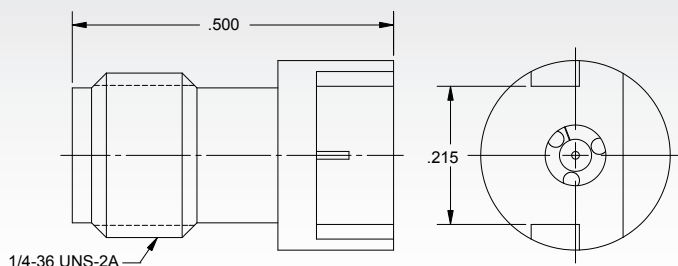
### Female Flange Compression Mount Connector, 2 Hole



Contact SV directly to access our database of recommended PCB layouts

| P/N          | Desc.           | H     |
|--------------|-----------------|-------|
| SF1521-60013 | Stripline       | .625" |
| SF1521-60061 | Stripline       | .400" |
| SF1521-60070 | CPW, Microstrip | .400" |

### Female Edge Launch Connector (.062" PCB Thickness)



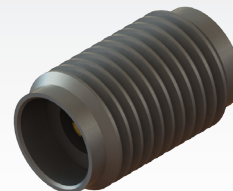
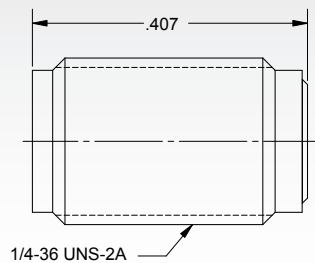
Contact SV directly to access our database of recommended PCB layouts

P/N

1521-60051

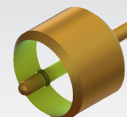
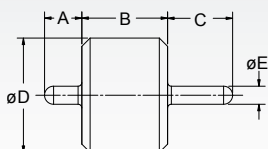
## 2.92MM SERIES

### Female Sparkplug Connector



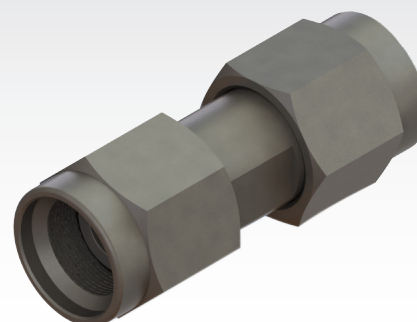
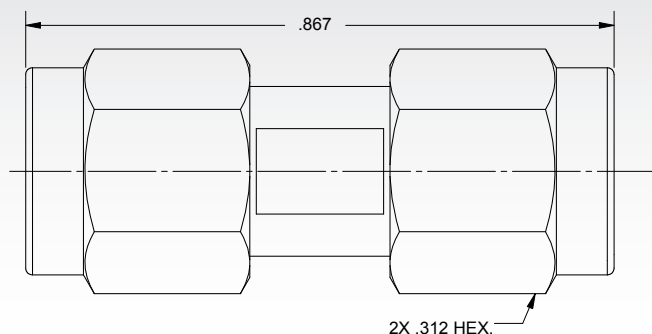
| P/N         |
|-------------|
| SF1575-6007 |

### Feed-Thru Hermetic Seal



| P/N        | A     | B     | C     | øD    | øE    |
|------------|-------|-------|-------|-------|-------|
| 066-15-000 | .040" | .055" | .029" | .076" | .012" |
| 066-15-001 | .040" | .055" | .080" | .076" | .012" |
| 066-15-002 | .030" | .055" | .026" | .068" | .009" |
| 066-15-003 | .030" | .055" | .080" | .068" | .009" |
| 066-15-004 | .030" | .055" | .120" | .068" | .009" |
| 066-15-005 | .050" | .060" | .125" | .158" | .020" |

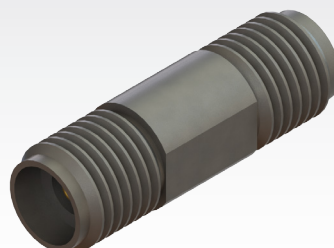
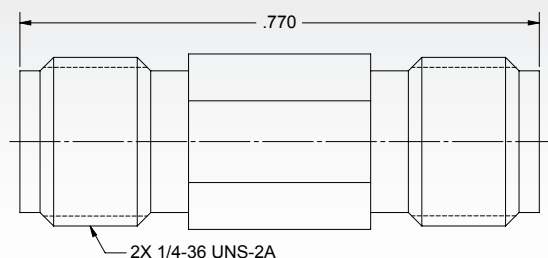
### 2.92mm Male to Male Adapter



| P/N         |
|-------------|
| SF1593-6000 |

## 2.92MM SERIES

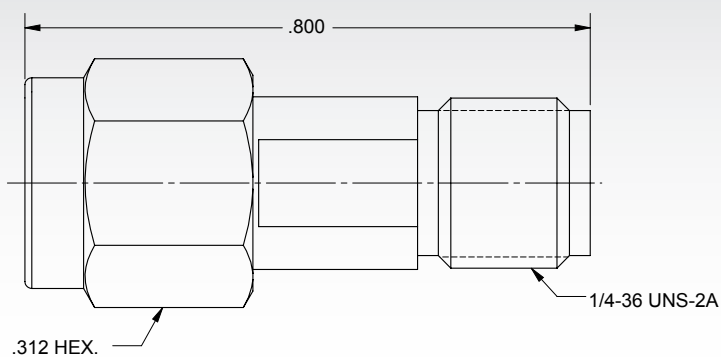
### 2.92mm Female to Female Adapter



P/N

SF1590-6000

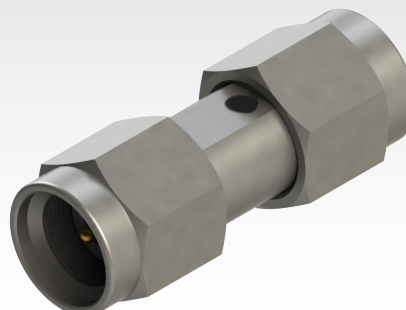
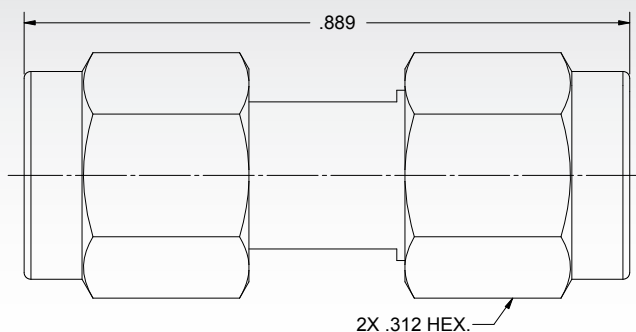
### 2.92mm Male to Female Adapter



P/N

SF1597-6003

### 2.92mm Male to SMA Male Adapter



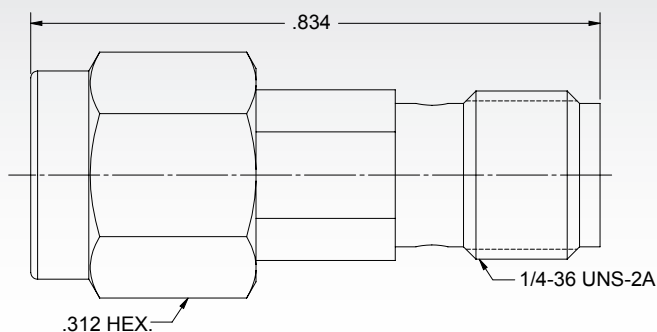
P/N

SF1115-6011

## 2.92MM SERIES

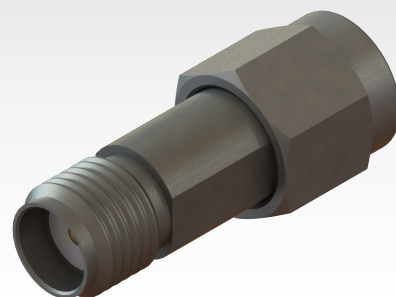
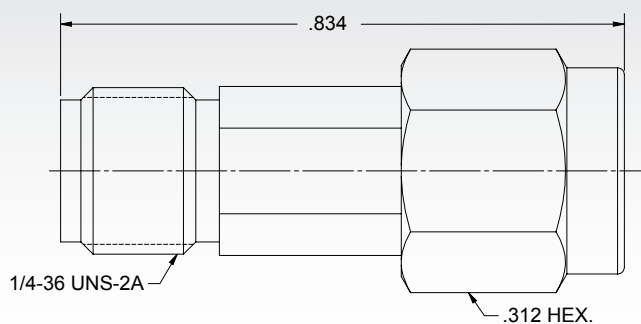
2.92MM SERIES

### 2.92mm Male to SMA Female Adapter



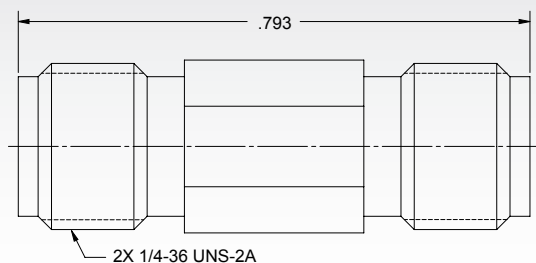
| P/N         |
|-------------|
| SF1115-6009 |

### 2.92mm Female to SMA Male Adapter



| P/N         |
|-------------|
| SF1115-6007 |

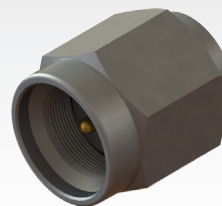
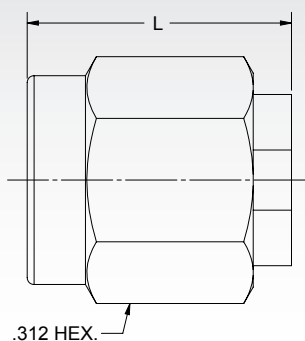
### 2.92mm Female to SMA Female Adapter



| P/N         |
|-------------|
| SF1115-6005 |

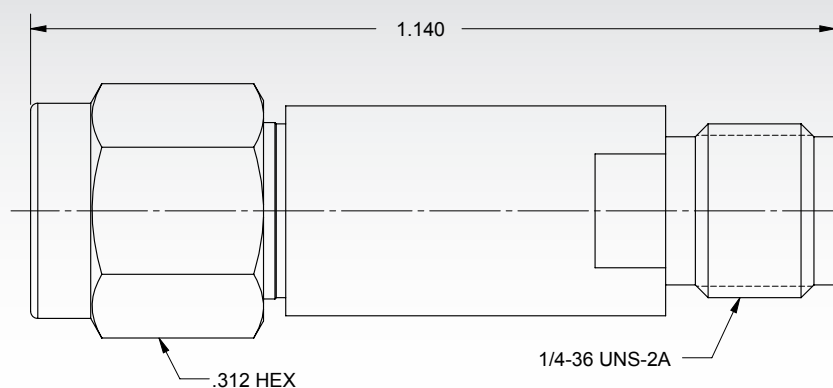
## 2.92MM SERIES

### Male Termination



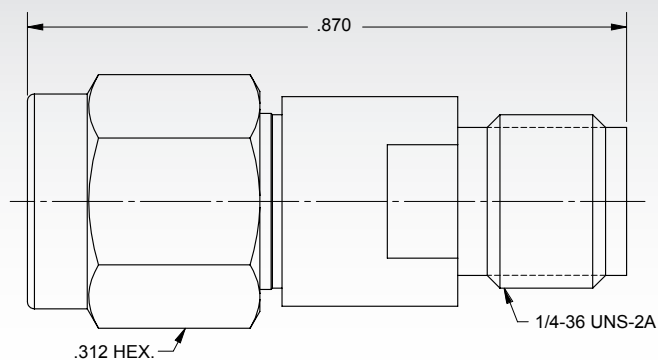
| P/N         | L     |
|-------------|-------|
| SF8015-6002 | .375" |
| SF8015-6007 | .560" |

### 2.92mm Female to Male Attenuator, 32 GHz



| P/N          | Desc.       |
|--------------|-------------|
| M3933/30-XXN | Nonscreened |
| M3933/30-XXS | Screened    |

### 2.92mm Male to Female Attenuator, 40 GHz



| P/N            |
|----------------|
| SF0915-6200-XX |



# 2.4MM SERIES

## 2.4mm Interface at a Glance

The 2.4mm connector was developed for use to 50 GHz. This connector series uses a thick outer wall to eliminate the fragility seen in SMA and 2.92mm connectors. The female socket is also strengthened to ensure reliable mating. The 2.4mm series mates with SMA, 3.5mm and 2.92mm connectors with adapters and can mate with the 1.85mm series without adapters.

### Electrical Specifications

|                         |               |
|-------------------------|---------------|
| Impedance               | 50Ω           |
| Frequency               | 50 GHz        |
| VSWR                    | 1.03 + .005 f |
| Insertion Loss          | .04 √ f       |
| Shielding Effectiveness | ≥ 100 dB      |

### Mechanical Specifications

|                    |                |
|--------------------|----------------|
| Mating Cycles      | 500            |
| Recommended Torque | 5 - 7 in - lbs |
| Inter-mate ability | 1.85mm         |

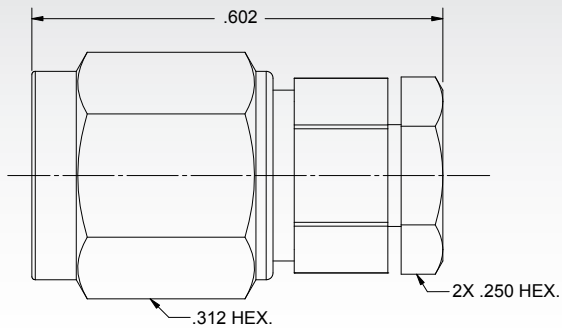
### Environmental Specifications

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Temperature Rating             | -65°C to +165°C                                   |
| Corrosion (Salt Spray)         | MIL-STD-202, Method 101, Condition B              |
| Vibration                      | MIL-STD-202, Method 204, Condition D, 20 Gs       |
| Shock                          | MIL-STD-202, Method 213, Condition I, 100 Gs      |
| Thermal Shock                  | MIL-STD-202, Method 107. Cond. B, -65°C to +125°C |
| Moisture Resistance            | MIL-STD-202, Method 106, Less Step 7B             |
| Barometric Pressure (Altitude) | MIL-STD-202, Method 105, Condition C, 70k Ft.     |

Note: Specifications, dimensions and images are typical for the series and may vary by part number

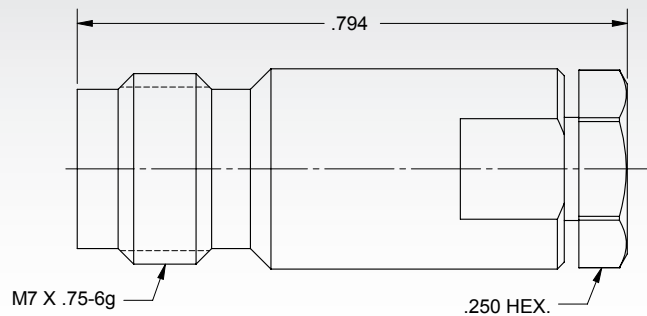
## 2.4MM SERIES

### Male Cable Connector



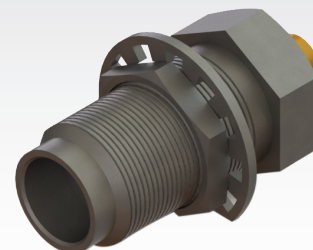
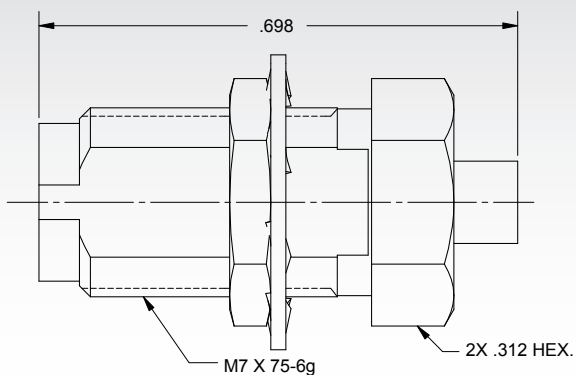
| Cable | P/N          |
|-------|--------------|
| .047  | SF1611-60001 |
| .085  | SF1611-60003 |

### Female Cable Connector



| Cable | P/N          |
|-------|--------------|
| .047  | SF1621-60014 |
| .085  | SF1621-60009 |

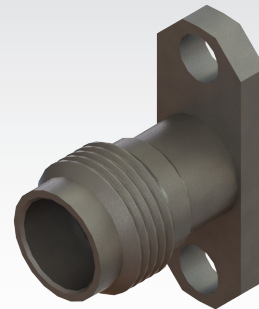
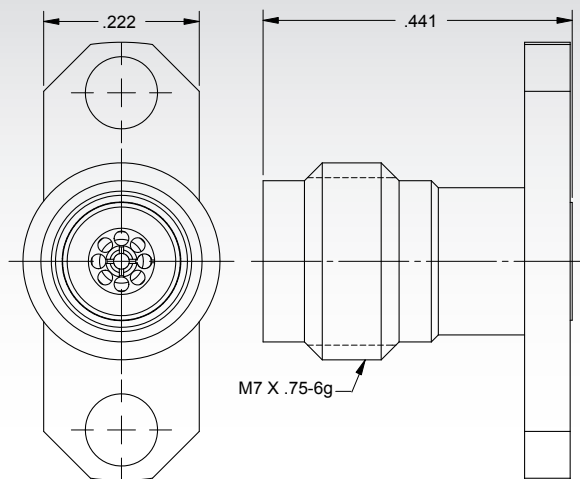
### Female Bulkhead Cable Connector



| Cable | P/N          |
|-------|--------------|
| .047  | SF1621-60005 |
| .085  | SF1644-6001  |

## 2.4MM SERIES

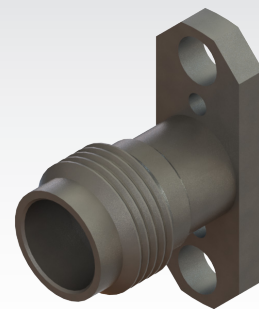
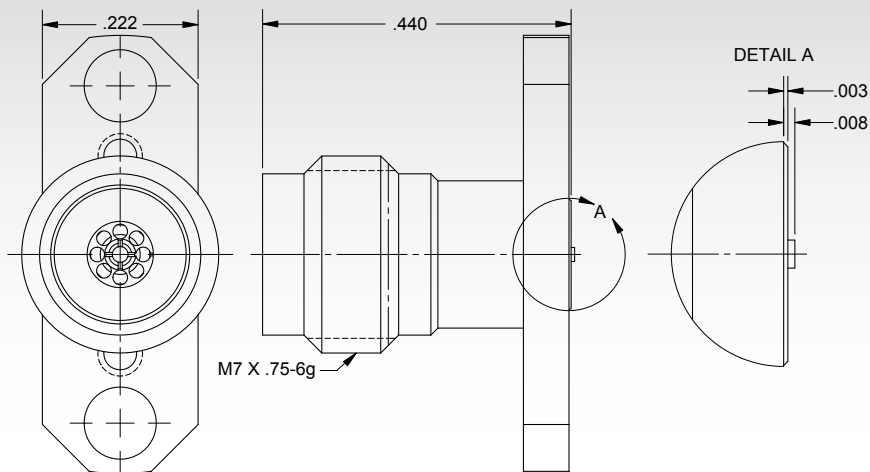
### Female Flange Mount Connector, 2 Hole (Accepts Ø.012" Pin)



P/N

SF1621-60017

### Female Flange Compression Mount Connector, 2 Hole

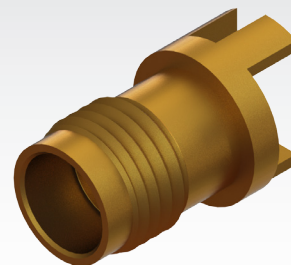
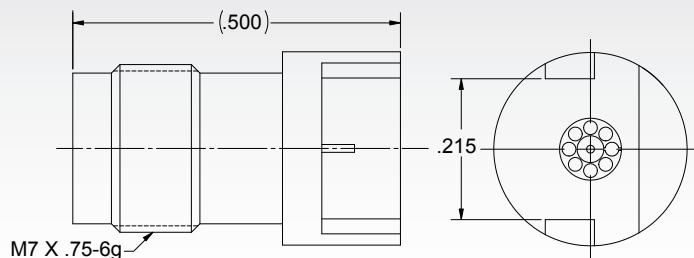


P/N

SF1621-60003

Contact SV directly to access our database of recommended PCB layouts

### Female Edge Launch Connector (.062" PCB Thickness)



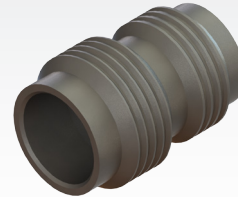
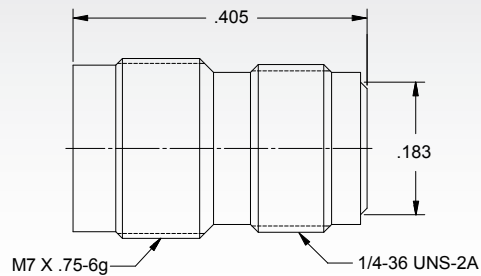
P/N

1621-60008

Contact SV directly to access our database of recommended PCB layouts

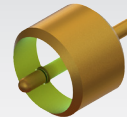
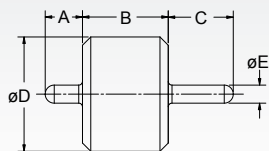
## 2.4MM SERIES

### Male Sparkplug Connector (Accepts Ø.008" Pin)



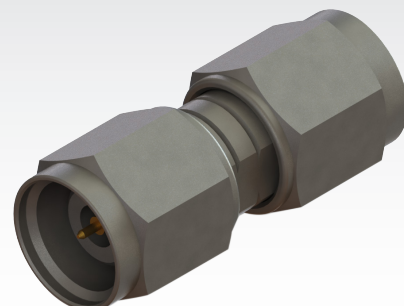
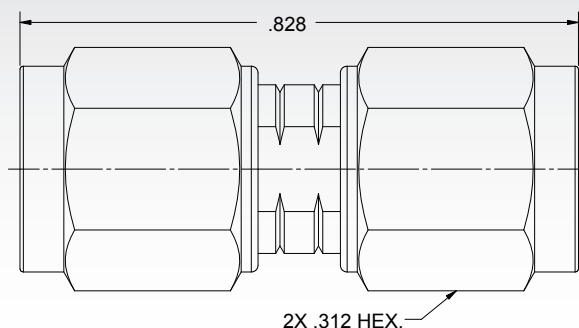
| P/N          |
|--------------|
| SF1675-600 4 |

### Feed-Thru Hermetic Seal



| P/N        | A     | B     | C     | ØD    | ØE    |
|------------|-------|-------|-------|-------|-------|
| 066-15-000 | .040" | .055" | .029" | .076" | .012" |
| 066-15-001 | .040" | .055" | .080" | .076" | .012" |
| 066-15-002 | .030" | .055" | .026" | .068" | .009" |
| 066-15-003 | .030" | .055" | .080" | .068" | .009" |
| 066-15-004 | .030" | .055" | .120" | .068" | .009" |
| 066-15-005 | .050" | .060" | .125" | .158" | .020" |

