

# WSMP™ Coaxial RF Connectors and RF Coaxial Cable Assemblies

For High Density Applications to 100GHz



- Signal Integrity to 100GHz
- Center to Center Spacing 2.15 mm (0.085")  
Board to Board Height of 3.05 (0.120")
- 45% Smaller Than SMP  
35% Smaller Than Mini SMP (SMPM)
- Custom Footprints for Optimized RF Performance on Your PC Board
- Custom RF Cable Assemblies for Your Application
- R100 Series and R65 Series Products On Request

## SPECIFICATIONS

### Interface

According to Rosenberger WSMP™ Interface standards

### Material and plating

| Connector parts | Material                                 | Plating |
|-----------------|--|---------|
| Center contact  | CuBe                                     | Gold    |
| Outer contact   | CuBe                                     | Gold    |
| Dielectric      | PTFE, Polyimide, or Corning 7070™ Glass* |         |

### Electrical data

|                                  |  |
|----------------------------------|--|
| Impedance                        | 50 Ω   |
| Frequency                        | DC to 100 GHz                                      |
| Return loss (typical)            | ≥ 26 dB, DC to 26.5 GHz<br>≥ 19 dB, 26.5 to 65 GHz |
| Insertion loss                   | ≤ 0.12 x √f(GHz) dB                                |
| Insulation resistance            | ≥ 3.5 x 10 <sup>3</sup> MΩ                         |
| Center contact resistance        | ≤ 2.0 mΩ   |
| Outer contact resistance         | ≤ 6.0 mΩ   |
| Test voltage (at sea level)      | 250 V rms  |
| RF High Potential (at sea level) | 150 V rms @ 5 MHz                                  |
| RF-leakage (optional)            | ≥ -80 dB (typical mated pair)                      |

### Mechanical data

|                  |       |
|------------------|-------|
| Mating cycle     |       |
| Full Detent (FD) | ≥ 100 |
| Smooth Bore (SB) | ≥ 500 |

### Mechanical data

|                               |        |           |
|-------------------------------|--------|-----------|
| Engagement force (typical)    |        |           |
| Full Detent (FD)              | 11 N   | 2.47 Lbs. |
| Smooth Bore (SB)              | 5.3 N  | 1.19 Lbs. |
| Disengagement force (typical) |        |           |
| Full Detent (FD)              | 20 N   | 4.5 Lbs.  |
| Smooth Bore (SB)              | 4.45 N | 1.0 Lbs.  |

### Axial Mis-Alignment

.000-.005 inches

### Radial Mis-Alignment

+/- .010 inches

### Environmental data

|                                       |  |
|---------------------------------------|--|
| Temperature range                     | -55° C to +165° C                      |
| Thermal shock                         | MIL-STD-202, Meth. 107, Cond. B        |
| Corrosion                             | MIL-STD-202, Meth. 101                 |
| Vibration                             | MIL-STD-202, Meth. 204, Cond. D        |
| Shock                                 | MIL-STD-202, Meth. 213, Cond. I        |
| Moisture resistance                   | MIL-STD-202, Meth. 106, except Step 7B |
| Max. soldering temperature (optional) | IEC 61760-1, +260°C for 10 sec.        |
| 2002/95/EC (RoHS)                     | Compliant                              |

\*Hermetically-sealed to 1 x 10<sup>-8</sup> cc/sec, On Request

### Tooling

|   |            |
|---|------------|
| WSMP Cable Connector Prybar             | W1W001-000 |
| WSMP Right Angle Prybar Extraction Tool | W1W005-000 |
| WSMP Bullet Insertion/ Extraction Tool  | W1W002-000 |
| Low Profile                             |            |

