

SMP SERIES

Microminiature Connectors

FEATURES

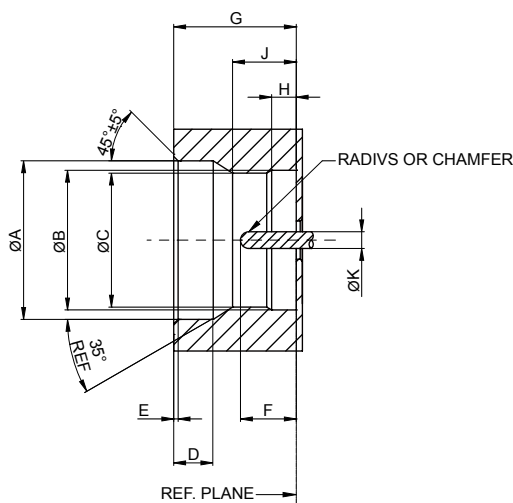
The SMP has a subminiature interface suitable for miniaturized high frequency coaxial modules up to 40Ghz. SMP's can be used as PC board to board interconnects by connecting a male SMP on each of the PC boards by a female-to-female adapter.

Mesa currently offers two types of male center contact: SMP male limited detent for a positive locking with a medium retention and SMP male full detent for a positive locking with a maximum retention. In board mount applications the limited detent is usually selected whereas full detent is mostly used for cable connections where higher forces are desirable.

INTERFACE MATING DIMENSIONS

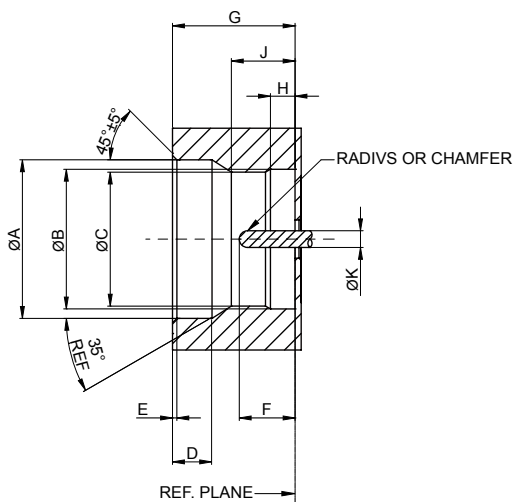
SMP

PLUG - FULL DETENT:



| Letter | Millimeters(Inch) | |
|--------|-------------------|--------------|
| | Minimum | Maximum |
| A | 3.53(.139) | 3.68(.145) |
| B | 3.15(.124) | 3.20(.126) |
| C | 2.90(.114) | 3.00(.118) |
| D | 0.84(.033) | 0.94(.037) |
| E | 0.08(.003) | 0.20(.008) |
| F | 1.14(.045) | 1.40(.055) |
| G | 2.74(.108) | 2.84(.112) |
| H | 0.521(.0205) | 0.597(.0235) |
| J | 1.30(.051) | 1.44(.057) |
| K | 0.36(.014) | 0.41(.016) |

PLUG - LIMITED DETENT:

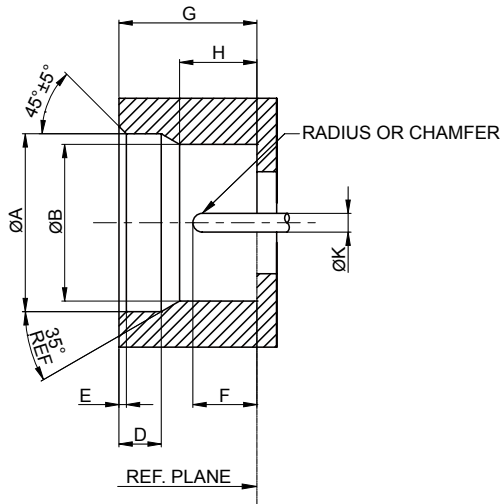


| Letter | Millimeters(Inch) | |
|--------|-------------------|--------------|
| | Minimum | Maximum |
| A | 3.53(.139) | 3.68(.145) |
| B | 3.15(.124) | 3.20(.126) |
| C | 3.00(.118) | 3.10(.122) |
| D | 0.84(.033) | 0.94(.037) |
| E | 0.08(.003) | 0.20(.008) |
| F | 1.14(.045) | 1.4(.055) |
| G | 2.74(.108) | 2.84(.112) |
| H | 0.521(.0205) | 0.597(.0235) |
| J | 1.372(.054) | 1.524(.060) |
| K | 0.36(.014) | 0.41(.016) |