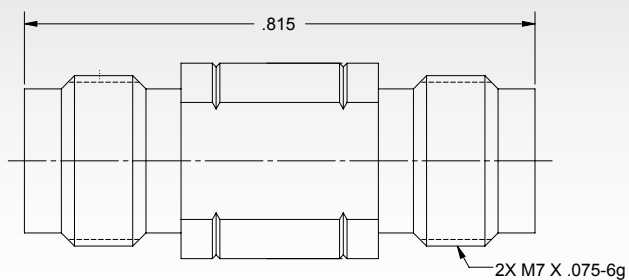
### 2.4mm Male to Male Adapter



| P/N         |
|-------------|
| SF1116-6039 |

## 2.4MM SERIES

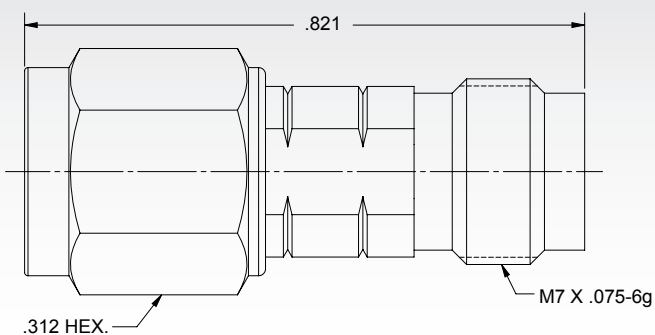
### 2.4mm Female to Female Adapter



P/N

SF1116-6037

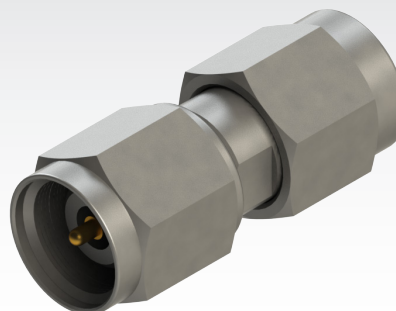
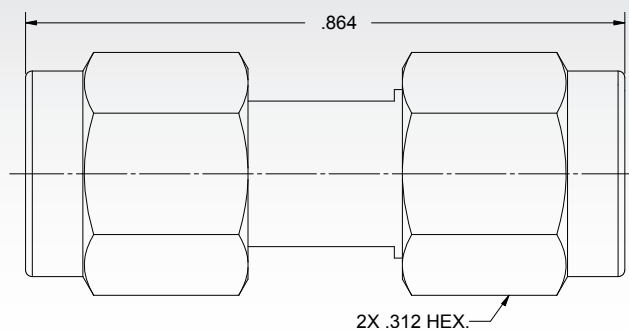
### 2.4mm Male to Female Adapter



P/N

SF1116-6040

### 2.4mm Male to 2.92mm Male Adapter

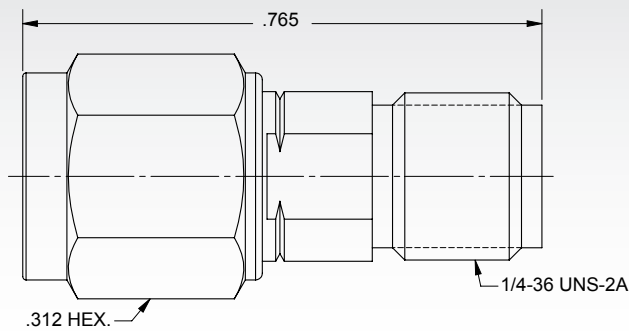


P/N

SF1116-6007

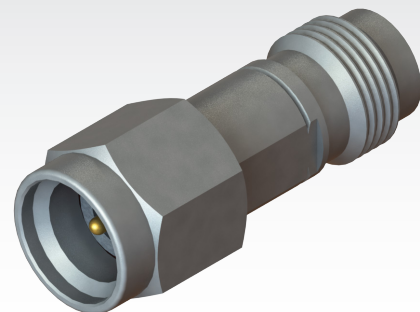
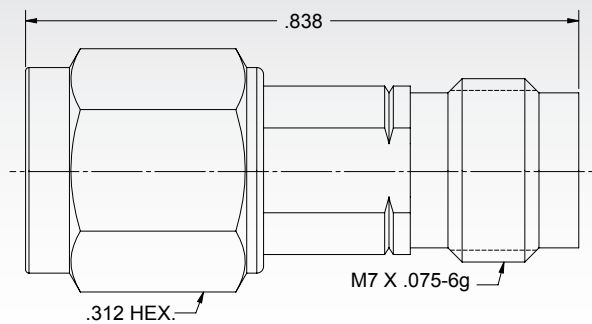
## 2.4MM SERIES

### 2.4mm Male to 2.92mm Female Adapter



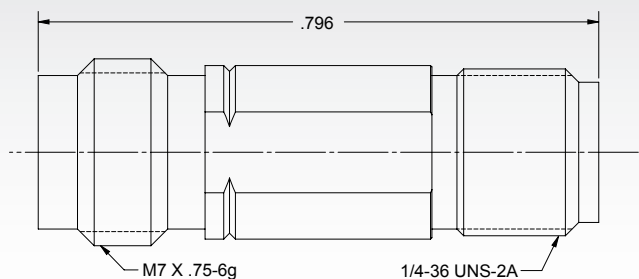
| P/N         |
|-------------|
| SF1116-6002 |

### 2.4mm Female to 2.92mm Male Adapter



| P/N         |
|-------------|
| SF1116-6003 |

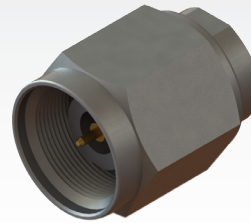
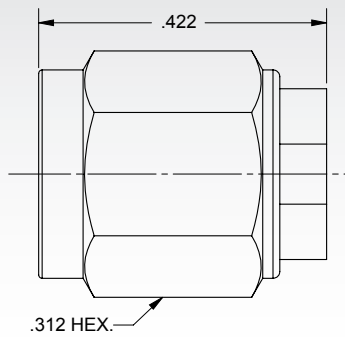
### 2.4mm Female to 2.92mm Female Adapter



| P/N         |
|-------------|
| SF1116-6004 |

## 2.4MM SERIES

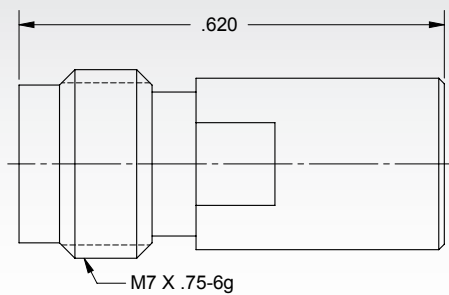
### Male Termination



P/N

SF8016-6304

### Female Termination



P/N

SF8016-6402



# 1.85MM SERIES

## 1.85mm Interface at a Glance

The 1.85mm connector was designed for mode free operation through 65 GHz. The interface uses a mostly air-dielectric with a support bead that is set back in the body of the connector to reduce bead interaction in a mated pair. Like the 2.92mm and 2.4mm connector, the body has been designed to ensure that the outer conductors engage before the center conductors make contact. The 1.85mm interface uses an M7 thread and is compatible only with the 2.4mm interface. SV Microwave supplies adapters to mate 1.85mm connectors to SMA and 2.92mm connectors.

### Electrical Specifications

|                         |               |
|-------------------------|---------------|
| Impedance               | 50Ω           |
| Frequency               | 65 GHz        |
| VSWR                    | 1.03 + .005 f |
| Insertion Loss          | .04 √ f       |
| Shielding Effectiveness | ≥ 100 dB      |

### Mechanical Specifications

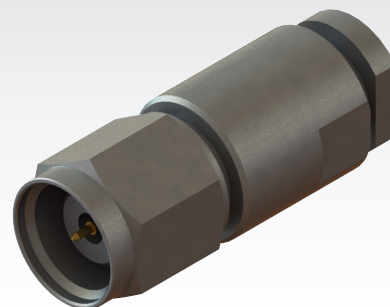
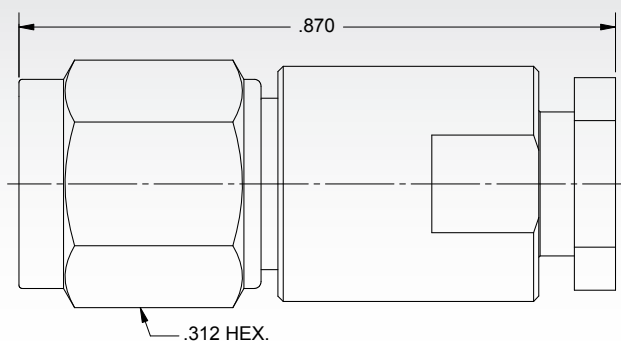
|                    |                |
|--------------------|----------------|
| Mating Cycles      | 500            |
| Mating Torque      | 5 - 7 in - lbs |
| Inter-mate ability | 2.4mm          |

### Environmental Specifications

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Temperature Rating             | -65°C to +165°C                                   |
| Corrosion (Salt Spray)         | MIL-STD-202, Method 101, Condition B              |
| Vibration                      | MIL-STD-202, Method 204, Condition D, 20 Gs       |
| Shock                          | MIL-STD-202, Method 213, Condition I, 100 Gs      |
| Thermal Shock                  | MIL-STD-202, Method 107. Cond. B, -65°C to +125°C |
| Moisture Resistance            | MIL-STD-202, Method 106, Less Step 7B             |
| Barometric Pressure (Altitude) | MIL-STD-202, Method 105, Condition C, 70k Ft.     |

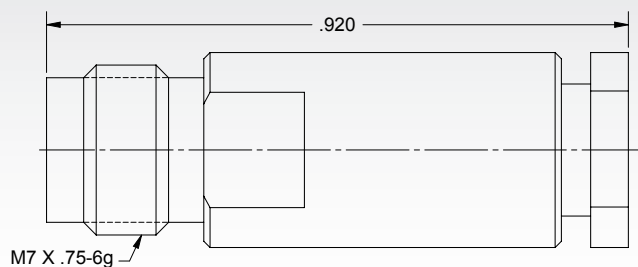
Note: Specifications, dimensions and images are typical for the series and may vary by part number

## Male Cable Connector



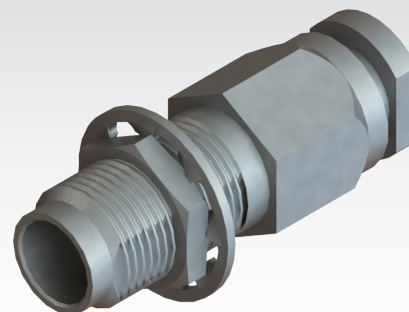
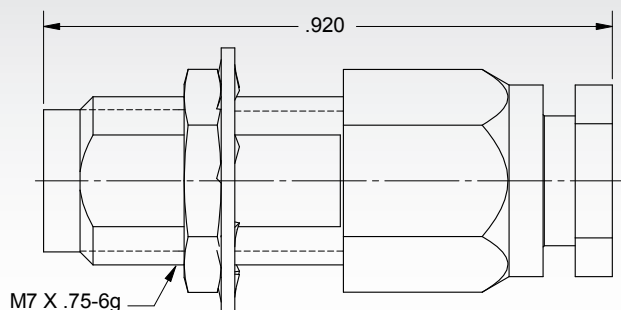
| Cable | P/N          |
|-------|--------------|
| .047  | SF3311-60002 |
| .085  | SF3311-60003 |

## Female Cable Connector



| Cable | P/N          |
|-------|--------------|
| .047  | SF3321-60005 |
| .085  | SF3321-60006 |

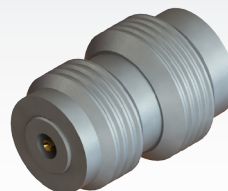
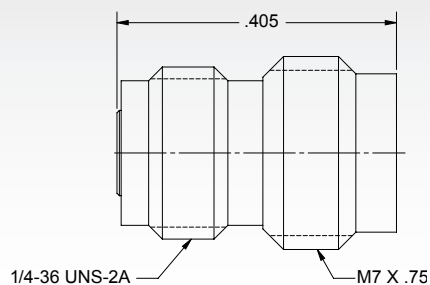
## Female Bulkhead Cable Connector



| Cable | P/N          |
|-------|--------------|
| .047  | SF3321-60004 |
| .085  | SF3321-60007 |

# 1.85MM SERIES

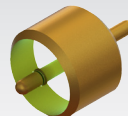
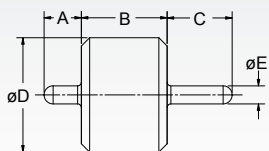
## Female Sparkplug Connector (Accepts Ø.008" Pin)



P/N

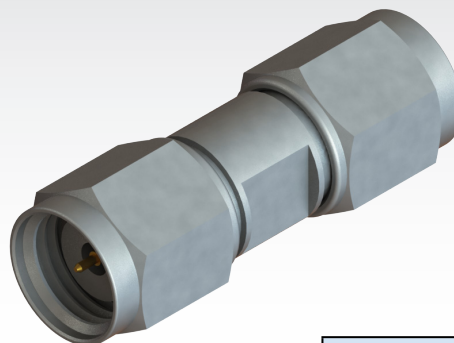
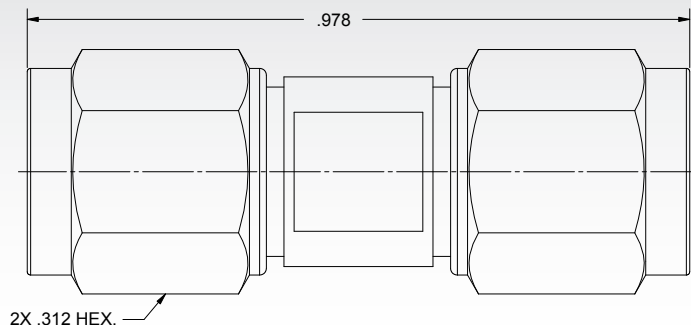
SF3375-6001

## Feed-Thru Hermetic Seal



| P/N        | A     | B     | C     | øD    | øE    |
|------------|-------|-------|-------|-------|-------|
| 066-15-000 | .040" | .055" | .029" | .076" | .012" |
| 066-15-001 | .040" | .055" | .080" | .076" | .012" |
| 066-15-002 | .030" | .055" | .026" | .068" | .009" |
| 066-15-003 | .030" | .055" | .080" | .068" | .009" |
| 066-15-004 | .030" | .055" | .120" | .068" | .009" |
| 066-15-005 | .050" | .060" | .125" | .158" | .020" |

## 1.85mm Male to Male Adapter

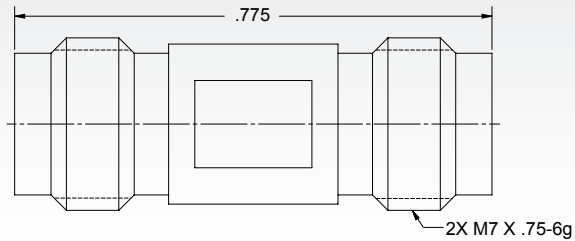


P/N

SF1133-6009

## 1.85MM SERIES

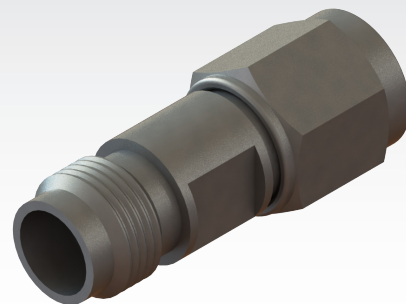
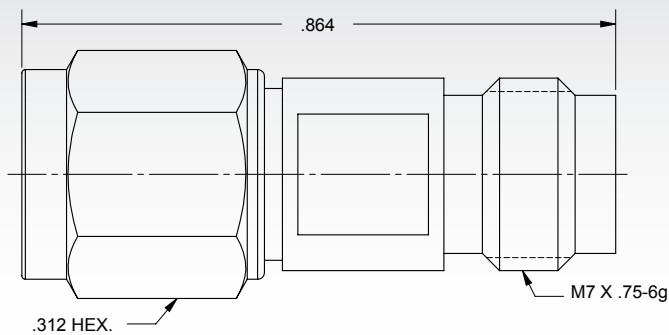
### 1.85mm Female to Female Adapter



P/N

SF1133-6008

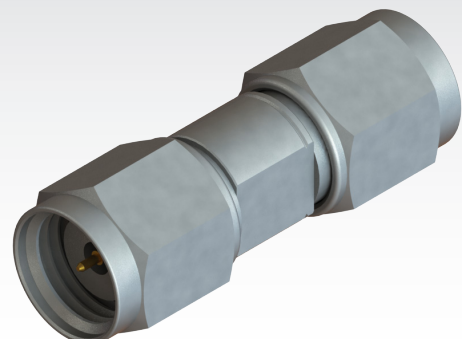
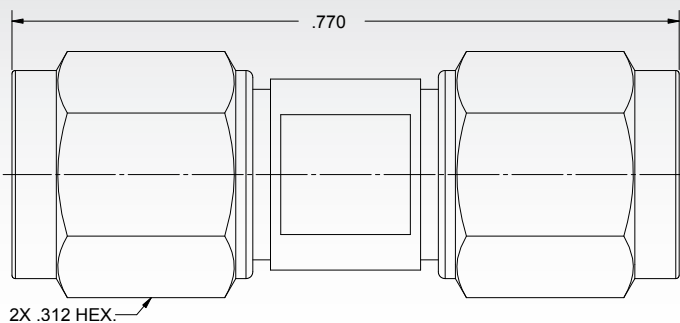
### 1.85mm Male to Female Adapter



P/N

SF1133-6010

### 1.85mm Male to 2.4mm Male Adapter

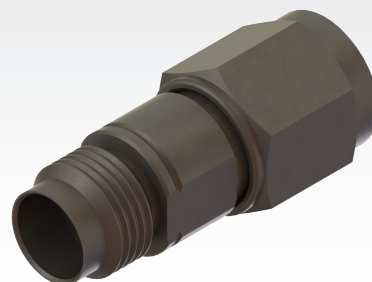
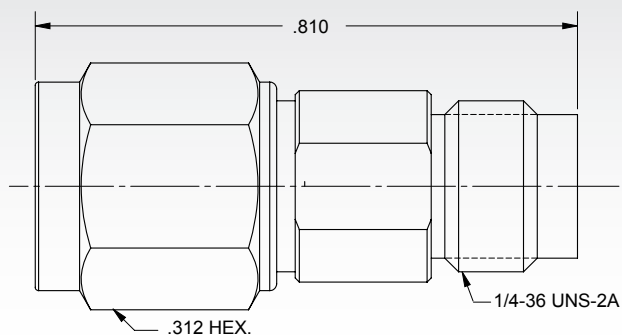


P/N

SF1133-6006

# 1.85MM SERIES

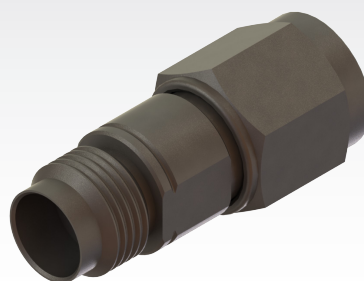
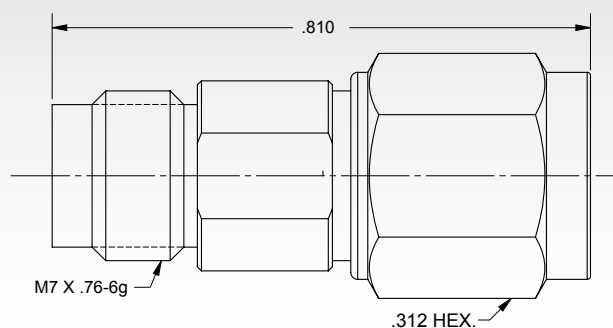
## 1.85mm Male to 2.4mm Female Adapter



P/N

SF1133-6004

## 1.85mm Female to 2.4mm Male Adapter



P/N

SF1133-6005

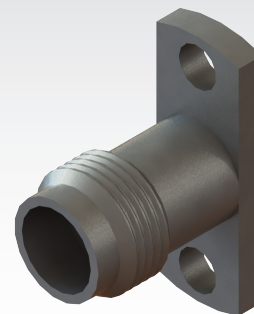
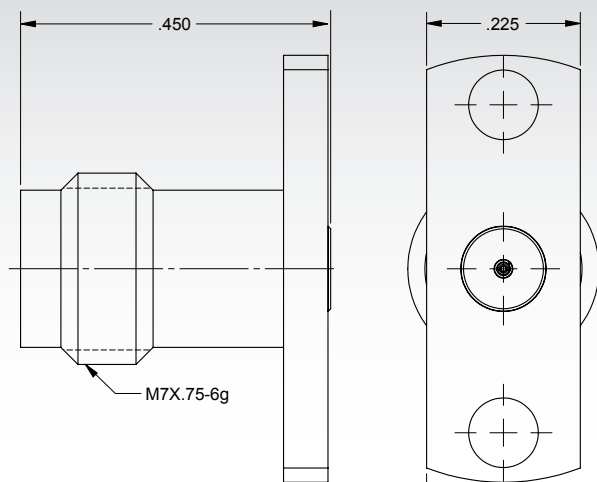
## 1.85mm Female to 2.4mm Female Adapter



P/N

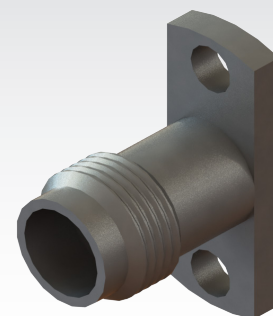
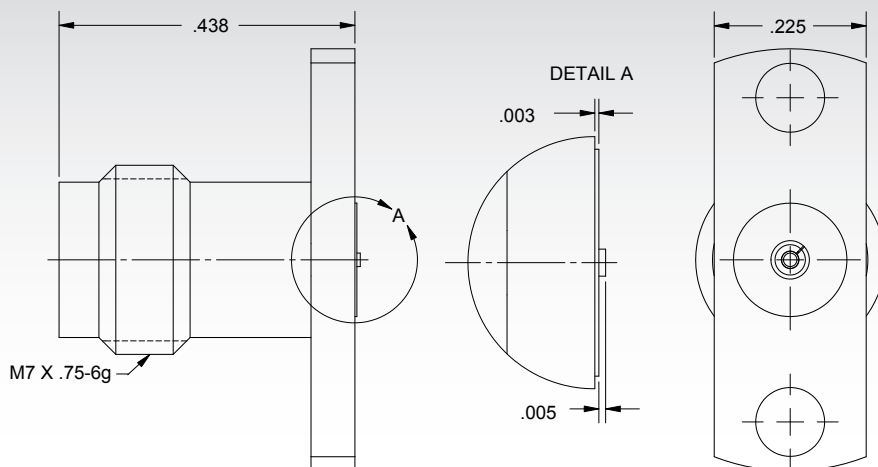
SF1133-6003

## Female Flange Mount Connector, 2 Hole (Accepts Ø.009" Pin)



| P/N          |
|--------------|
| SF3321-60003 |

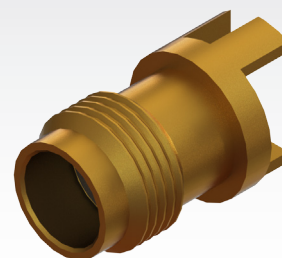
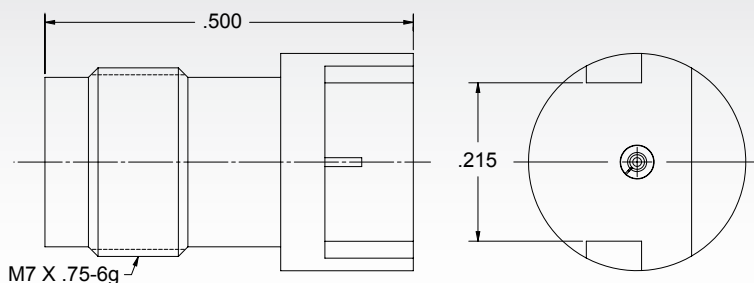
## Female Flange Compression Mount Connector, 2 Hole



| P/N          |
|--------------|
| SF3321-60011 |

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## Female Edge Launch Connector (.062" PCB Thickness)



| P/N        |
|------------|
| 3321-60001 |

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# SMP SERIES

## SMP Interface at a Glance

SV Microwave offers a complete line of SMP connectors that conform to DSCC 94007, 94008 and MIL-STD-348. The SMP connector was developed to meet an industry need for a smaller high frequency compact design that incorporated ease of use and functionality. The SMP bullet is the heart of this unique design.