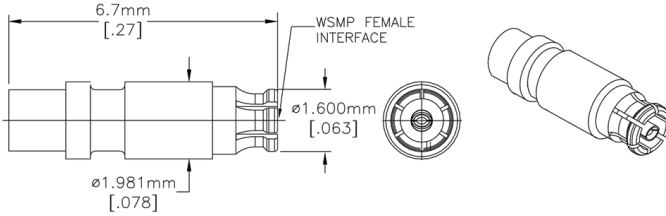
## CABLE CONNECTORS

### Description

WSMP Female Straight  
for .047 S/R Cable

### Part Number

W1K101-270D3

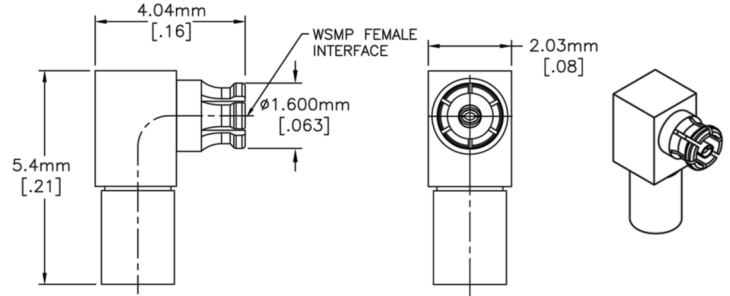


### Description

WSMP Female Right Angle  
for .047 S/R Cable

### Part Number

W1K201-270D3

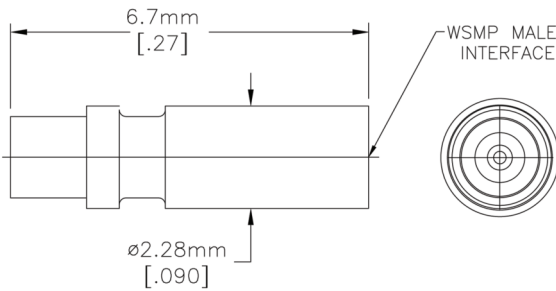


### Description

WSMP Male Straight  
for .047 S/R Cable

### Part Number

FD: W1S101-270D3  
SB: W1S141-270D3

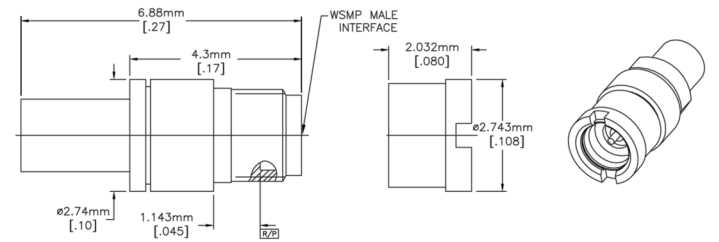


### Description

WSMP Male Straight Bulkhead  
for .047 S/R Cable

### Part Number

FD: W1S501-270D3  
SB: W1S541-270D3



## STANDARD

### Description

WSMP Male PCB, Straight, SMT, J-Lead

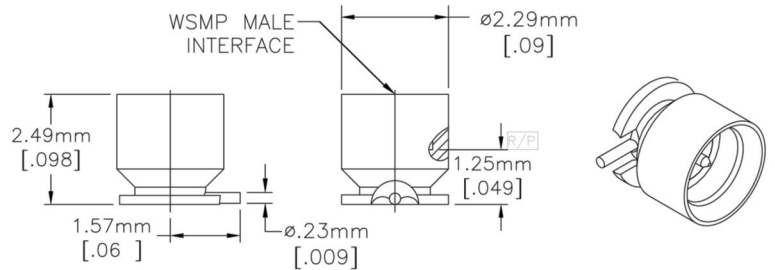
### Part Number

FD: W1S105-40ML5  
SB: W1S145-40ML5

### Hi Temp (Kovar/Glass)

WSMP Male PCB, Straight, SMT, J-Lead

FD: W1S103-40MZ9  
SB: W1S143-40MZ9



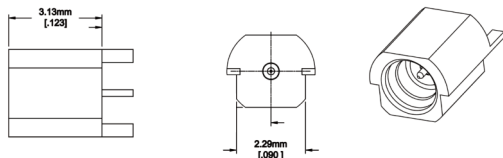
## STANDARD

### Description

WSMP Male PCB Edge Mount

### Part Number

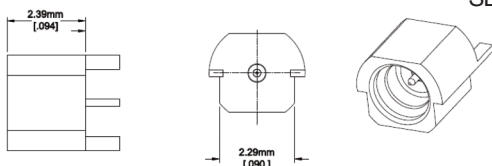
FD: W1S203-40ML5  
SB: W1S243-40ML5



### Hi Temp (Kovar/Glass)

WSMP Male PCB Edge Mount

FD: W1S204-40MZ9  
SB: W1S244-40MZ9



## STANDARD

### Description

WSMP St Male MultiPort Arrays, SB

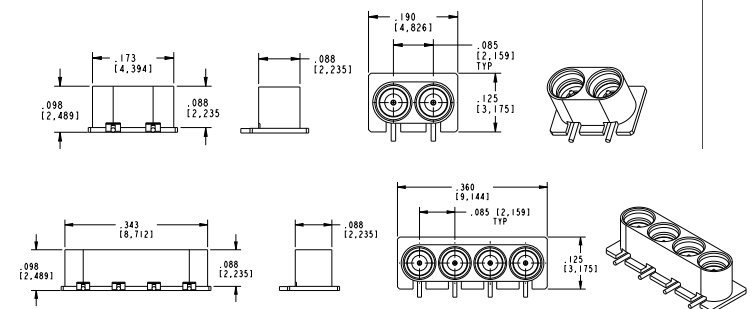
### Part Number

2 Port: W1S10A-40ML5  
4 Port: W1S10B-40ML5

### Hi Temp (Kovar/Glass)

WSMP St Male MultiPort Arrays, SB

2 Port: W1S12A-40MZ9  
4 Port: W1S12B-40MZ9



## ADAPTERS

### Description

WSMP Female Blindmate Interconnect (Bullet)



| Part Number  | A (mm) | A (in) | Part Number  | A (mm) | A (in) |
|--------------|--------|--------|--------------|--------|--------|
| W1K10A-K00D3 | 2.49   | 0.098  | W1K10J-K00D3 | 7.62   | 0.300  |
| W1K10C-K00D3 | 3.18   | 0.125  | W1K10M-K00D3 | 10.16  | 0.400  |
| W1K10F-K00D3 | 3.81   | 0.150  | W1K10N-K00D3 | 12.70  | 0.500  |
| W1K10G-K00D3 | 5.08   | 0.200  | W1K10P-K00D3 | 15.24  | 0.600  |
| W1K10H-K00D3 | 6.35   | 0.250  |              |        |        |

Additional lengths available on request

## BETWEEN SERIES TEST ADAPTERS

### Description

WSMP Male Full Detent to RPC-2.92 Female Adapter  
 RPC-2.40 Female Adapter  
 RPC-1.85 Female Adapter



### Part Number

W1S102-K00D3 to 40 GHz

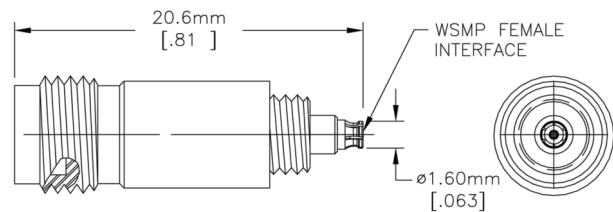
W1S109-K00D3 to 50 GHz

W1S108-K00D3 to 67 GHz

## BETWEEN SERIES TEST ADAPTERS

### Description

WSMP Female to RPC-2.92 Female Adapter  
 RPC-2.40 Female Adapter  
 RPC-1.85 Female Adapter



### Part Number

W1K102-K00D3 to 40 GHz

W1K109-K00D3 to 50 GHz

W1K108-K00D3 to 67 GHz

## TERMINATIONS

### Description

WSMP Male 50 Ohm Termination, Full Detent, 0.25 W

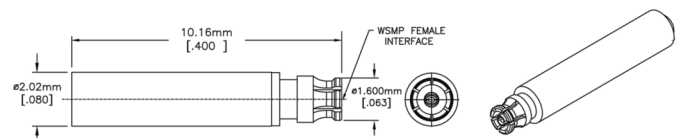
Part Number  
W1S15T-0.2D3



### Description

WSMP Female 50 Ohm Termination, 0.25 W

Part Number  
W1K15T-0.2D3



## WSMP™ CABLE ASSEMBLIES

**Description:** WSMP Female Straight on .047 Flexible, Formable, Semi-Rigid to RPC 2.92 Male, RPC 2.40 Male and RPC 1.85 Male



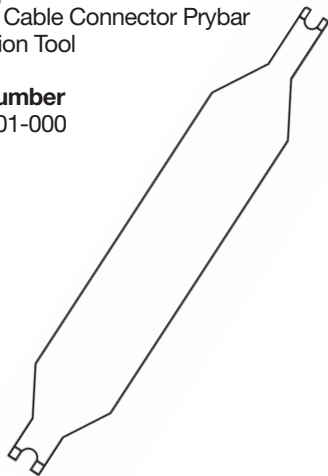
## CUSTOM FOR YOUR NEEDS.

### TOOLS

#### Description

WSMP Cable Connector Prybar  
Extraction Tool

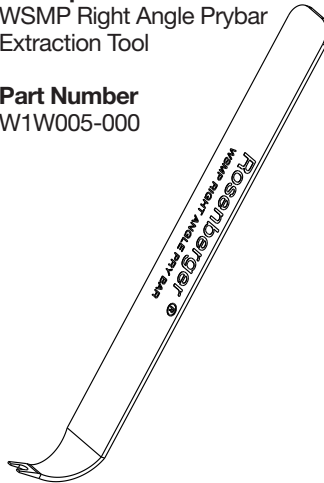
**Part Number**  
W1W001-000



#### Description

WSMP Right Angle Prybar  
Extraction Tool

**Part Number**  
W1W005-000



#### Description

WSMP Bullet Insertion/  
Extraction Tool, Low Profile

**Part Number**  
W1W002-000