### Electrical Specifications

|                                 |                                               |
|---------------------------------|-----------------------------------------------|
| Impedance                       | 50Ω                                           |
| Frequency                       | 40 GHz                                        |
| VSWR                            | 1.15:1 to 26.5 GHz typ.; 1.5:1 to 40 GHz typ. |
| Insertion Loss                  | .06 √ f                                       |
| Shielding Effectiveness         | ≥ -80 dB DC - 3 GHz; ≥ -65 dB 3 - 26.5 GHz    |
| Dielectric Withstanding Voltage | 500 VRMS                                      |

### Mechanical Specifications

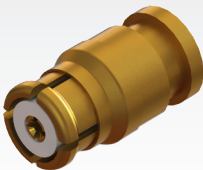
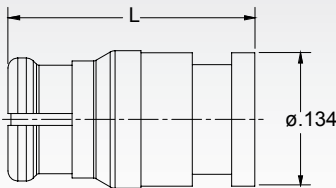
|                           | SB            | LD            | FD            |
|---------------------------|---------------|---------------|---------------|
| Mating Cycles             | 1000          | 500           | 100           |
| Force to Engage/Disengage | 3.0 / 0.5 lbs | 5.0 / 7.0 lbs | 7.0 / 9.0 lbs |
| Axial Misalignment        |               |               | .010"         |
| Radial Misalignment       |               |               | ± .010"       |

### Environmental Specifications

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Temperature Rating             | -65°C to +165°C                                   |
| Corrosion (Salt Spray)         | MIL-STD-202, Method 101, Condition B              |
| Vibration                      | MIL-STD-202, Method 204, Condition D, 20 Gs       |
| Shock                          | MIL-STD-202, Method 213, Condition I, 100 Gs      |
| Thermal Shock                  | MIL-STD-202, Method 107. Cond. B, -65°C to +165°C |
| Barometric Pressure (Altitude) | MIL-STD-202, Method 105, Condition C, 70k Ft.     |

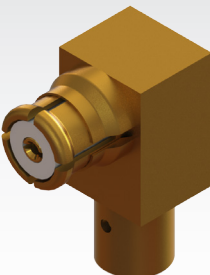
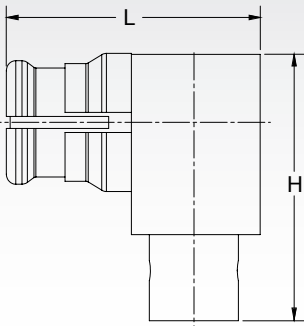
Note: Specifications, dimensions and images are typical for the series and may vary by part number

Female Cable Connector



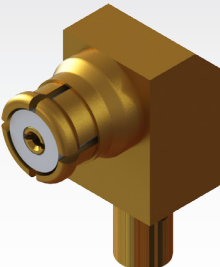
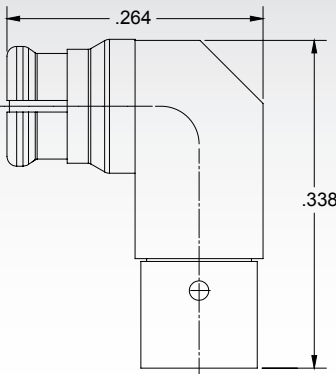
| Cable  | P/N       | L     |
|--------|-----------|-------|
| .047   | 1221-4010 | .265" |
| .085   | 1221-4009 | .265" |
| RG-174 | 1221-4005 | .300" |
| RG-178 | 1221-4004 | .250" |

Female Cable Connector, R/A



| Cable  | P/N       | L     | H     |
|--------|-----------|-------|-------|
| .047   | 1213-4007 | .265" | .220" |
| .047   | 1222-4012 | .263" | .188" |
| .085   | 1222-4011 | .265" | .188" |
| RG-174 | 1221-4006 | .268" | .338" |
| RG-178 | 1222-4006 | .268" | .266" |

Female Cable Connector, Swept R/A

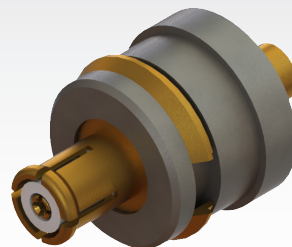
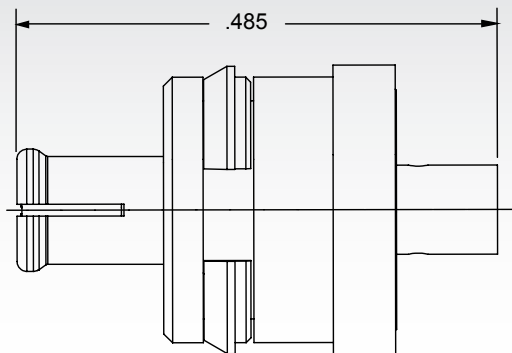


| Cable | P/N       |
|-------|-----------|
| .047  | 1222-4004 |
| .085  | 1222-4005 |

# SMP SERIES

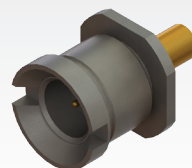
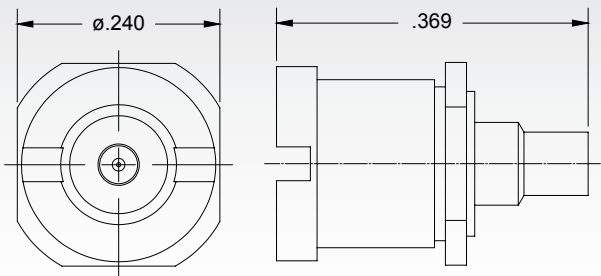
SMP SERIES

## Female Snap-In Cable Connector



| Cable | P/N       |
|-------|-----------|
| .047  | 1221-6001 |
| .085  | 1204-6000 |

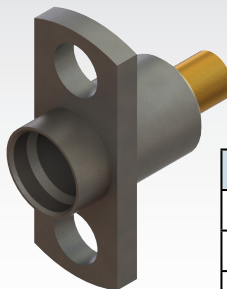
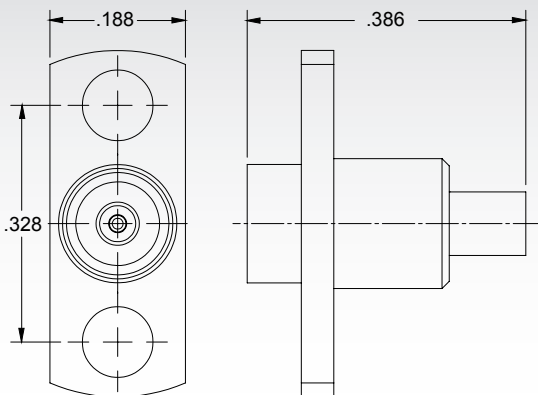
## Male Bulkhead Cable Connector



| Detent | Cable | P/N          |
|--------|-------|--------------|
| LD     | .047  | SF1211-6059  |
| LD     | .085  | SF1211-6062  |
| FD     | .047  | SF1211-6058  |
| FD     | .085  | SF1211-6061  |
| CM     | .047  | SF1211-6060* |
| CM     | .085  | SF1211-6063* |

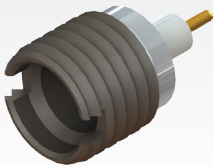
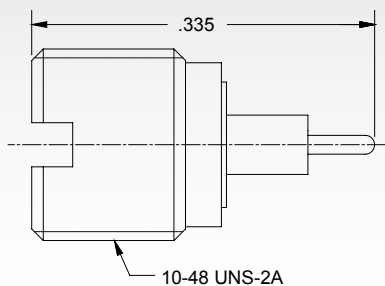
\* Note: Dimensions on Catchers Mitt do not match image shown in catalog

## Male Flange Mount Cable Connector, 2 Hole



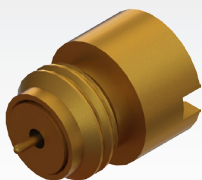
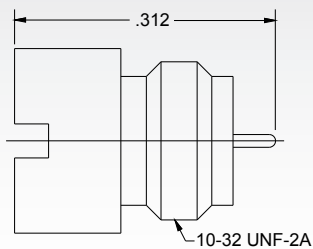
| Detent | Cable | P/N         |
|--------|-------|-------------|
| SB     | .047  | SF1211-6022 |
| SB     | .085  | SF1211-6023 |
| LD     | .047  | SF1211-6021 |
| LD     | .085  | SF1211-6024 |
| FD     | .047  | SF1233-6000 |
| FD     | .085  | SF1211-6025 |

Male Thread-In Connector (.018")



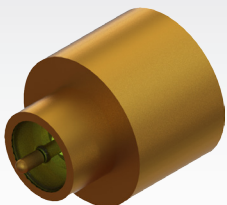
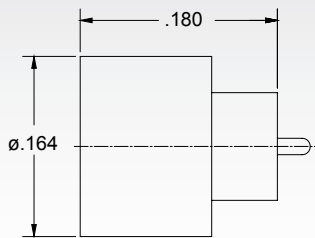
| Detent | P/N          |
|--------|--------------|
| SB     | SF1211-66114 |
| LD     | SF1211-66113 |
| FD     | SF1279-6001  |

Male Thread-In Hermetic Connector (.015")



| Detent | P/N        |
|--------|------------|
| SB     | 1211-40008 |
| LD     | 1279-4002  |
| FD     | 1279-4001  |

Male Solder-In Hermetic Connector (.015")

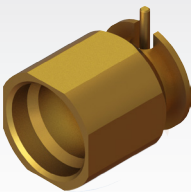
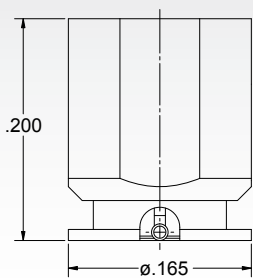


| Detent | P/N       |
|--------|-----------|
| SB     | 1211-6043 |
| LD     | 1211-60 2 |
| FD     | 1211-6041 |

# SMP SERIES

SMP SERIES

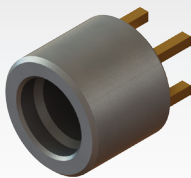
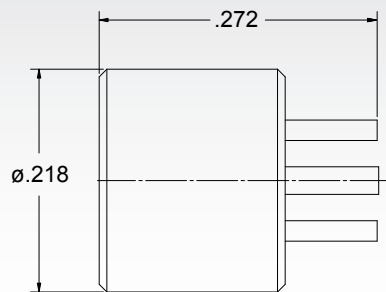
## Male Surface Mount Connector, R/A



| Detent | P/N        |
|--------|------------|
| SB     | 1211-40001 |
| LD     | 1211-40004 |
| FD     | 1211-40003 |

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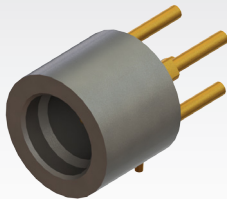
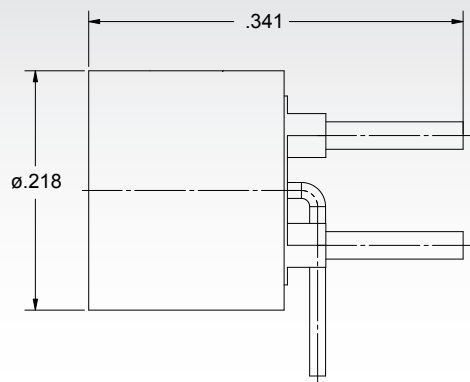
## Male PCB Thru-Hole Connector



| Detent | P/N         |
|--------|-------------|
| SB     | SF1211-6045 |
| LD     | SF1211-6044 |
| FD     | SF1287-6001 |

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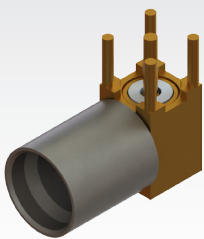
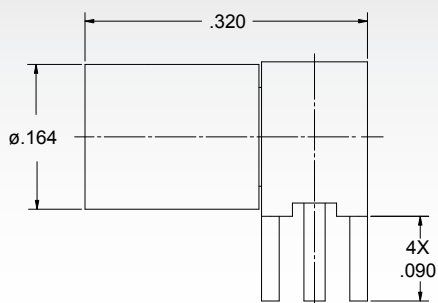
## Male PCB Thru-Hole Connector, R/A



| Detent | P/N          |
|--------|--------------|
| SB     | SF1211-40002 |
| LD     | SF1211-40006 |
| FD     | SF1211-40007 |

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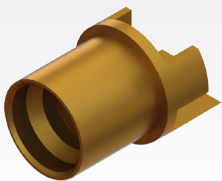
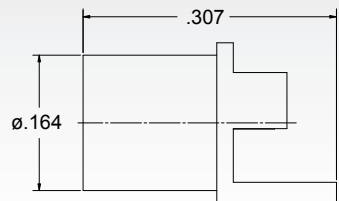
Male PCB Thru-Hole Connector, R/A



| Detent | P/N         |
|--------|-------------|
| SB     | SF1212-6002 |
| LD     | SF1212-6001 |
| FD     | SF1212-6000 |

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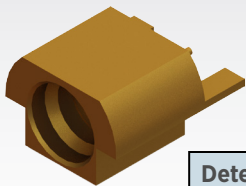
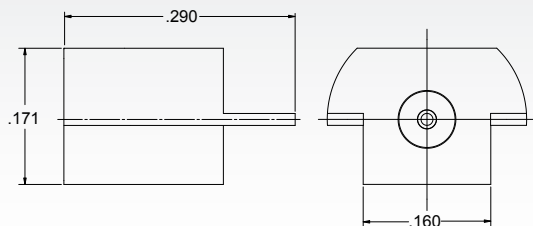
Male Edge Launch Connector (.062” PCB Thickness)



| Detent | P/N       |
|--------|-----------|
| SB     | 1285-6004 |
| LD     | 1285-6003 |
| FD     | 1285-6002 |

Contact SV directly to access our database of recommended PCB layouts

Male Edge Launch Connector

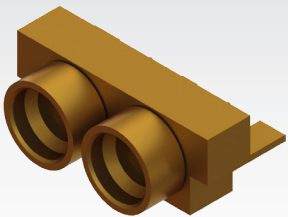
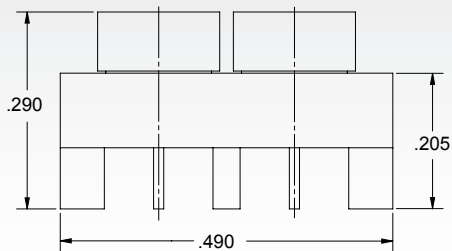


| Detent | P/N         |
|--------|-------------|
| SB     | 1211-66139  |
| LD     | 1211-66138  |
| FD     | 1211-66137  |
| CM     | 1211-66175* |

\* Note: Dimensions on Catchers Mitt do not match image shown in catalog

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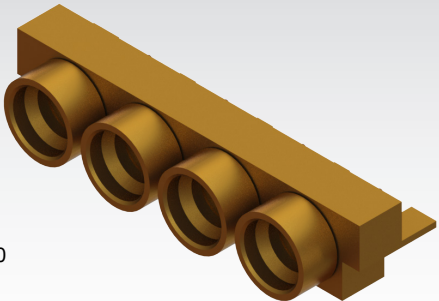
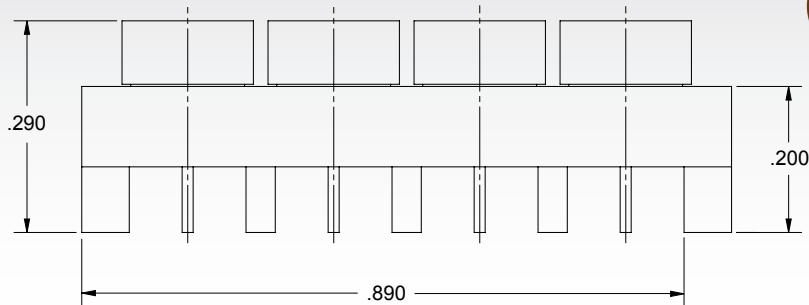
Male Edge Launch Connector, 2 Port



| Detent | P/N        |
|--------|------------|
| SB     | 9311-60033 |
| LD     | 9311-60034 |
| FD     | 9311-60035 |

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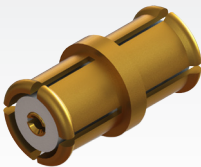
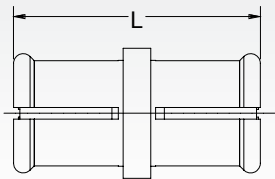
Male Edge Launch Connector, 4 Port



| Detent | P/N        |
|--------|------------|
| SB     | 9311-60036 |
| LD     | 9311-60037 |
| FD     | 9311-60038 |

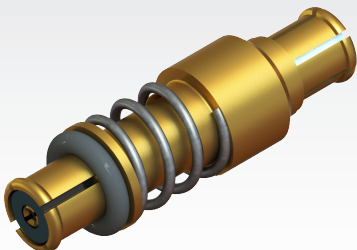
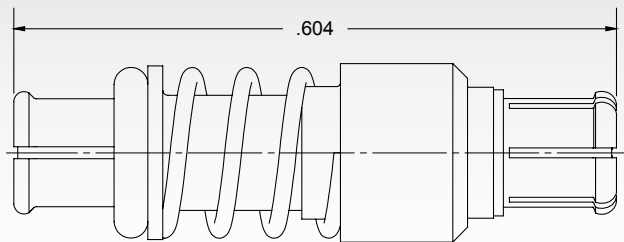
Contact SV directly to access our database of recommended PCB layouts

Female to Female Bullet



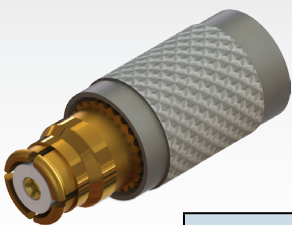
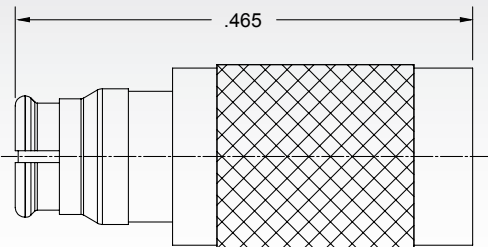
| P/N       | L     |
|-----------|-------|
| 1290-4001 | .254" |
| 1290-4009 | .395" |
| 1290-4007 | .769" |

Female to Female Bullet, Spring Loaded



| P/N       |
|-----------|
| 1112-4019 |

SMP Male to Female Adapter

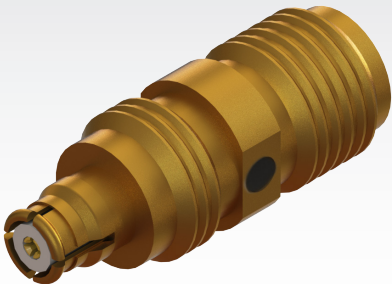
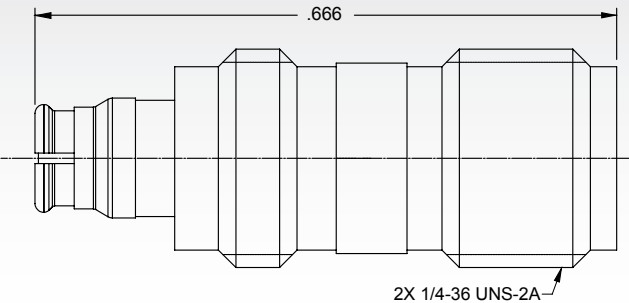


| Detent | P/N       |
|--------|-----------|
| SB     | 1112-4012 |
| LD     | 1112-4011 |
| FD     | 1112-4009 |

# SMP SERIES

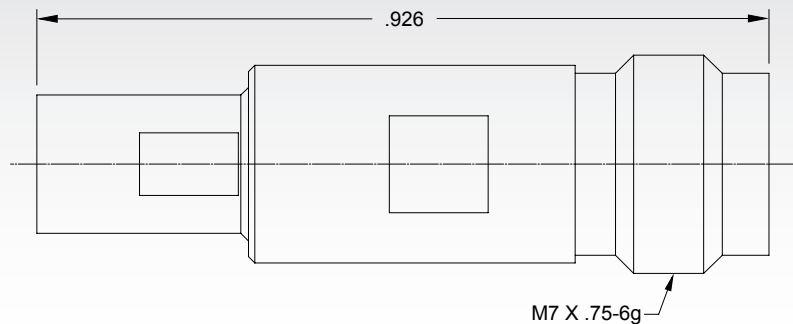
SMP SERIES

## SMP Female to SMA Female Adapter



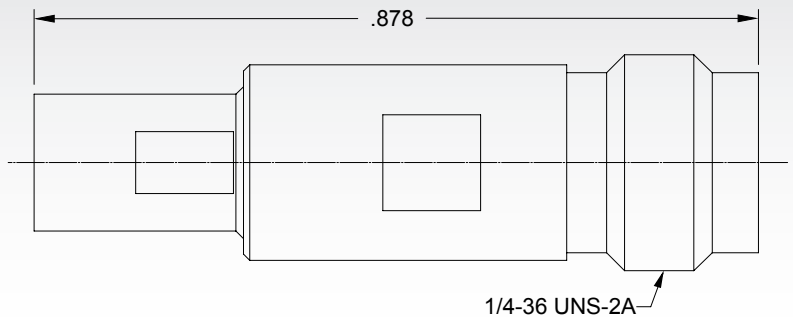
| P/N       |
|-----------|
| 1112-4018 |

## SMP Male to 2.4mm Female Adapter



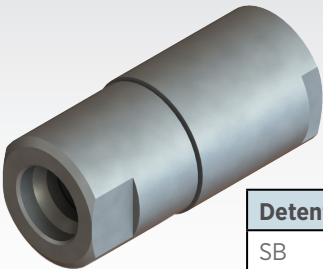
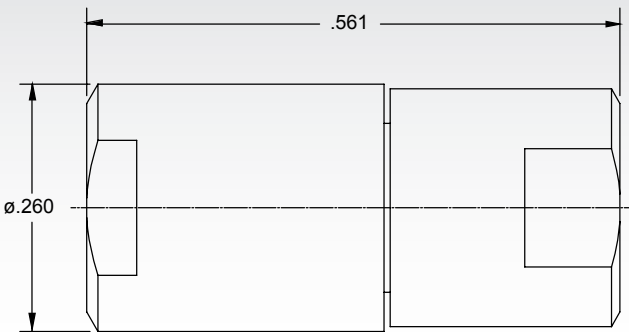
| Detent | P/N         |
|--------|-------------|
| SB     | SF1116-6016 |
| LD     | SF1116-6048 |
| FD     | 1116-6014   |

## SMP Male to 2.92mm Female Adapter



| Detent | P/N         |
|--------|-------------|
| SB     | SF1112-6031 |
| LD     | SF1112-6025 |
| FD     | SF1112-6122 |

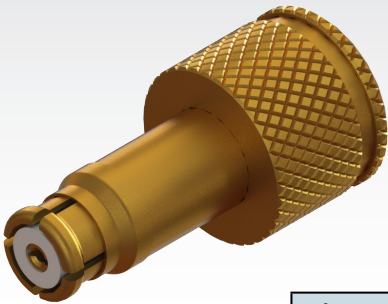
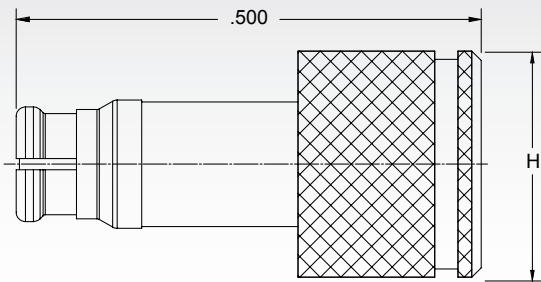
Male Termination



| Detent | P/N          |
|--------|--------------|
| SB     | SF8012-6102  |
| LD     | SF8012-6101  |
| FD     | SF8012-6009  |
| CM     | SF8012-6103* |

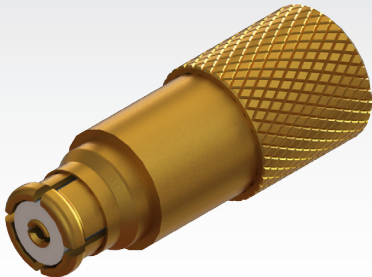
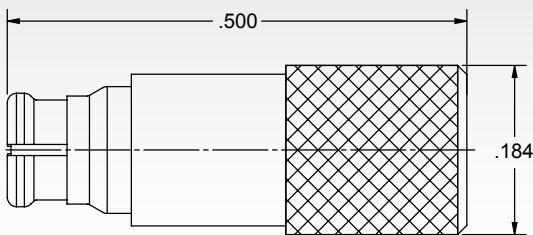
\* Note: Dimensions on Catchers Mitt do not match image shown in catalog

Female Termination



| P/N       | H     |
|-----------|-------|
| 8012-4013 | .245" |
| 8012-4006 | .187" |

Female Short

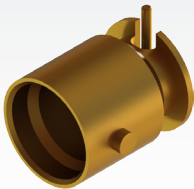
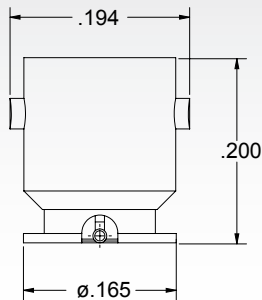


| P/N       |
|-----------|
| 8012-4008 |

# SMP SERIES

SMP SERIES

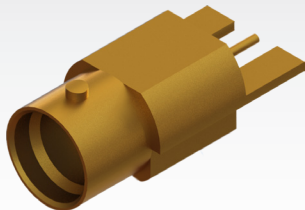
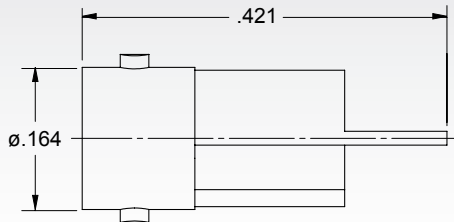
## Male QB Surface Mount Connector



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| P/N        |
|------------|
| 1211-40032 |

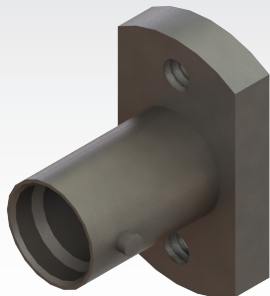
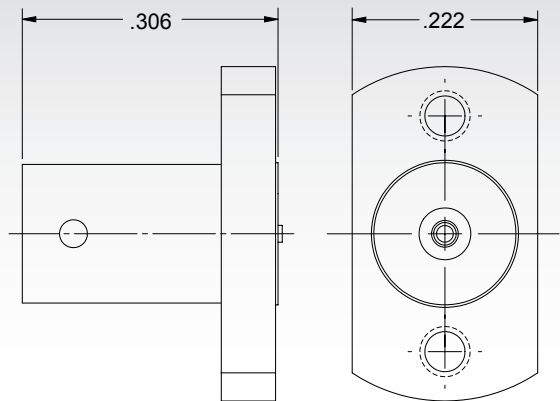
## Male QB Edge Launch Connector



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| P/N        |
|------------|
| 1211-66195 |

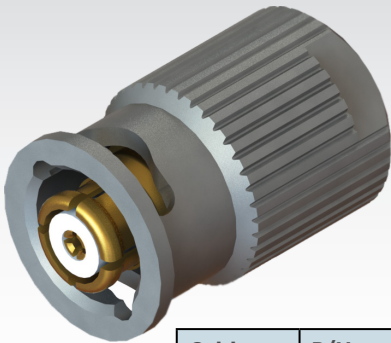
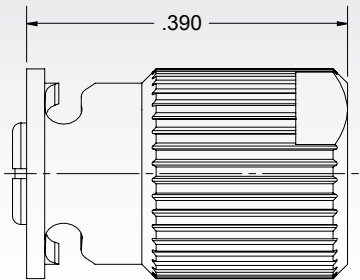
## Male QB Flange Compression Mount Connector, 2 Hole



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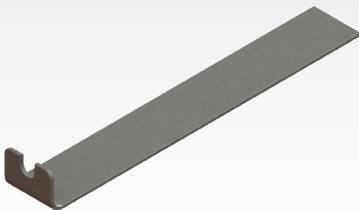
| P/N          |
|--------------|
| SF1211-66214 |

Female QB Cable Connector



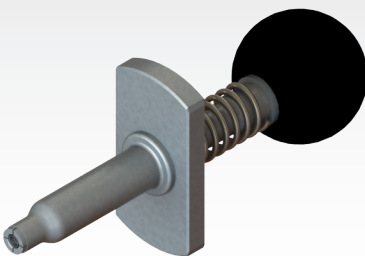
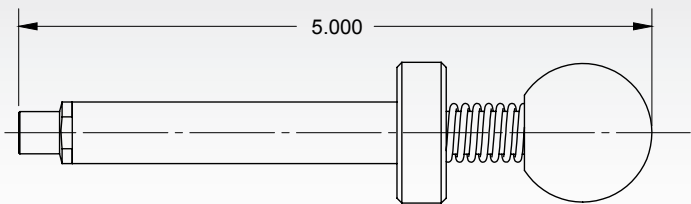
| Cable | P/N        |
|-------|------------|
| .047  | 1221-40051 |
| .085  | 1221-40049 |
| .141  | 1221-40050 |

Female Cable Removal Tool



| P/N        |
|------------|
| 500-12-019 |

Female Bullet Removal Tool



| P/N        |
|------------|
| 500-12-000 |

## SMPPM Interface at a Glance

SV Microwave offers a complete line of SMPPM connectors. The SMPPM connector was developed to improve on the application density and operating frequency range of the SMP connector. The SMPPM connector is widely used in high density, high performance applications today.

### Electrical Specifications

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| Impedance                       | 50Ω                                            |
| Frequency                       | 65 GHz                                         |
| VSWR                            | 1.10:1 to 26.5 GHz typ.; 1.30:1 to 50 GHz typ. |
| Insertion Loss                  | .07 √ f                                        |
| Shielding Effectiveness         | ≥ -80 dB typ.                                  |
| Dielectric Withstanding Voltage | 325 VRMS                                       |

### Mechanical Specifications

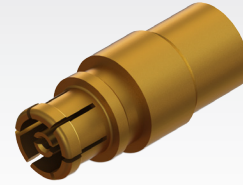
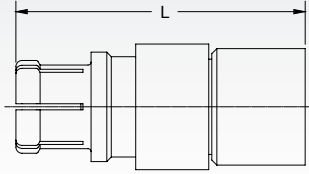
|                           | SB            | FD            |
|---------------------------|---------------|---------------|
| Mating Cycles             | 500           | 100           |
| Force to Engage/Disengage | 2.5 / 1.5 lbs | 4.5 / 6.5 lbs |
| Axial Misalignment        |               | .010"         |
| Radial Misalignment       |               | ± .010"       |

### Environmental Specifications

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Temperature Rating             | -65°C to +165°C                                   |
| Corrosion (Salt Spray)         | MIL-STD-202, Method 101, Condition B              |
| Vibration                      | MIL-STD-202, Method 204, Condition D, 20 Gs       |
| Shock                          | MIL-STD-202, Method 213, Condition I, 100 Gs      |
| Thermal Shock                  | MIL-STD-202, Method 107. Cond. B, -65°C to +165°C |
| Barometric Pressure (Altitude) | MIL-STD-202, Method 105, Condition C, 70k Ft.     |

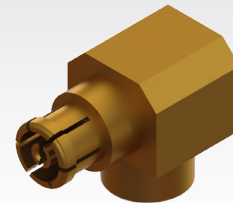
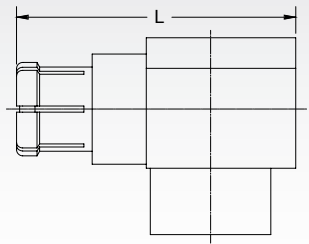
Note: Specifications, dimensions and images are typical for the series and may vary by part number

## Female Cable Connector



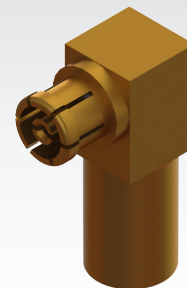
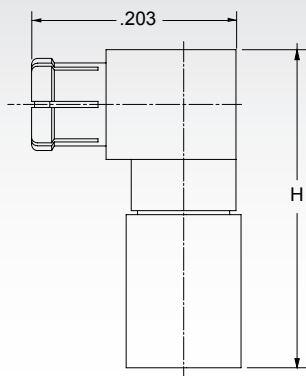
| Cable | P/N        | L     |
|-------|------------|-------|
| .047  | 3221-40007 | .260" |
| .085  | 3221-40006 | .285" |

## Female Cable Connector, R/A



| Cable | P/N        | L     |
|-------|------------|-------|
| .047  | 3269-4001  | .207" |
| .085  | 3222-40002 | .274" |

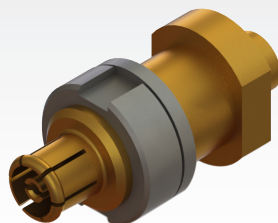
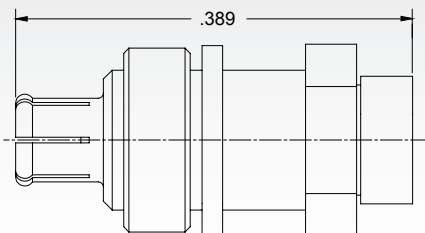
## Female Cable Connector, Swept R/A



| Cable | P/N        | H     |
|-------|------------|-------|
| .047  | 3222-40006 | .221" |
| .085  | 3222-40005 | .316" |

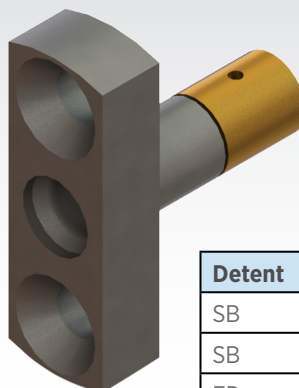
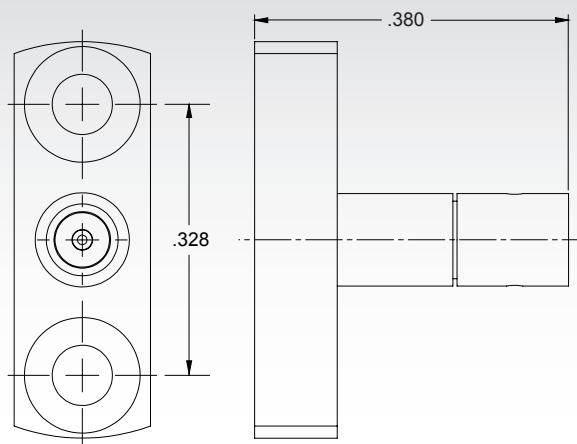
# SMPM SERIES

## Female Bulkhead Cable Connector



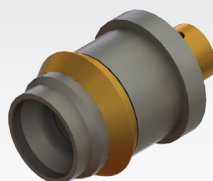
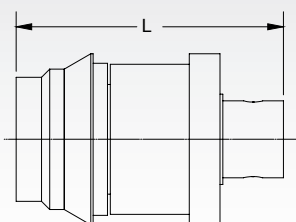
| Cable | P/N        |
|-------|------------|
| .047  | 3221-40011 |
| .085  | 3221-4000  |

## Male Flange Mount Cable Connector, 2 Hole



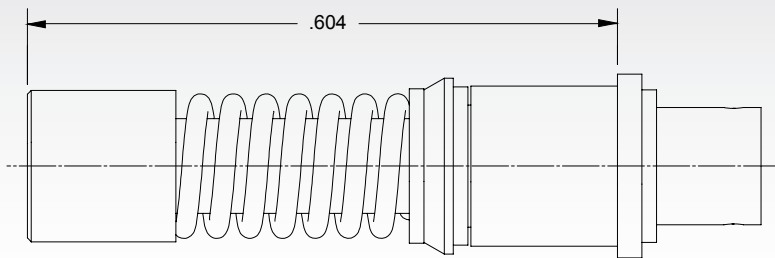
| Detent | Cable | P/N          |
|--------|-------|--------------|
| SB     | .047  | SF3211-60024 |
| SB     | .085  | SF3211-6000  |
| FD     | .047  | SF3211-60025 |
| FD     | .085  | SF3211-60013 |

## Male Snap-In Cable Connector



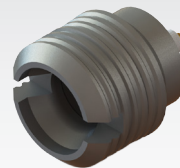
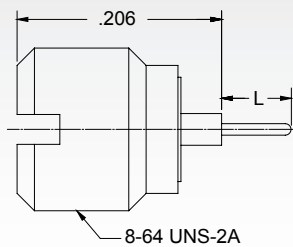
| Detent | Cable | P/N        | L     |
|--------|-------|------------|-------|
| SB     | .047  | 3211-40003 | .278" |
| SB     | .085  | 3211-40005 | .302" |
| FD     | .047  | 3202-6000  | .278" |
| FD     | .085  | 3211-40004 | .302" |

## Male Snap-In Float Mount Cable Connector



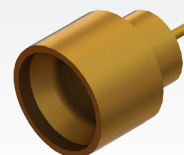
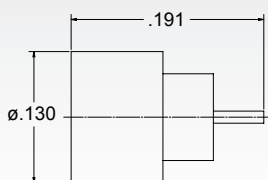
| Cable | P/N         |
|-------|-------------|
| .047  | SF3202-6001 |

## Male Thread-In Connector (.012")



| Detent | P/N          | L     |
|--------|--------------|-------|
| SB     | SF3211-60011 | .015" |
| SB     | SF3211-60012 | .065" |
| FD     | SF3211-60009 | .015" |
| FD     | SF3211-60010 | .065" |

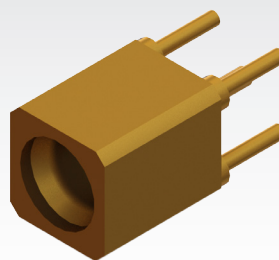
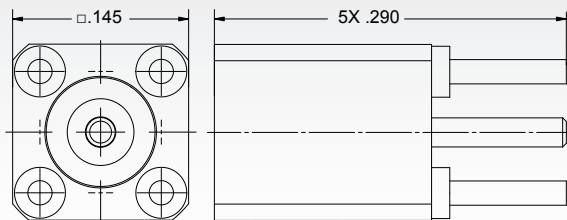
## Male Solder-In Hermetic Connector (.012")



| Detent | P/N        |
|--------|------------|
| SB     | 3211-60028 |
| FD     | 3211-60027 |

# SMPM SERIES

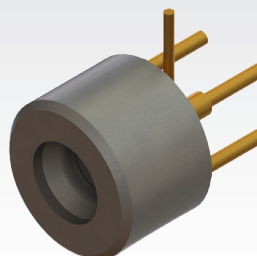
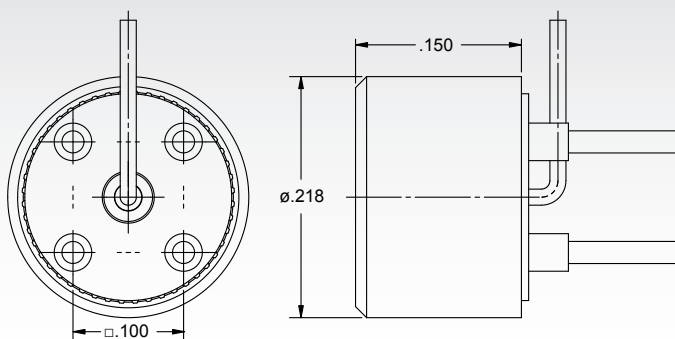
## Male PCB Thru-Hole Connector



| Detent | P/N       |
|--------|-----------|
| SB     | 3287-4101 |
| FD     | 3287-4100 |

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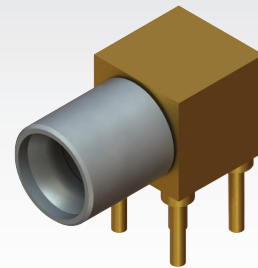
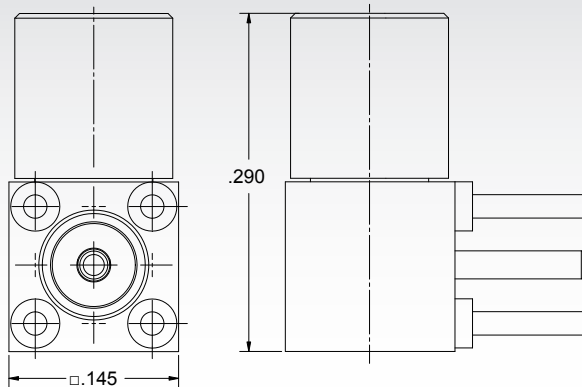
## Male PCB Thru-Hole Connector, R/A



| Detent | P/N          |
|--------|--------------|
| SB     | SF3211-60034 |
| FD     | SF3211-60033 |

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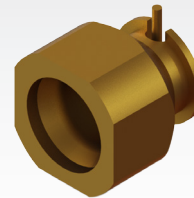
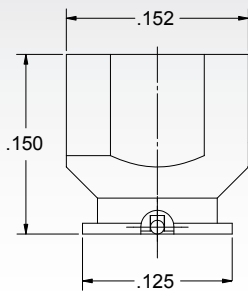
## Male PCB Thru-Hole Connector, R/A



| Detent | P/N        |
|--------|------------|
| SB     | 3212-40003 |
| FD     | 3212-40002 |

Contact SV directly to access our database of recommended PCB layouts

## Male Surface Mount Connector, R/A

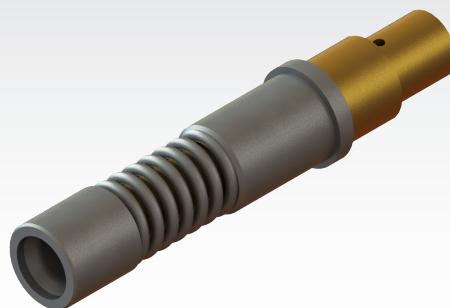
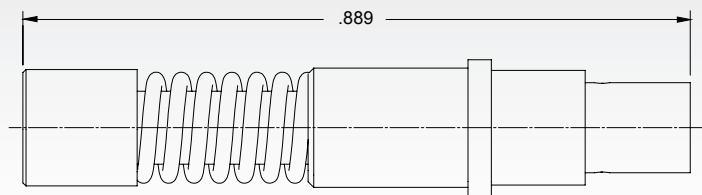


| Detent | P/N       |
|--------|-----------|
| SB     | 3287-6101 |
| FD     | 3287-6100 |

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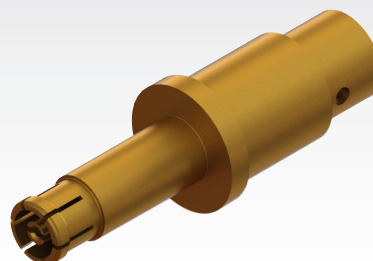
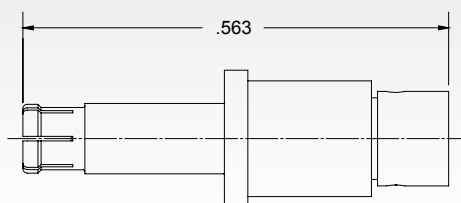
# SMPM SERIES

## Socket D38999 Cable Contact (Size 12)



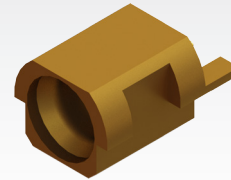
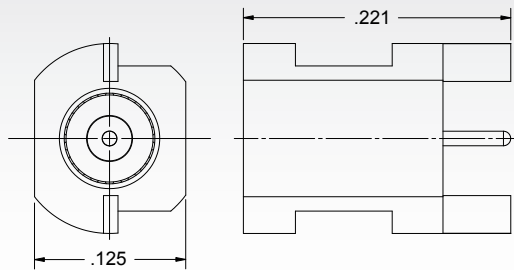
| Cable | P/N         |
|-------|-------------|
| .085  | SF3211-6004 |

## Pin D38999 Cable Contact (Size 12)



| Cable | P/N       |
|-------|-----------|
| .085  | 3221-4002 |

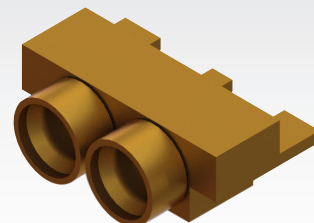
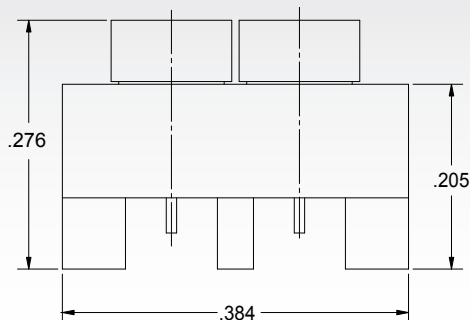
## Male Edge Launch Connector



| Detent | P/N        |
|--------|------------|
| SB     | 3211-60035 |
| FD     | 3285-6001  |

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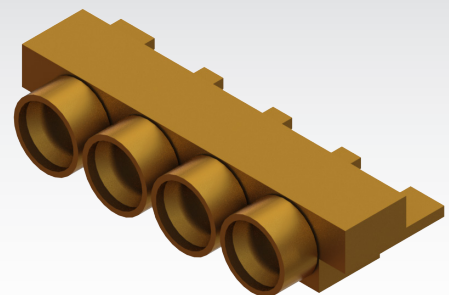
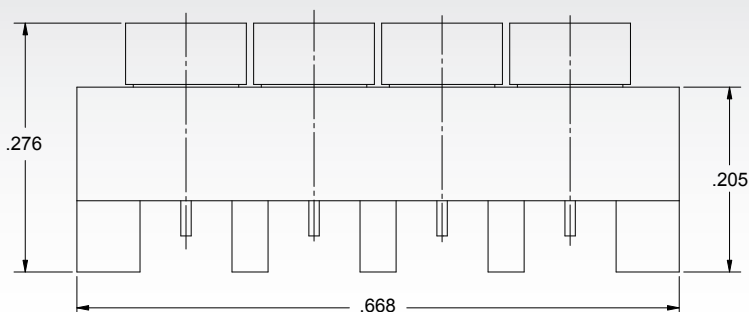
## Male Edge Launch Connector, 2 Port



| Detent | P/N        |
|--------|------------|
| SB     | 3211-60086 |
| FD     | 3211-60087 |

Contact SV directly to access our database of recommended PCB layouts

## Male Edge Launch Connector, 4 Port

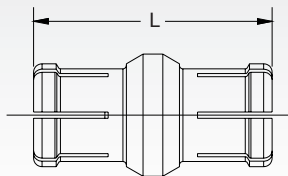


| Detent | P/N        |
|--------|------------|
| SB     | 9311-60015 |
| FD     | 9311-60039 |

Contact SV directly to access our database of recommended PCB layouts

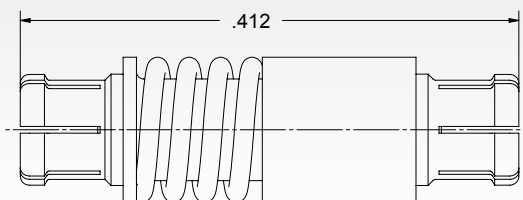
# SMPM SERIES

## Female to Female Bullet



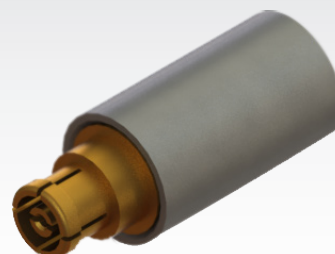
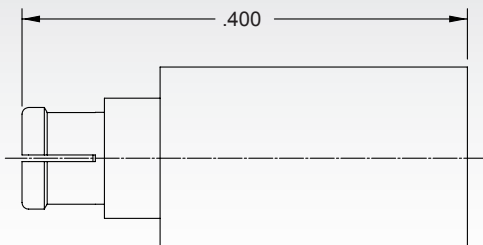
| P/N       | L     |
|-----------|-------|
| 3290-4002 | .211" |
| 3290-4003 | .327" |

## Female to Female Bullet, Spring Loaded



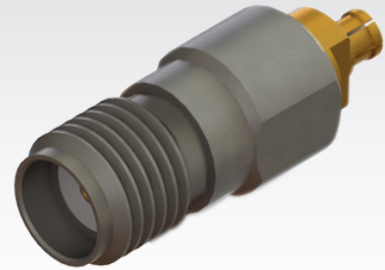
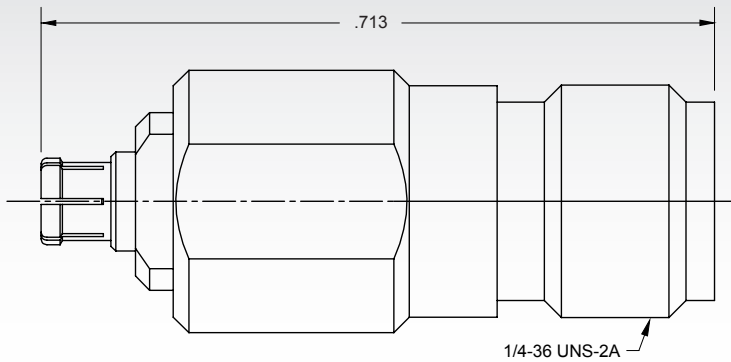
| P/N       |
|-----------|
| 1132-4006 |

## SMPM Male to Female Adapter



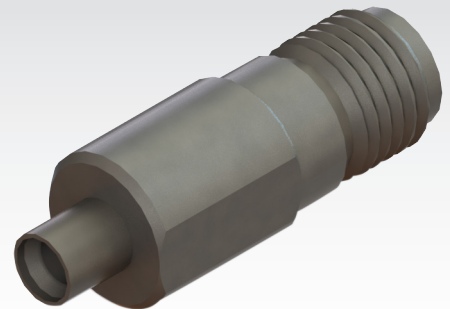
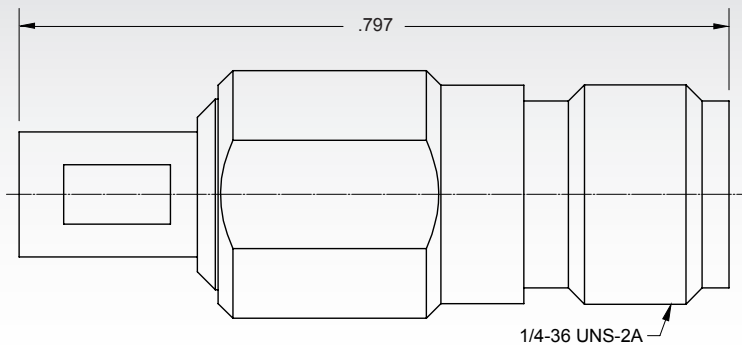
| Detent | P/N       |
|--------|-----------|
| SB     | 1132-4005 |

## SMPM Female to SMA Thread-In Adapter



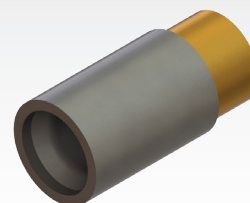
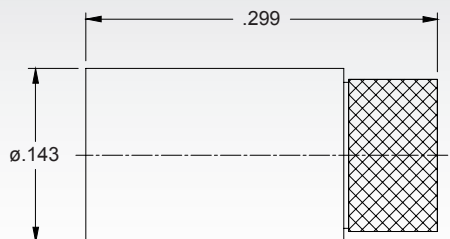
| P/N       | Desc.      |
|-----------|------------|
| 1132-6025 | SMA Female |
| 1132-4003 | SMA Male   |

## SMPM Male to SMA Female Adapter



| Detent | P/N         |
|--------|-------------|
| SB     | SF1132-6026 |
| FD     | SF1132-6027 |

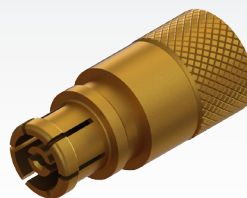
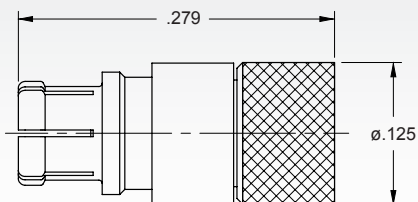
## Male Termination



| Detent | P/N       |
|--------|-----------|
| SB     | 8032-6002 |
| FD     | 8032-6001 |

# SMPM SERIES

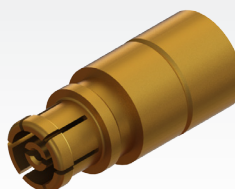
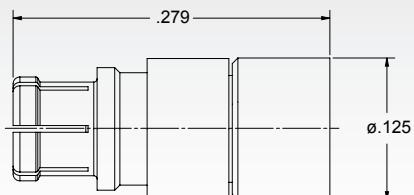
## Female Termination



P/N

8032-4003

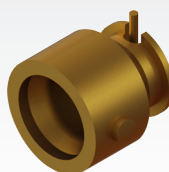
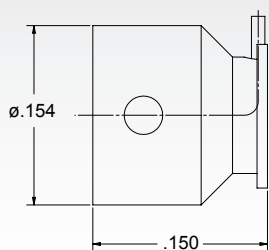
## Female Short



P/N

8032-4007

## Male QB Surface Mount Connector, R/A

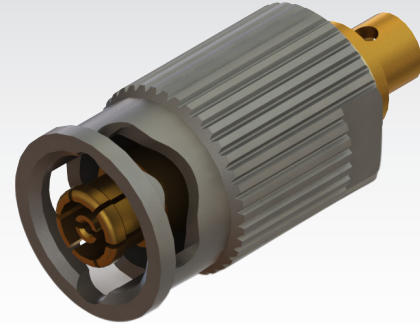
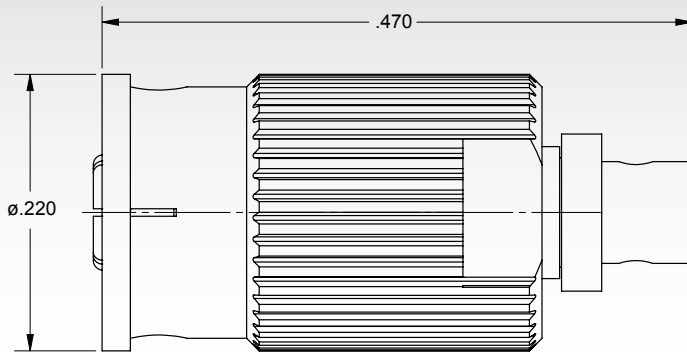


P/N

3211-60112

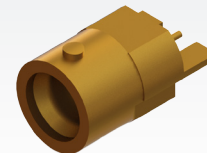
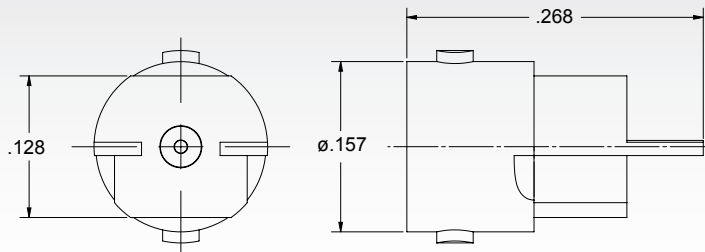
Contact SV directly to access our database of recommended PCB layouts

## Female QB Cable Connector



| Cable | P/N        |
|-------|------------|
| .047  | 3221-60003 |
| .085  | 3221-60004 |

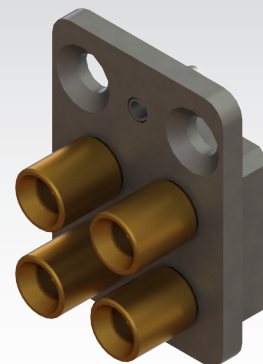
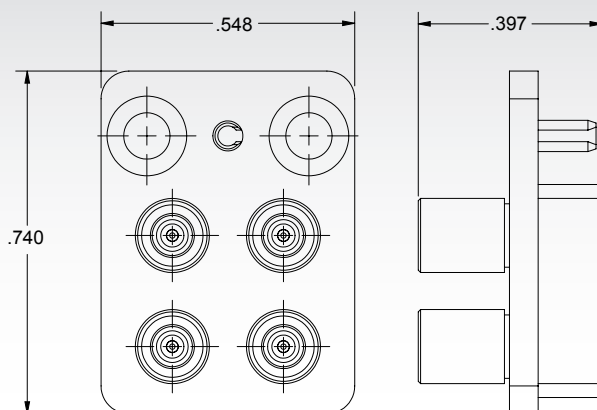
## Male QB Edge Launch Connector



Contact SV directly to access our database of recommended PCB layouts

| P/N        |
|------------|
| 3211-60118 |

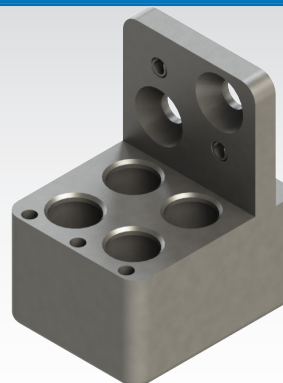
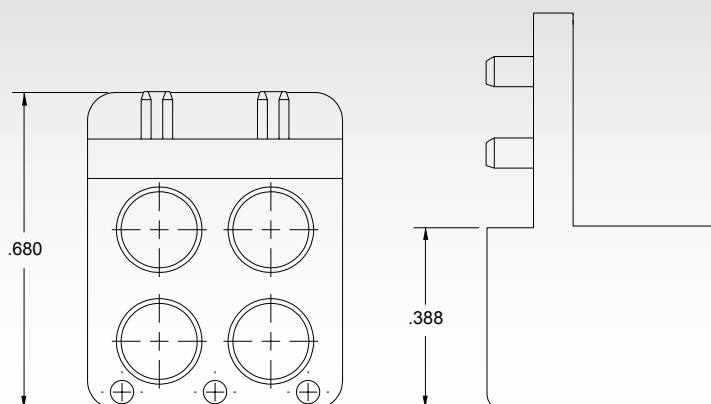
## Motherboard VITA Connector



| P/N         | Desc.            |
|-------------|------------------|
| SF1132-6037 | 4 Position, 67.1 |
| SF1132-6036 | 8 Position, 67.2 |

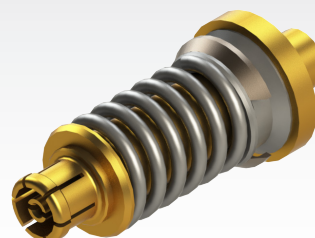
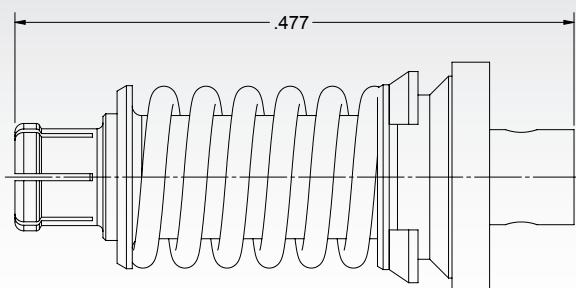
# SMPM SERIES

## Daughtercard VITA Connector



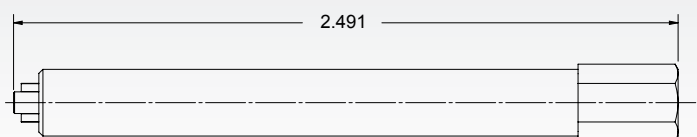
| P/N          | Desc.            |
|--------------|------------------|
| SF9321-60015 | 4 Position, 67.1 |
| SF9321-60013 | 8 Position, 67.2 |

## Female VITA Snap-In Float Mount Cable Connector



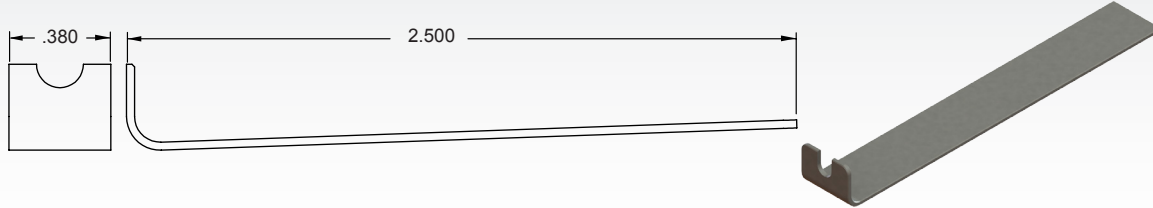
| Cable | P/N        |
|-------|------------|
| .047  | 3221-40019 |
| .085  | 3221-40022 |

## Male Shroud Driver



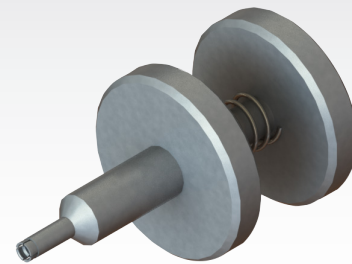
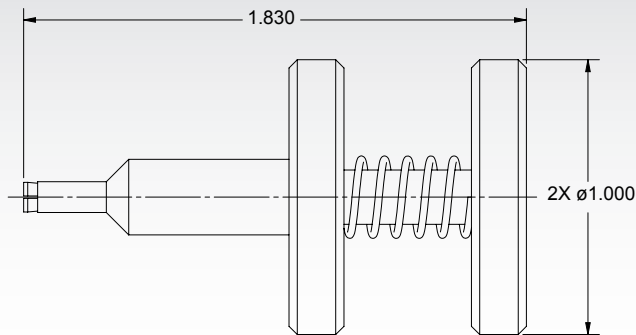
| Detent | P/N        |
|--------|------------|
| FD     | 500-32-008 |
| CM     | 500-32-009 |

## Female Cable Removal Tool



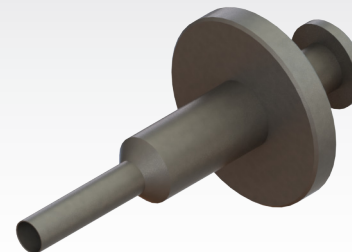
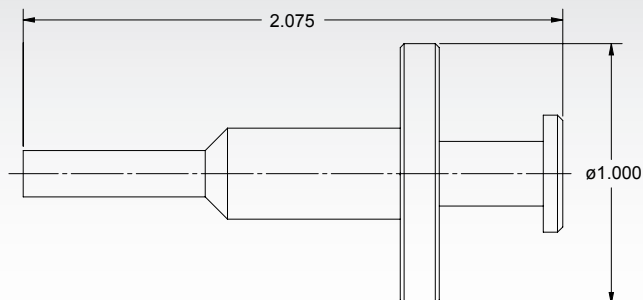
| P/N        |
|------------|
| 500-32-010 |

## Female Bullet Removal Tool



| P/N        |
|------------|
| 500-32-007 |

## Male Panel Removal Tool



| P/N        |
|------------|
| 500-32-004 |

# SMPS SERIES

## SMPS Interface at a Glance

SV Microwave offers a complete line of SMPS connectors. The SMPS connector utilizes the same great features of the SMP and SMPM connector series in an even smaller package. The SMPS series is ideal in applications where density is of the utmost importance.

### Electrical Specifications

|                                 |                                                |
|---------------------------------|------------------------------------------------|
| Impedance                       | 50Ω                                            |
| Frequency                       | 100 GHz                                        |
| VSWR                            | 1.10:1 to 26.5 GHz typ.; 1.25:1 to 65 GHz typ. |
| Insertion Loss                  | .07 √ f                                        |
| Shielding Effectiveness         | ≥ -80 dB typ.                                  |
| Dielectric Withstanding Voltage | 250 VRMS                                       |

### Mechanical Specifications

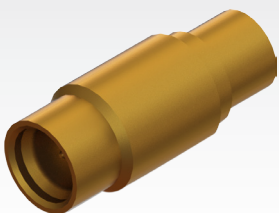
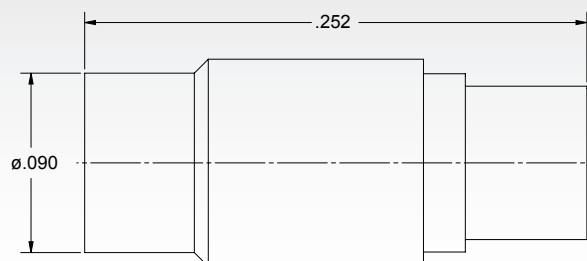
|                           | SB            | FD            |
|---------------------------|---------------|---------------|
| Mating Cycles             | 500           | 100           |
| Force to Engage/Disengage | 1.2 / 1.0 lbs | 2.5 / 4.5 lbs |
| Axial Misalignment        |               | .010"         |
| Radial Misalignment       |               | ± .010"       |

### Environmental Specifications

|                                |                                                   |
|--------------------------------|---------------------------------------------------|
| Temperature Rating             | -65°C to +165°C                                   |
| Corrosion (Salt Spray)         | MIL-STD-202, Method 101, Condition B              |
| Vibration                      | MIL-STD-202, Method 204, Condition D, 20 Gs       |
| Shock                          | MIL-STD-202, Method 213, Condition I, 100 Gs      |
| Thermal Shock                  | MIL-STD-202, Method 107. Cond. B, -65°C to +165°C |
| Barometric Pressure (Altitude) | MIL-STD-202, Method 105, Condition C, 70k Ft.     |

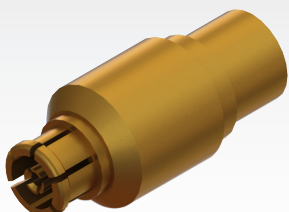
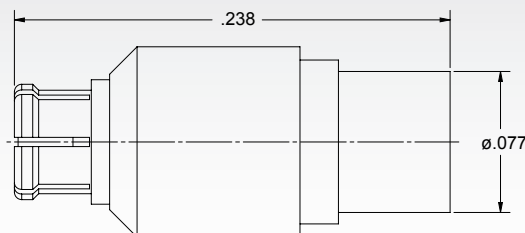
Note: Specifications, dimensions and images are typical for the series and may vary by part number

Male Cable Connector



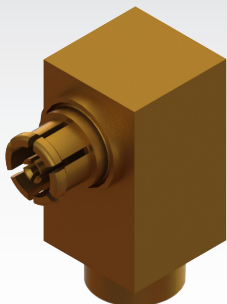
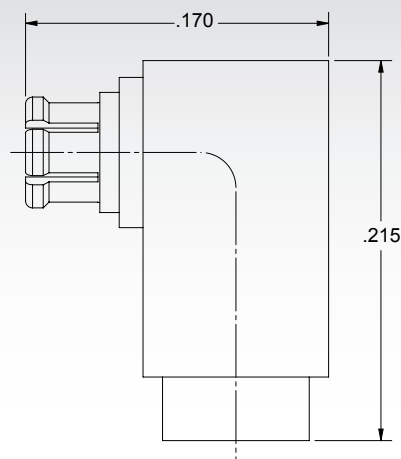
| Detent | Cable | P/N        |
|--------|-------|------------|
| SB     | .047  | 3811-40002 |
| FD     | .047  | 3811-40001 |

Female Cable Connector



| Cable | P/N        |
|-------|------------|
| .047  | 3821-40001 |

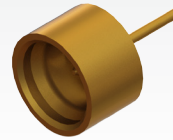
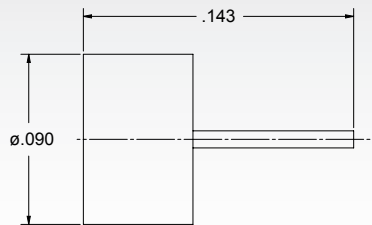
Female Cable Connector, Swept R/A



| Cable | P/N        |
|-------|------------|
| .047  | 3822-40001 |

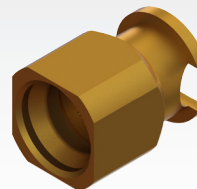
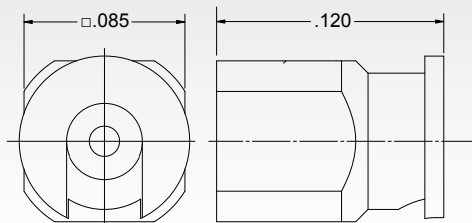
# SMPS SERIES

## Male Solder-In Connector (.009")



| Detent | P/N        |
|--------|------------|
| SB     | 3811-40005 |
| FD     | 3811-40006 |

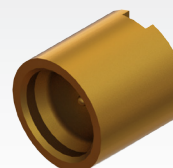
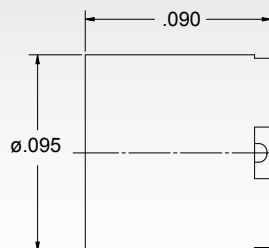
## Male Surface Mount Connector



| Detent | P/N        |
|--------|------------|
| SB     | 3811-40023 |
| FD     | 3811-40022 |

Contact SV directly to access our database of recommended PCB layouts

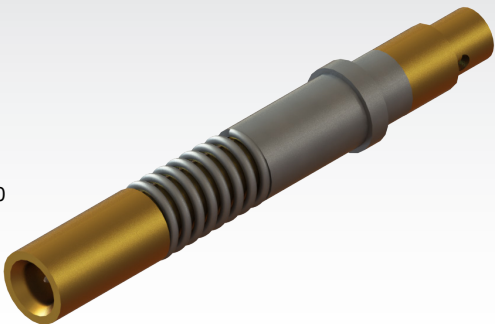
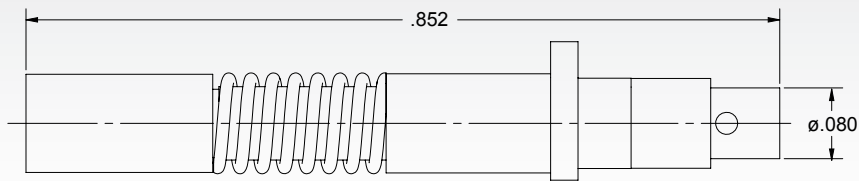
## Male Surface Mount Hermetic Connector (.009")



| Detent | P/N        |
|--------|------------|
| SB     | 3811-60005 |
| FD     | 3811-60006 |

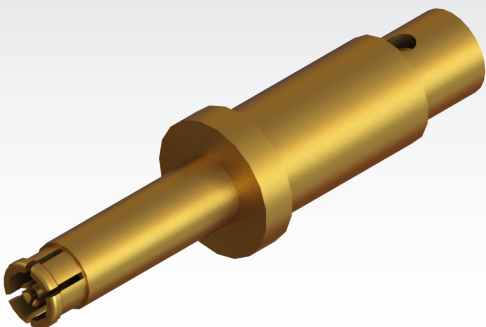
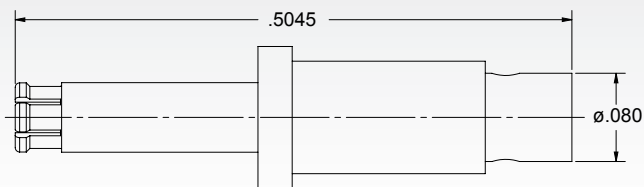
Contact SV directly to access our database of recommended PCB layouts

Socket D38999 Cable Contact (Size 16)



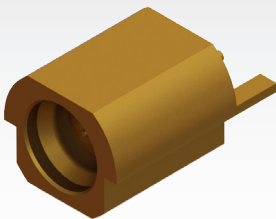
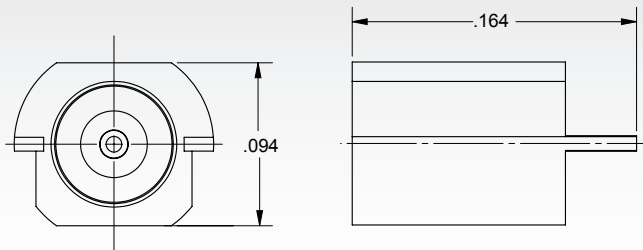
| Cable | P/N          |
|-------|--------------|
| .047  | SF9911-60001 |

Pin D38999 Cable Contact (Size 16)



| Cable | P/N        |
|-------|------------|
| .047  | 9921-40001 |

Male Edge Launch Connector

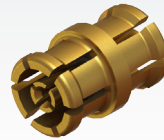
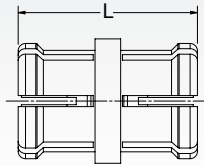


| Detent | P/N        |
|--------|------------|
| SB     | 3811-40004 |
| FD     | 3811-40003 |

Contact SV directly to access our database of recommended PCB layouts

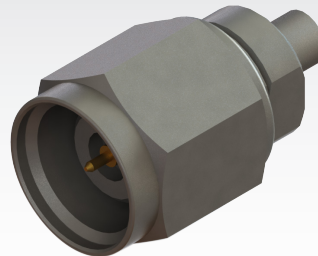
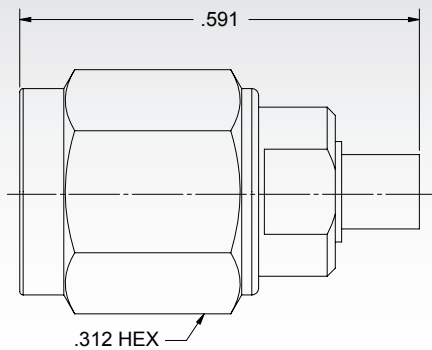
# SMPS SERIES

## Female to Female Bullet



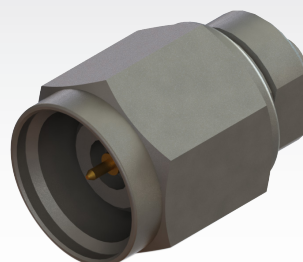
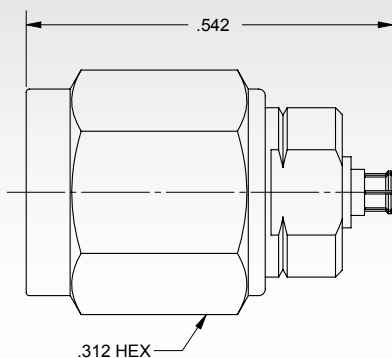
| P/N       | L     |
|-----------|-------|
| 1138-4001 | .098" |
| 1138-4002 | .118" |
| 1138-4003 | .134" |
| 1138-4004 | .188" |

## SMPS Male to 2.4mm Male Adapter



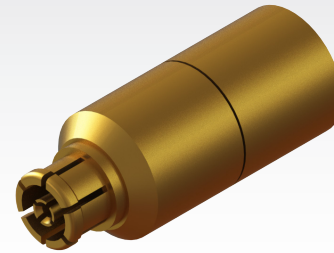
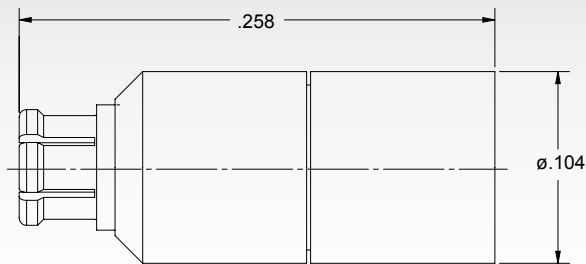
| Detent | P/N         |
|--------|-------------|
| SB     | SF1116-6023 |
| FD     | SF1116-6024 |

## SMPS Female to 2.4mm Male Adapter



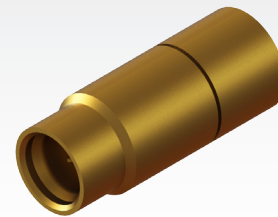
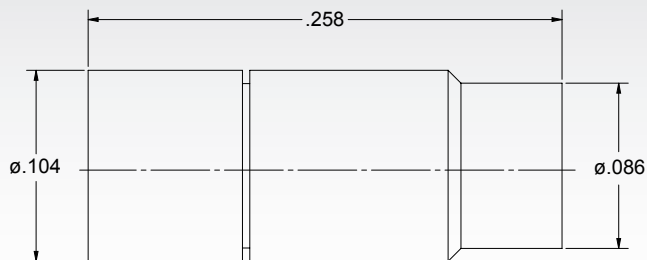
| P/N         |
|-------------|
| SF1116-6025 |

## Female Termination



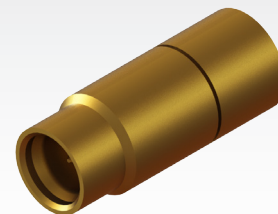
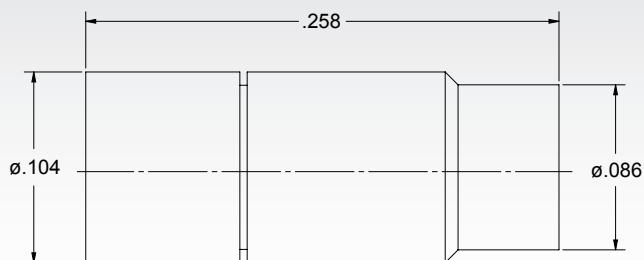
| P/N       |
|-----------|
| 8038-4001 |

## Male Termination



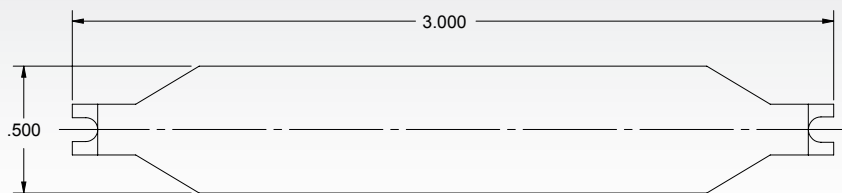
| Detent | P/N       |
|--------|-----------|
| SB     | 8038-6003 |
| FD     | 8038-6004 |

## Male Short



| Detent | P/N       |
|--------|-----------|
| SB     | 8038-6005 |
| FD     | 8038-6006 |

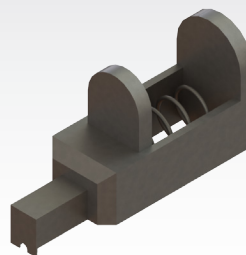
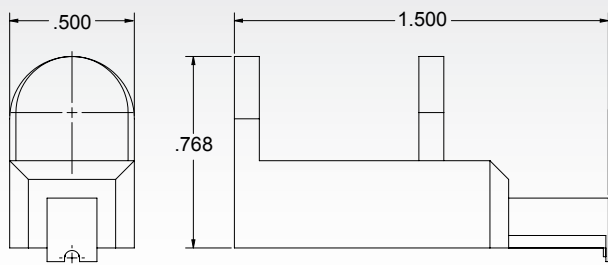
## Female Cable Removal Tool



P/N

500-38-002

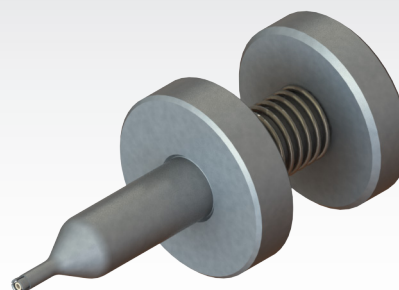
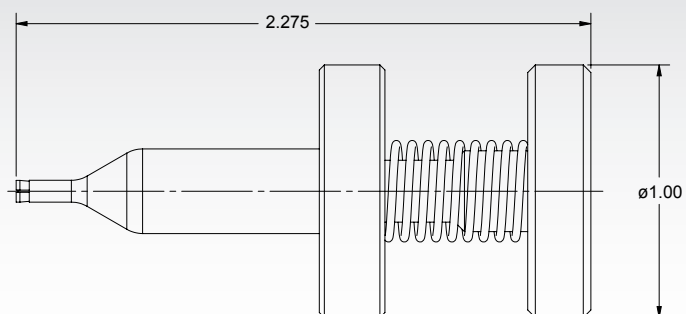
## Female Removal Tool



P/N

500-38-003

## Female Bullet Removal Tool



P/N

500-38-004



## TNC / PTNC Interfaces at a Glance

Developed in the late 1950's, the TNC stands for Threaded Neill Concelman and is named after Amphenol engineer Carl Concelman. Designed as a threaded version of the BNC, the TNC series features screw threads for mating. TNC are miniature, threaded weatherproof units with a constant impedance of 50 Ohms and operate at DC to 11 GHz. As a ruggedized version of the BNC, the TNC features a threaded coupling that offers extra mating stability. TNC connectors are used in many applications including Mil-Aero, instrumentation, and cable assemblies.

### Electrical Specifications

|                                 | TNC             | PTNC            |
|---------------------------------|-----------------|-----------------|
| Frequency                       | 11 GHz          | 18 GHz          |
| VSWR                            | 1.3:1 at 11 GHz | 1.2:1 at 18 GHz |
| Impedance                       |                 | 50Ω             |
| Insertion Loss                  |                 | .06 √ f         |
| Shielding Effectiveness         |                 | ≥ -90 dB        |
| Dielectric Withstanding Voltage |                 | 1500 VRMS       |

### Mechanical Specifications

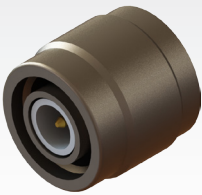
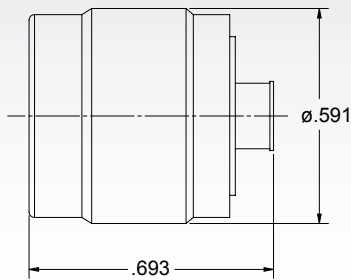
|               |                 |
|---------------|-----------------|
| Mating Cycles | 500             |
| Mating Torque | 12 - 15 in - lb |

### Environmental Specifications

|                        |                                       |
|------------------------|---------------------------------------|
| Temperature Rating     | -65°C to +165°C                       |
| Corrosion (Salt Spray) | MIL-STD-202, Method 101, Condition B  |
| Vibration              | MIL-STD-202, Method 204, Condition D  |
| Shock                  | MIL-STD-202, Method 213, Condition I  |
| Thermal Shock          | MIL-STD-202, Method 107               |
| Moisture Resistance    | MIL-STD-202, Method 106, Less Step 7B |

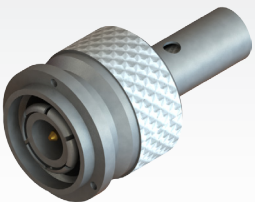
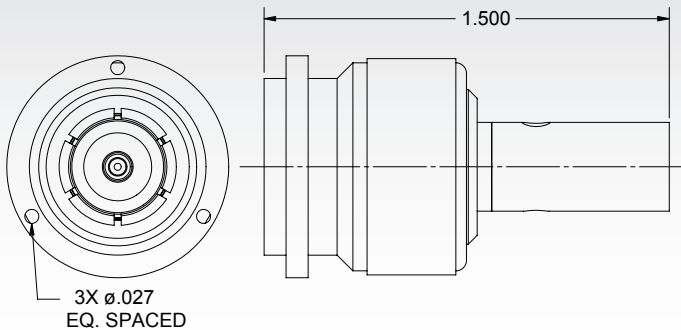
Note: Specifications, dimensions and images are typical for the series and may vary by part number

Male Cable Connector



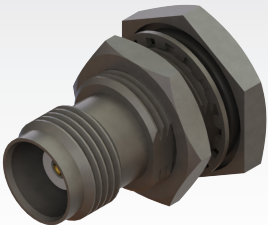
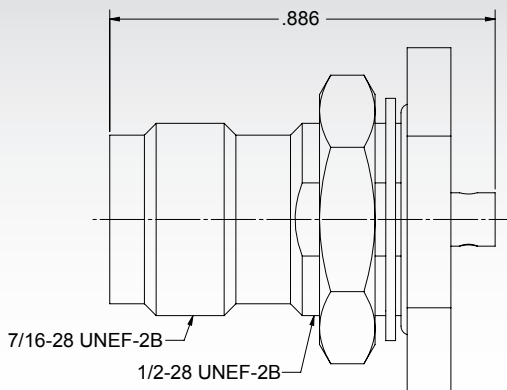
| Cable | P/N        |
|-------|------------|
| .085  | 4011-00043 |
| .141  | 4011-00044 |

Male Cable Connector, Lockwire Holes



| Cable  | P/N            |
|--------|----------------|
| RG-58  | M39012/26B0006 |
| RG-303 | M39012/26B0015 |

Female Bulkhead Cable Connector

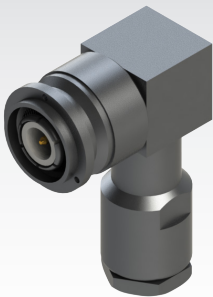
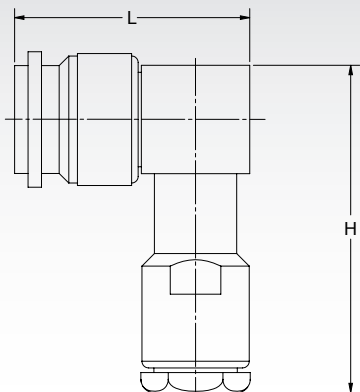


| Cable | P/N        |
|-------|------------|
| .085  | 4021-00064 |
| .141  | 4021-00065 |

# TNC SERIES

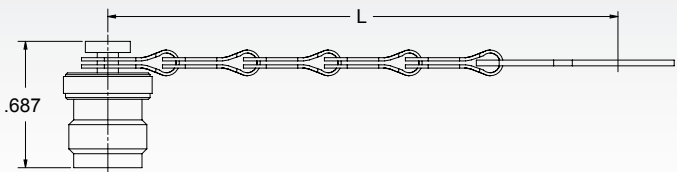
TNC SERIES

## Male Cable Connector, R/A



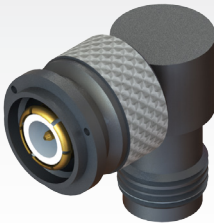
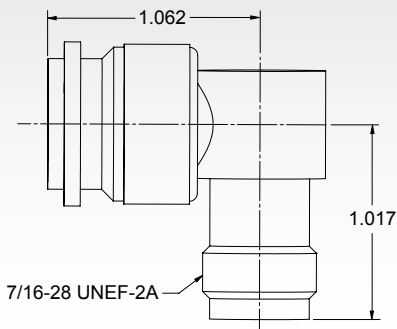
| Cable | P/N            | L      | H      |
|-------|----------------|--------|--------|
| RG-58 | M39012/30-0101 | 1.110" | 1.600" |
| RG-58 | M39012/30B0005 | 1.218" | 2.000" |

## Female Dust Cap



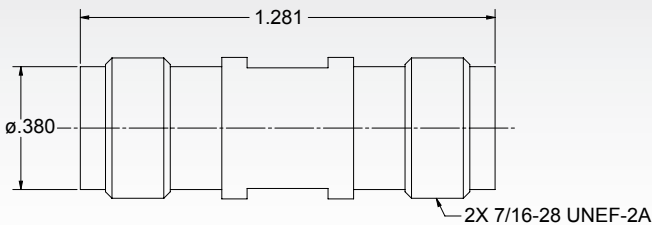
| P/N            | L      | Desc.        |
|----------------|--------|--------------|
| M39012/25-0019 | 3.250" | Safety chain |
| M39012/25-0118 | 4.000" | Wire rope    |

TNC Male to Female Adapter, R/A



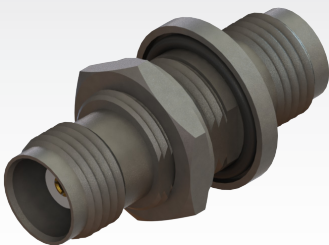
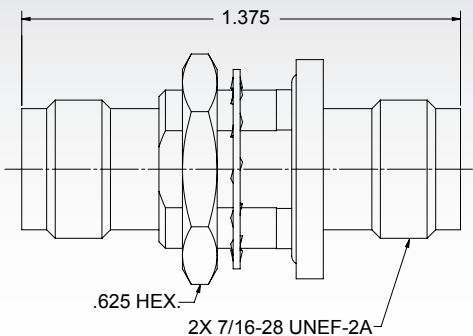
| P/N             |
|-----------------|
| M55339/32-00001 |

TNC Female to Female Adapter



| P/N             |
|-----------------|
| M55339/33-00001 |

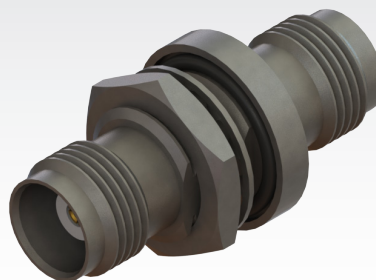
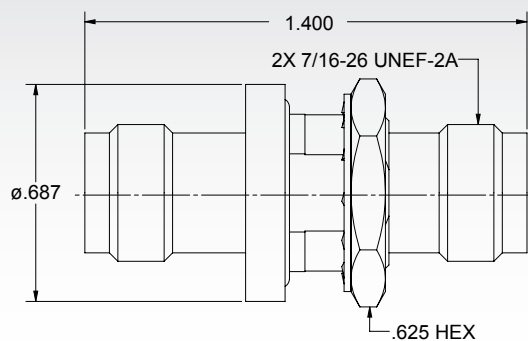
TNC Female to Female Bulkhead Hermetic Adapter



| P/N             |
|-----------------|
| M55339/34-30001 |

# TNC SERIES

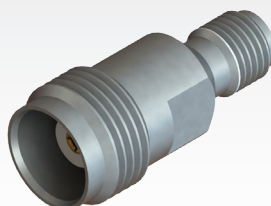
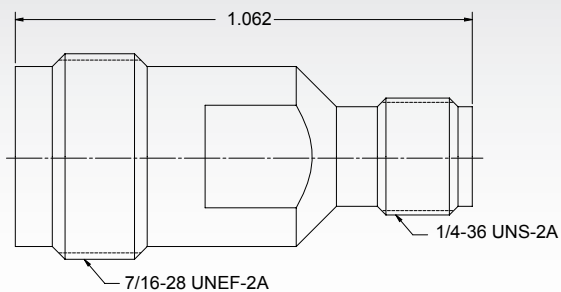
## TNC Female to Female Bulkhead Adapter



P/N

SF4532-6009

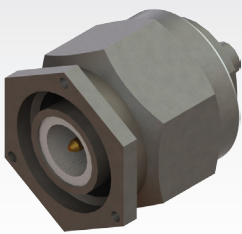
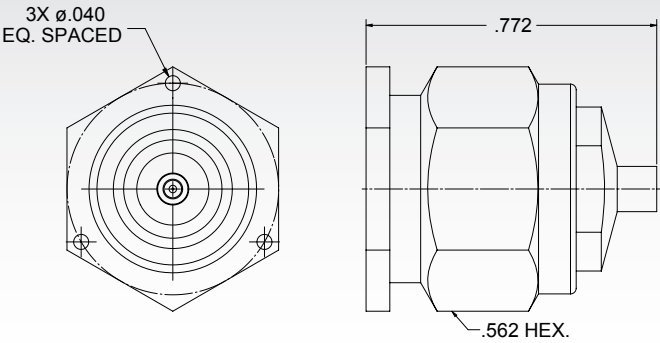
## TNC Female to SMA Female Adapter



P/N

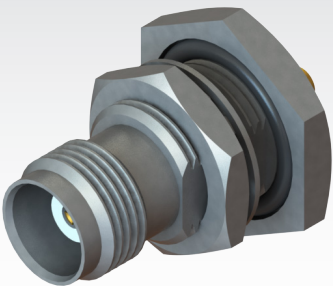
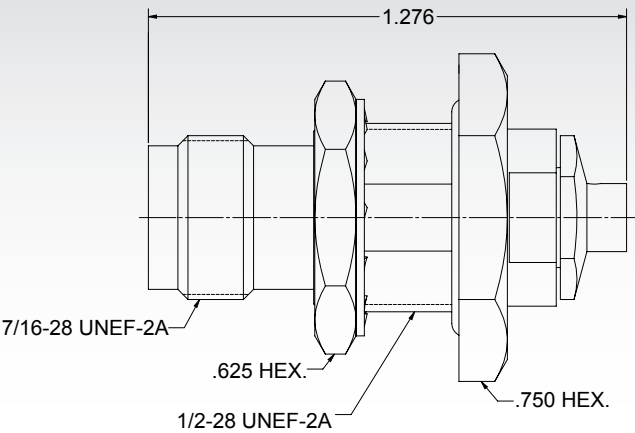
M55339/41-30001

Male Cable Connector, Lockwire Holes



| Cable | P/N         |
|-------|-------------|
| .085  | SF4501-6023 |
| .141  | SF4501-6039 |

Female Bulkhead Cable Connector



| Cable | P/N         |
|-------|-------------|
| .085  | SF4546-6011 |
| .141  | SF4546-6010 |

# TYPE N / PN SERIES

## Type N / PN Interfaces at a Glance

Named after Paul Neill of Bell Labs after being developed in the 1940's, the Type N offered the first true microwave performance. The Type N connector was developed to satisfy the need for a durable, weatherproof, medium-size RF connector with consistent performance through 11 GHz.

### Electrical Specifications

|                                 | Type N   | PN        |
|---------------------------------|----------|-----------|
| Frequency                       | 12.4 GHz | 18.0 GHz  |
| Impedance                       |          | 50Ω       |
| VSWR                            |          | 1.3:1     |
| Insertion Loss                  |          | .07 √ f   |
| Shielding Effectiveness         |          | ≥ -90 dB  |
| Dielectric Withstanding Voltage |          | 3000 VRMS |

### Mechanical Specifications

|               |                  |
|---------------|------------------|
| Mating Cycles | 500              |
| Mating Torque | 12 - 15 in - lbs |

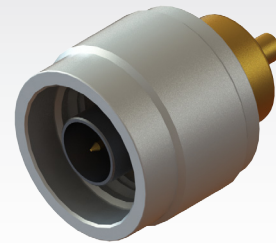
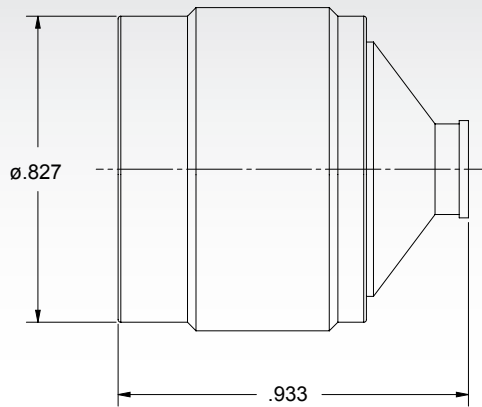
### Environmental Specifications

|                        |                                       |
|------------------------|---------------------------------------|
| Temperature Rating     | -65°C to +165°C                       |
| Corrosion (Salt Spray) | MIL-STD-202, Method 101, Condition B  |
| Vibration              | MIL-STD-202, Method 204, Condition D  |
| Shock                  | MIL-STD-202, Method 213, Condition I  |
| Thermal Shock          | MIL-STD-202, Method 107               |
| Moisture Resistance    | MIL-STD-202, Method 106, Less Step 7B |

Note: Specifications, dimensions and images are typical for the series and may vary by part number

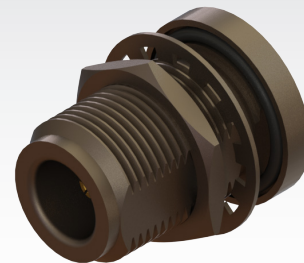
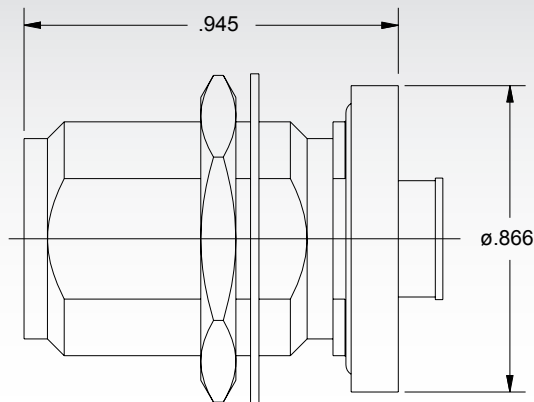
# TYPE N SERIES

## Male Cable Connector



| Cable | P/N        |
|-------|------------|
| .085  | 5011-00034 |
| .141  | 5011-00035 |

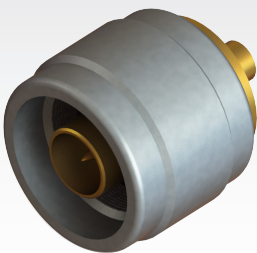
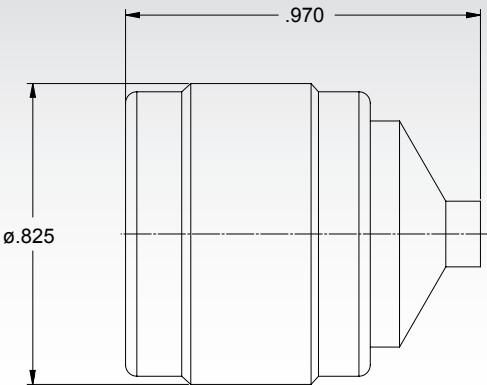
## Female Bulkhead Cable Connector



| Cable | P/N        |
|-------|------------|
| .085  | 5021-00026 |
| .141  | 5021-00027 |

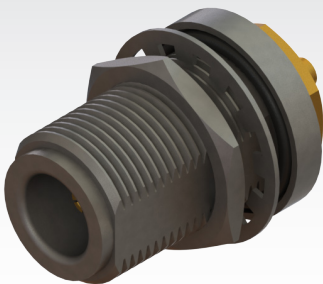
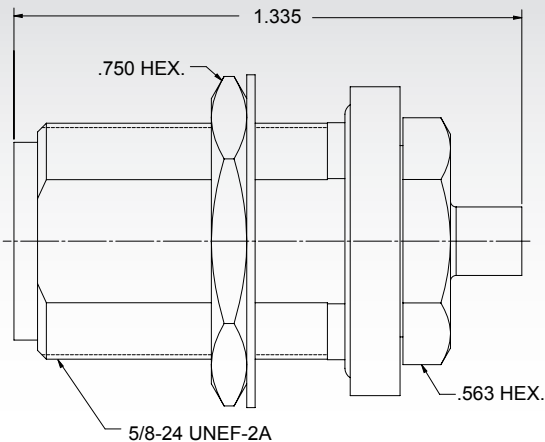
TYPE N SERIES

Male Cable Connector



| Cable | P/N          |
|-------|--------------|
| .085  | SF6511-60010 |
| .141  | SF6505-6003  |

Female Bulkhead Cable Connector



| Cable | P/N         |
|-------|-------------|
| .085  | SF6545-6017 |
| .141  | SF6545-6003 |



## SMP/SMPP/SMPS Applications

SMP/SMPP/SMPS series connectors are commonly used in a shroud-bullet-shroud configuration. This configuration is ideal for applications where mating cycles are high.

Typically one of the male shrouds will be smooth bore (or limited detent) and the other one will be full detent. This ensures that the bullet will remain mated to the full detent side when the system is disengaged.

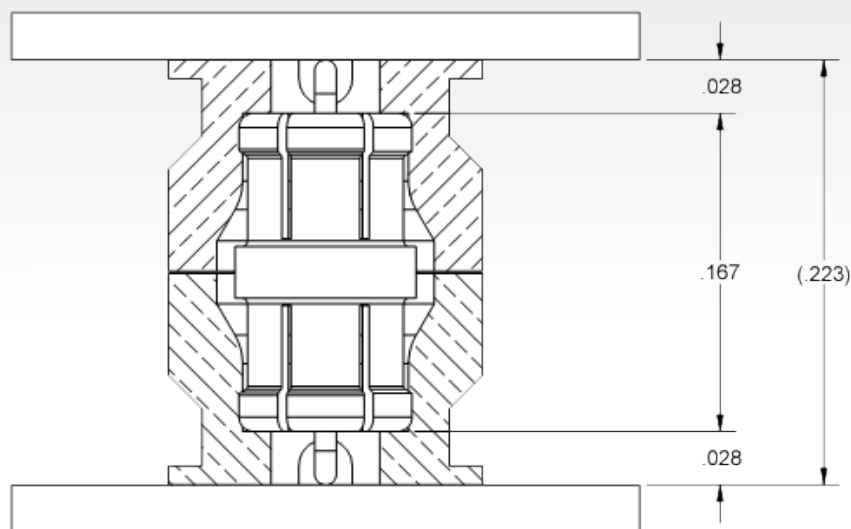


Figure 1: SMPP Shroud-Bullet-Shroud System

## SMP/SMPP/SMPS Applications

Another common technique is to make the male smooth bore shroud a 'Catchers Mitt'. The 'Catchers Mitt' interface style has an extra chamfer on the opening to help align the bullet during mating.

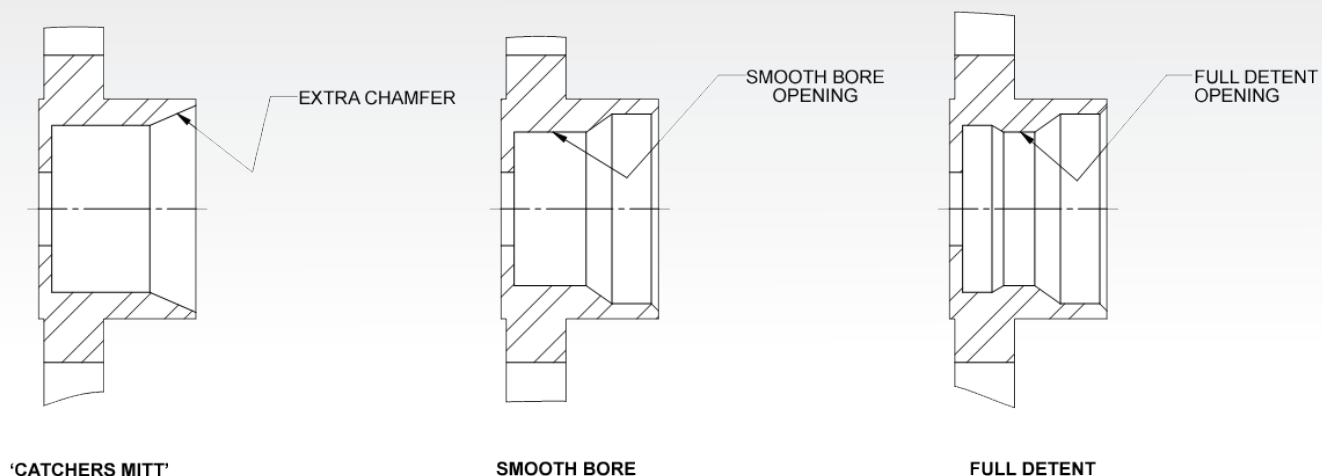


Figure 2: 'Catchers Mitt', Smooth Bore and Full Detent Interfaces

## SMP/SMPM/SMPS Applications

SMP/SMPM/SMPS connectors are designed to perform well, even under misaligned conditions. The image to below shows how SV Microwave defines radial and axial misalignment.

Radial and axial definitions are per mating interface. It is generally assumed that if a Full Detent interface is used on one side, the bullet will be contacting the reference plane of the shroud at some point under any condition.

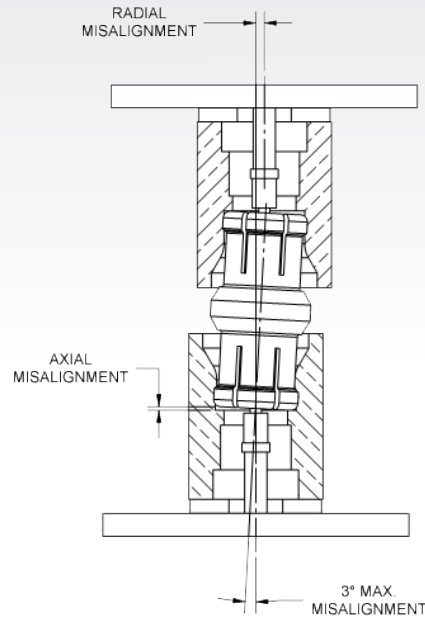


Figure 3: Radial and Axial Misalignment Definitions

## SMP/SMPM/SMPS Applications

SV Microwave also offers spring loaded female cable connectors and adapters. The spring force ensures that the reference planes will remain fully mated under axial misalignment. Spring loaded interfaces are ideal under conditions where vibration is expected or tolerance stack-up requires additional axial misalignment. SV Microwave can customize the spring length to provide the exact amount of axial tolerance needed for any application.

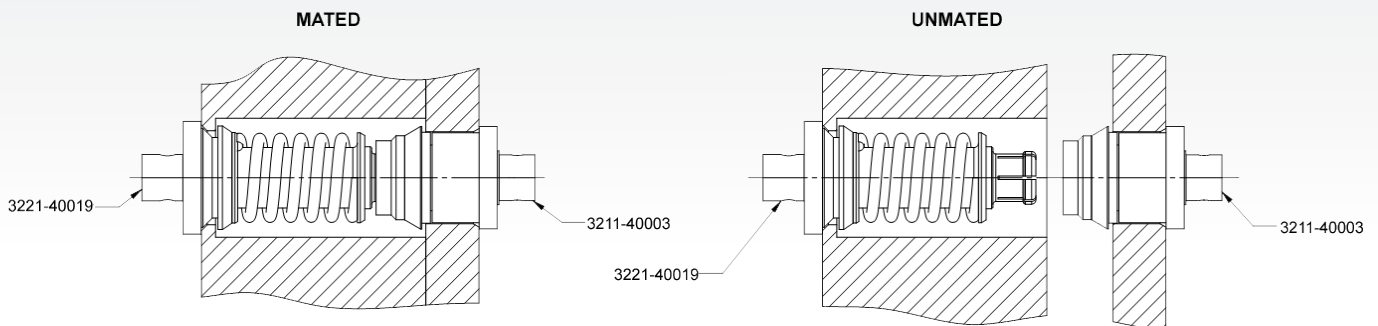
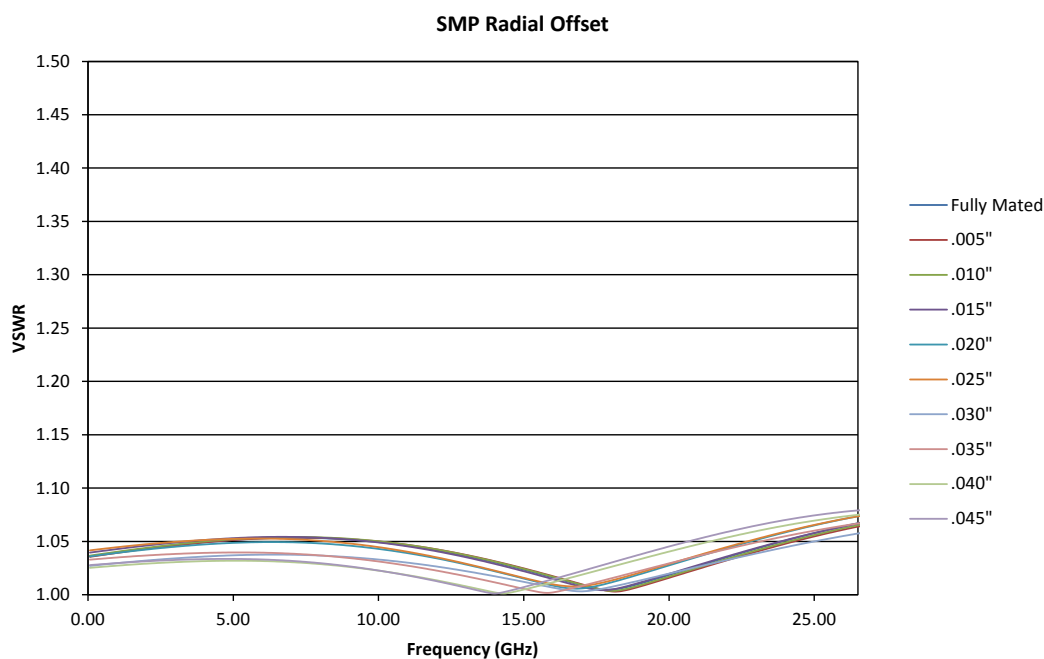
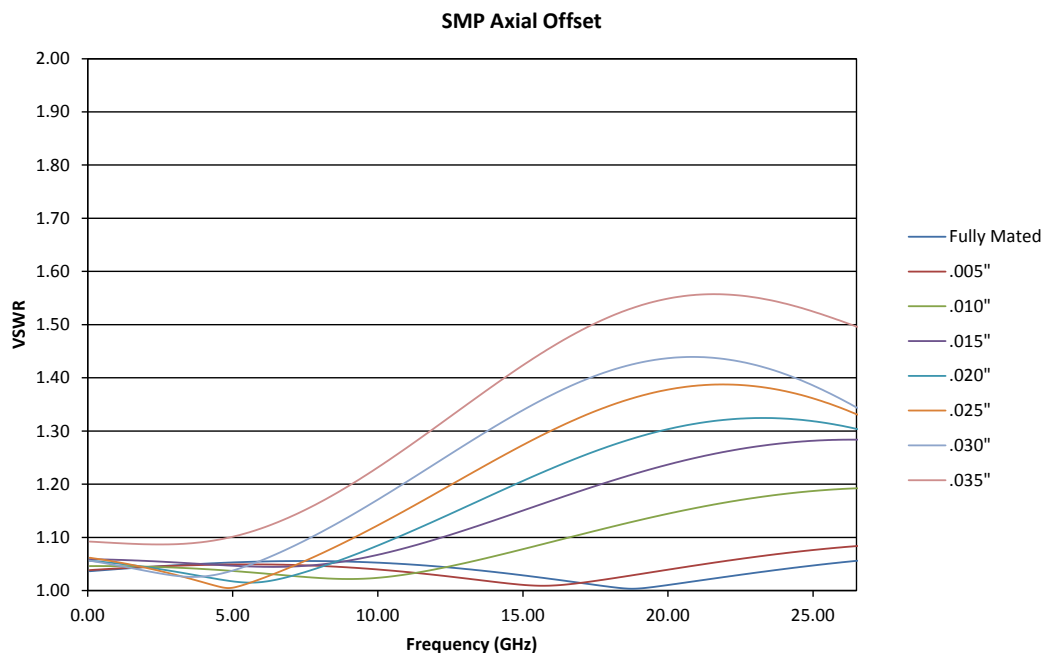


Figure 4: Snap-in Spring Loaded Female Cable Connector and Snap-in Male Cable Connector

# APPENDIX - SMP

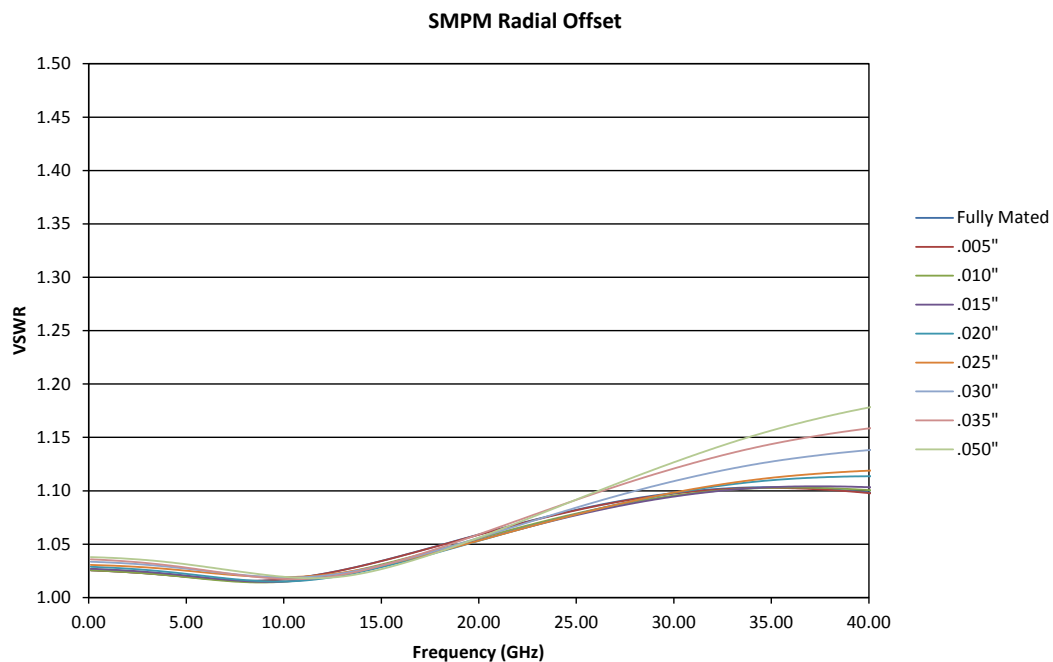
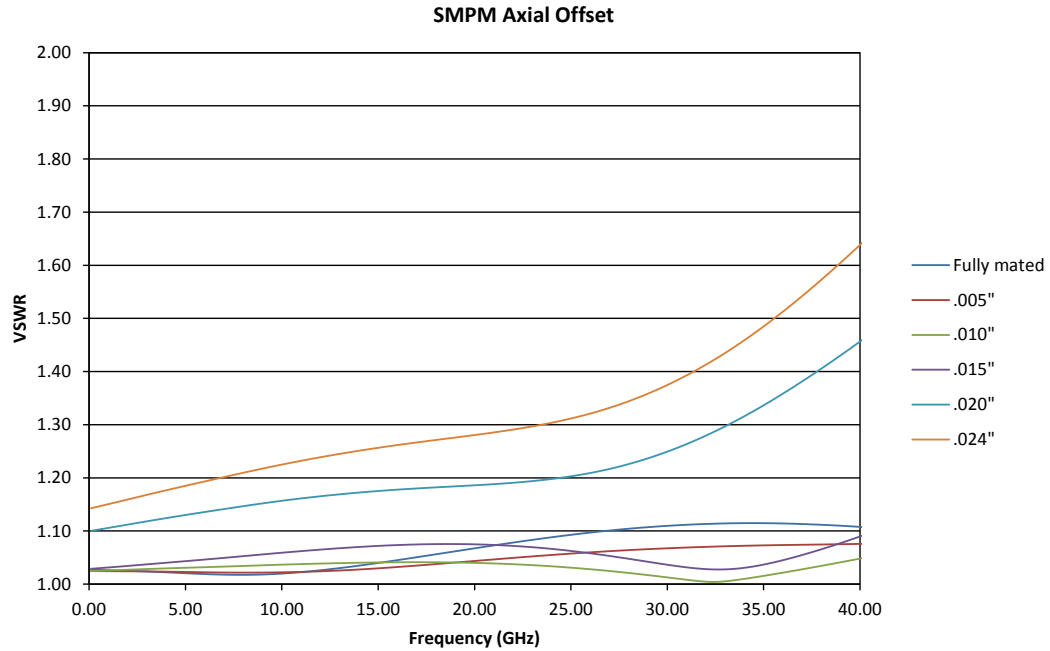
## SMP Misalignment Performance Measurements

Measurements taken with a .254" long bullet. 2.92mm to SMP male adapters were full detent on one side and smooth bore on the other side.



## SMPM Misalignment Performance Measurements

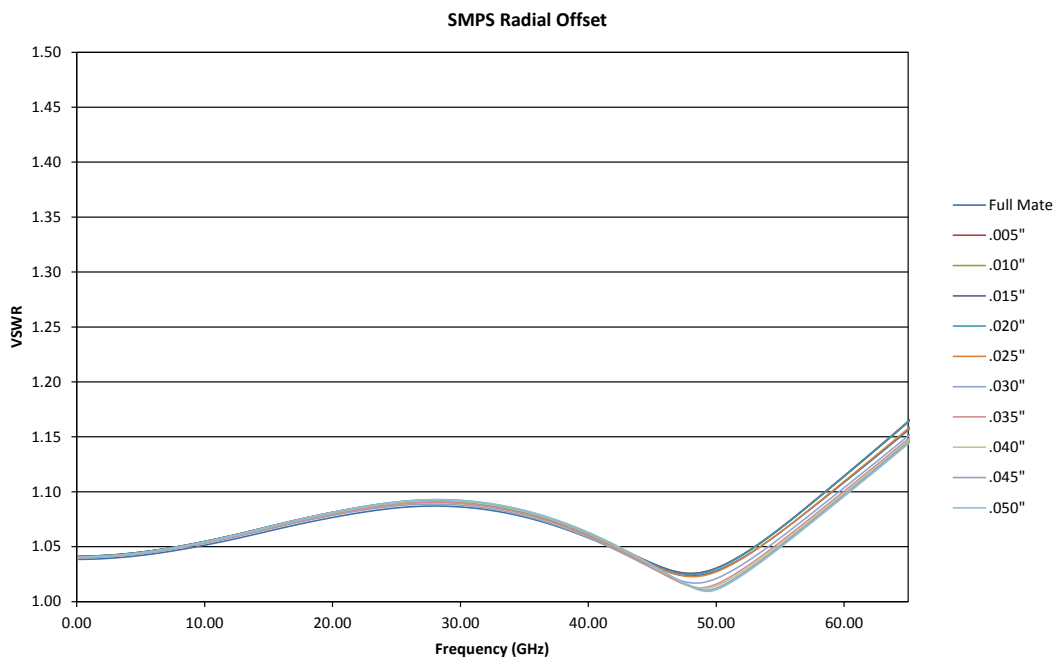
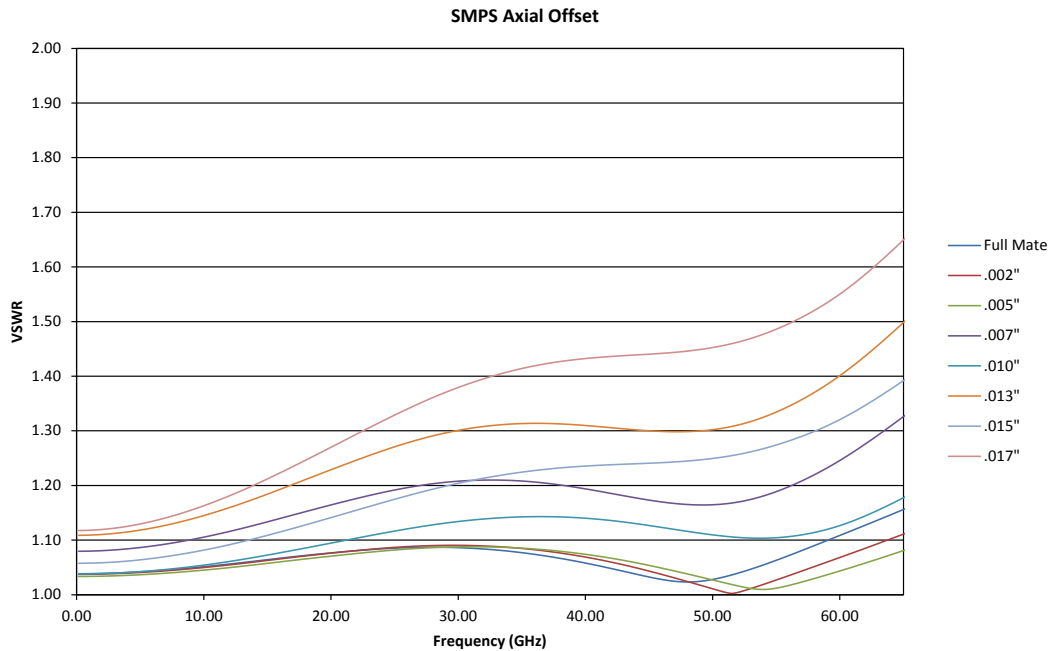
Measurements taken with a .211" long bullet. 2.4mm to SMPM male adapters were full detent on one side and smooth bore on the other side.



# APPENDIX - SMPS

## SMPS Misalignment Performance Measurements

Measurements taken with a .098" long bullet. 1.85mm to SMPS male adapters were full detent on both sides.





# APPENDIX - BOARD MOUNT

## Board Mount Connector Footprint Design Process - STEP 1: Select Connector

Select connector series and type based on performance requirements and packaging constraints

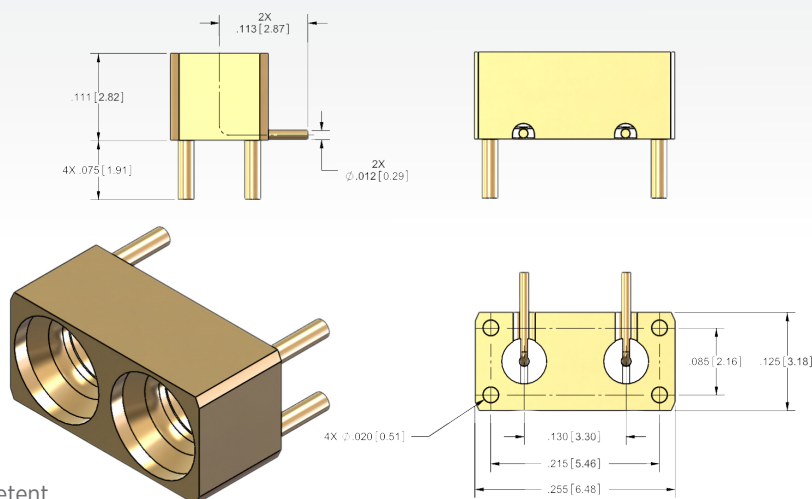
| Series | Force to Engage (Max) |        |         | Max Freq. |
|--------|-----------------------|--------|---------|-----------|
|        | SB                    | LD     | FD      |           |
| SMP    | 2.0 lbs               | 10 lbs | 15 lbs  | 40 GHz    |
| SMPM   | 4.0 lbs               | N/A    | 8.0 lbs | 65 GHz    |
| SMPS   | 3.0 lbs               | N/A    | 4.0 lbs | 100 GHz   |

| Series | Force to Disengage (Min) |         |         |
|--------|--------------------------|---------|---------|
|        | SB                       | LD      | FD      |
| SMP    | 8 oz                     | 2.0 lbs | 5.0 lbs |
| SMPM   | 8 oz                     | N/A     | 3.0 lbs |
| SMPS   | 6 oz                     | N/A     | 2.0 lbs |

| Series | Mating Cycles (Min) |     |     |
|--------|---------------------|-----|-----|
|        | SB                  | LD  | FD  |
| SMP    | 1000                | 500 | 100 |
| SMPM   | 500                 | N/A | 100 |
| SMPS   | 500                 | N/A | 100 |

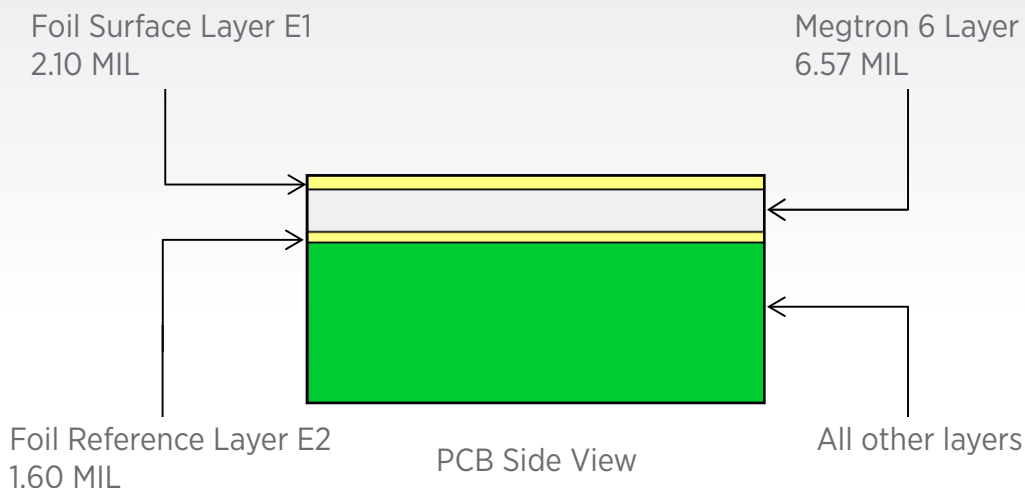
SB = Smooth Bore, LD = Limited Detent, FD = Full Detent

Example Connector Selection:



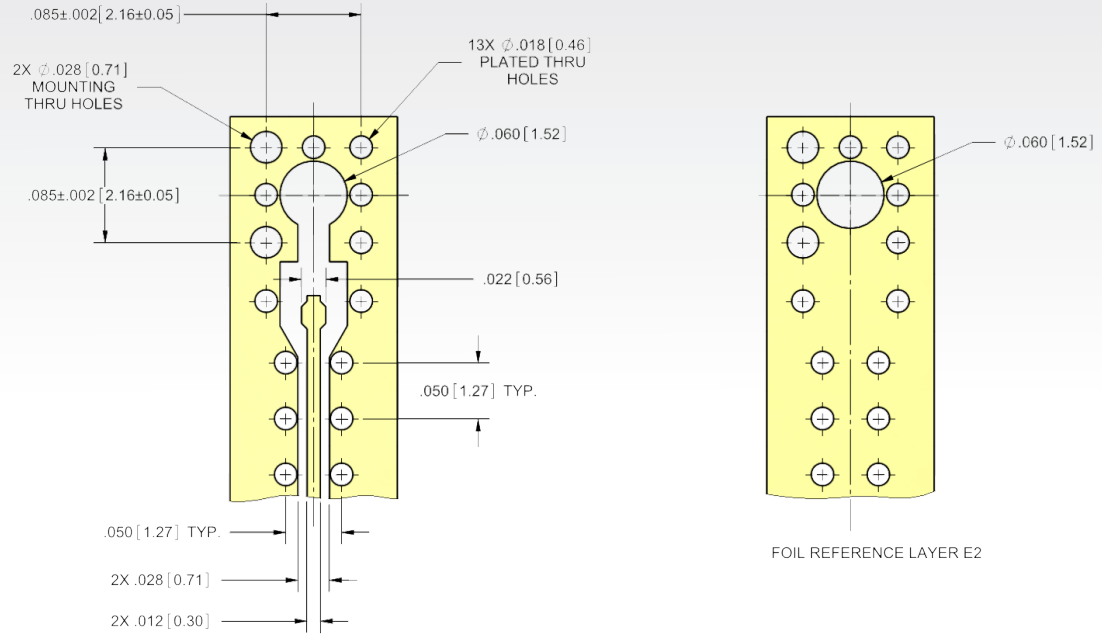
## STEP 2: PCB Definition

Provide PCB Characteristics to the SV Microwave Team to begin simulation and optimization (see pages 108 & 109 for more information)

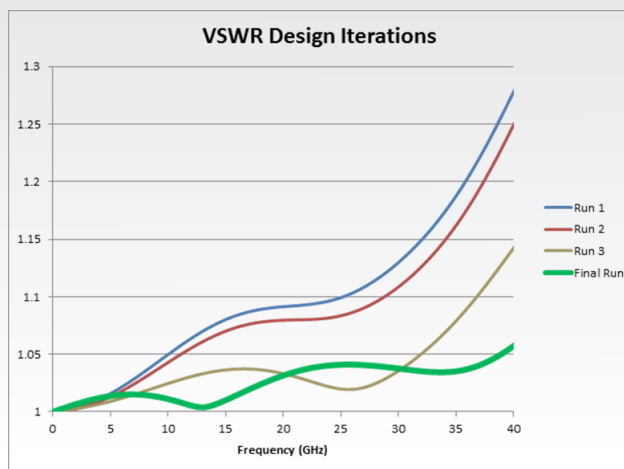


## STEP 3: Footprint Design

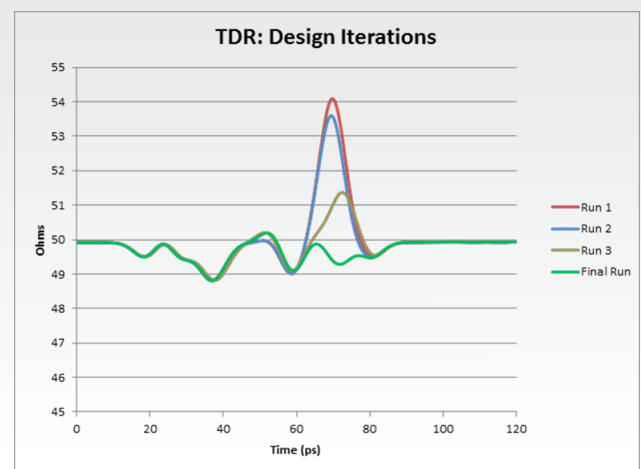
SV Engineering develops customized PCB launch footprint based on design parameters of connector and PCB Materials



## STEP 4: Simulation and Optimization



VSWR Improvement over connector launch with Successive Design Iterations



TDR Improvement over connector launch with Successive Design Iterations

# APPENDIX - BOARD MOUNT

## Board Mount Specific Application Connector Request

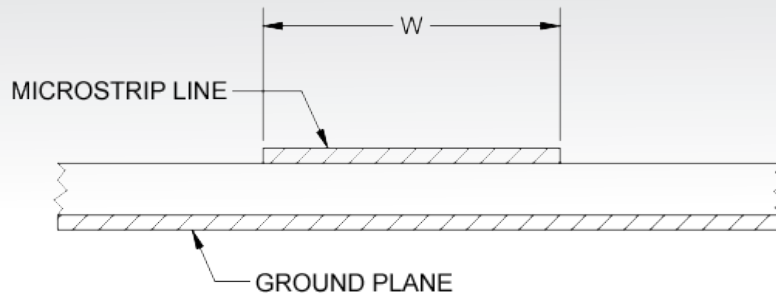
SV Microwave requests the information below in order to optimize our connector design for your specific application. The footprint will be designed and simulated per your input. Please submit the completed table below to marketing@svmicrowave.com or fax to 561.842.6277. (Additional Copies Available on our Website)

### Footprint Specification Sheet for PCB Mount RF Connectors

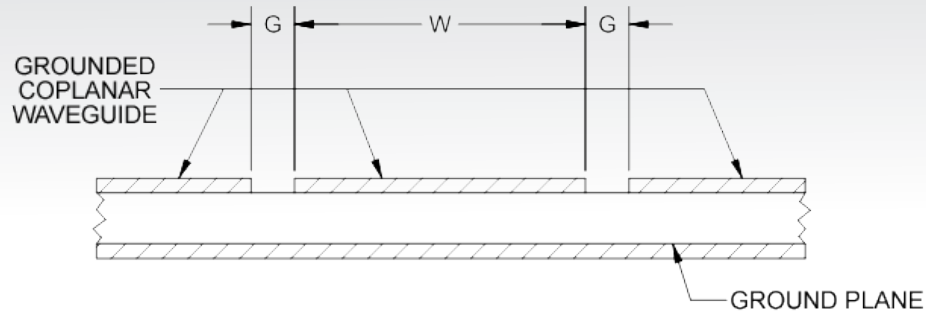
|                                                      |  |
|------------------------------------------------------|--|
| SV Microwave Part Number (if available)              |  |
| Operating Frequency Range (GHz)                      |  |
| Desired VSWR/Return Loss (dB)                        |  |
| PCB Type (Stripline, Coplanar Waveguide, Microstrip) |  |
| Connector Series (SMA, SMP, SMPM, etc.)              |  |
| Connector Type (Edge Launch, Surface Mount, Etc.)    |  |
| Signal Line Impedance (ohms)                         |  |
| PCB Material Type (Rogers 4003, Megtron 6, Etc.)     |  |
| Ground Plane Layer 1 Thickness (T1)                  |  |
| Substrate Layer 1 Dielectric Constant (Er1)          |  |
| Signal Line Width (W – see next page)                |  |
| Gap Width (G – see next page)                        |  |
| Substrate Layer 1 Thickness (S1)                     |  |
| Ground Plane Layer 2 Thickness (T2)                  |  |
| Substrate Layer 2 Dielectric Constant (Er2)          |  |
| Substrate Layer 2 Thickness (S2)                     |  |
| Ground Plane Layer 3 Thickness (T3)                  |  |
| Additional Notes:                                    |  |
|                                                      |  |

If possible, please attach additional documentation detailing the design features of the PCB including relative layer dimensions and characteristics.

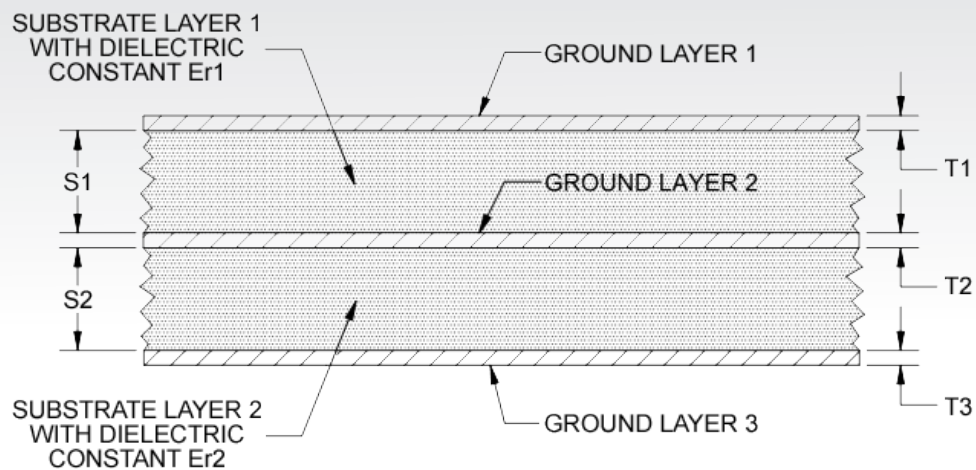
## Micro Strip Line



## Coplanar Waveguide



## Material Stack-Up



# FREQUENCY CHART

| Type        | Prefix | Freq (GHz) | VSWR*     | DWV** | Coupling | Relative Size | Competitor Equivalents | Notes           |
|-------------|--------|------------|-----------|-------|----------|---------------|------------------------|-----------------|
| 7/16        | 84     | 6          | 1.15:1    | 4000  | Threaded | 3 X           |                        |                 |
| 1.85mm      | 33     | 65         | 1.60:1    | 500   | Threaded | 1 X           |                        | Mates to 2.4mm  |
| 2.4mm       | 16     | 50         | 1.40:1    | 500   | Threaded | 1 X           | OS-2.4                 | Mates to 1.85mm |
| 2.92mm      | 15     | 40         | 1.34:1    | 750   | Threaded | 1 X           | OS-2.92                | Mates to SMA    |
| 3.5mm       | 92     | 26.5       | 1.30:1    | 500   | Threaded | 1 X           | OS-3.5                 | Mates to SMA    |
| BMA         | 17     | 22         | 1.15:1    | 1000  | Slide-on | 1 X           | OSP                    |                 |
| BMMA        | 14     | 28         | 1.30:1    | 750   | Slide-on | 0.75 X        | OSSP                   |                 |
| BMZ         | 89     | 18         | 1.20:1    | 1000  | Slide-on | 0.75 X        |                        |                 |
| BNC         | 47     | 6          | 1.20:1    | 1500  | Bayonet  | 1.5 X         |                        |                 |
| BZ          | 88     | 2          | 1.10:1    | 1500  | Slide-on | 1.5 X         |                        |                 |
| PN          | 65     | 18         | 1.30:1    | 3000  | Threaded | 2.5 X         |                        |                 |
| PTNC        | 45     | 18         | 1.20:1    | 1500  | Threaded | 2 X           |                        | (a)             |
| SC          | 52     | 11         | 1.30:1    | 3000  | Threaded | 3 X           |                        |                 |
| SMA         | 29     | 18         | 1.20:1    | 1000  | Threaded | 1 X           | OSM                    | (a) (c)         |
| SMB         | 23     | 4          | 1.10:1    | 1000  | Slide-on | 0.5 X         |                        |                 |
| SMC         | 22     | 10         | 1.40:1    | 1000  | Threaded | 0.5 X         |                        |                 |
| SMP         | 12     | 40         | 1.40:1    | 500   | Snap-on  | 0.25 X        | GPO, MMSP, OSMSP       |                 |
| SMPM        | 32     | 65         | 1.30:1    | 325   | Snap-on  | 0.2 X         | GPPO, MSSP, OSMPPM     |                 |
| SMPS        | 38     | 100        | 1.30:1*** | 250   | Snap-on  | 0.15 X        | G3PO                   |                 |
| SSMA        | 27     | 36         | 1.30:1    | 750   | Threaded | 0.75 X        | OSSM                   | (b)             |
| SVMS        | 49     | 23         | 1.30:1    | 1500  | Snap-on  | 1 X           | GMS                    |                 |
| TNC         | 40     | 15         | 1.30:1    | 1500  | Threaded | 2 X           |                        | (a)             |
| TRIAx (BNC) | 48     | 6          | 1.30:1    | 1500  | Bayonet  | 2 X           |                        |                 |
| TRIAx (TNC) | 48     | 11         | 1.30:1    | 1500  | Threaded | 2 X           |                        |                 |
| TYPE N      | 50     | 12.4       | 1.30:1    | 3000  | Threaded | 2.5 X         |                        |                 |
| ZMA         | 87     | 18         | 1.20:1    | 1500  | Bayonet  | 1.5 X         |                        |                 |

(a) 12.4 GHz for mitered right angle version

(b) 18 GHz for mitered right angle version

(c) 26 GHz version available

\* VSWR measured at max frequency

\*\* DWV Values given at sea level  
and 25 degrees Celsius

\*\*\* Measured at 65 GHz

M39012 - Connectors

M83517 - Stripline Connectors

M55339 - Adapters

M31031 - Blindmate Connectors

M3933 - Attenuators

| P/N        | Page |
|------------|------|
| 066-15-000 | 37   |
| 066-15-001 | 37   |
| 066-15-002 | 37   |
| 066-15-003 | 37   |
| 066-15-004 | 37   |
| 066-15-005 | 37   |
| 1112-4009  | 63   |
| 1112-4011  | 63   |
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