Note: Mesa SMP connectors meet the interface requirements of MIL-STD-348A

MESA MICROWAVE

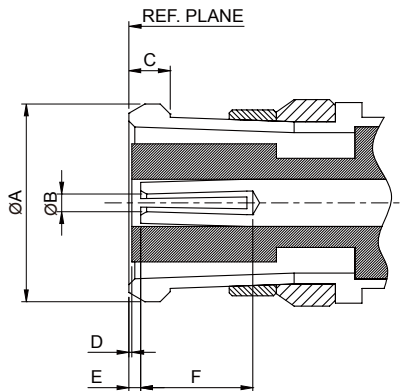
PLUG - SMOOTH BORE:



| Letter | Millimeters(Inch) | |
|--------|-------------------|------------|
| | Minimum | Maximum |
| A | 3.53(.139) | 3.68(.145) |
| B | 3.13(.123) | 3.22(.127) |
| D | 0.84(.033) | 0.93(.037) |
| E | 0.08(.003) | 0.20(.008) |
| F | 1.14(.045) | 1.39(.055) |
| G | 2.74(.108) | 2.84(.112) |
| H | 1.50(.059) | 1.65(.065) |
| K | 0.36(.014) | 0.40(.016) |

SMP

JACK:



| Letter | Millimeters(Inch) | |
|--------|-------------------|-------------|
| | Minimum | Maximum |
| A | - | 3.43(.135) |
| B | 0.36(.014) | 0.40(.016) |
| C | 0.635(.025) | 0.889(.035) |
| D | 0.00 | |
| E | 0.00 | 0.20(.008) |
| F | 1.78(.070) | - |

TECHNICAL DATA

SMP

| Electrical Data | |
|--|--|
| Dielectric Withstanding Voltage (at sea level, in V rms, 50Hz) | 500 |
| Working Voltage (at sea level, in V rms, 50Hz) | 335 |
| Impedance | 50 Ω |
| Frequency Range | DC up to 40 GHz |
| RF-leakage | -80db mini. at 3GHz;-65dB mini. from 3 to 26.5 GHz |
| Insulation Resistance | $\geq 5000M \Omega$ |
| Contact Resistance Inner Conductor | $\leq 6m \Omega$ |
| Contact Resistance Outer Conductor | $\leq 2m \Omega$ |

| Mechanical Data | Full Detent | Limited Detent | Smooth Bore |
|-----------------------------|--|----------------|-------------|
| Durability (matings) | 100 (min) | 500 (min) | 5000 (min) |
| Misalignment | +/-0.508(.020) Radial, +0.000/-0.254(+.000/- .010) Axial | | |
| Force to Engage(lbs.max) | 15.0 | 5.0 | 2.0 |
| Force to Disengage(lbs.min) | 5.0 | 1.5 | 0.5 |

| Environmental Data | |
|---------------------|--------------------------------------|
| Moisture Resistance | MIL-STD-202,Method 106 |
| Corrosion | MIL-STD-202, Method 101, Condition B |

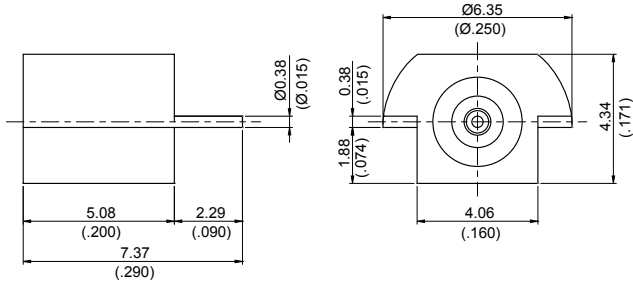


Figure 1

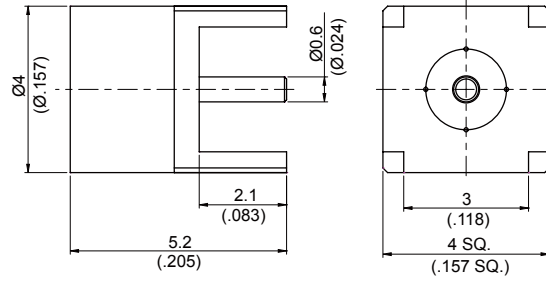


Figure 2

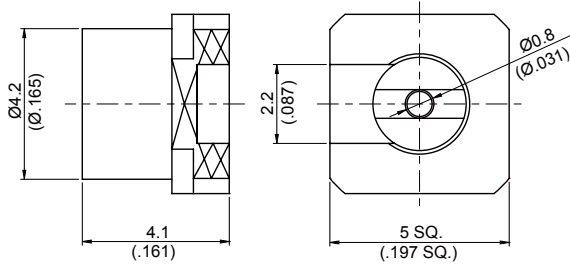


Figure 3

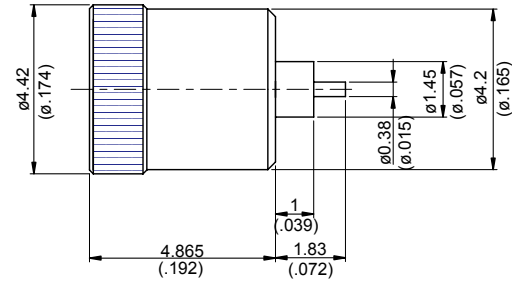


Figure 4

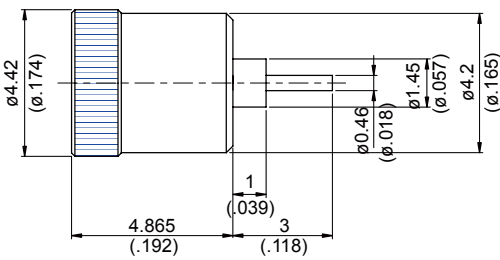
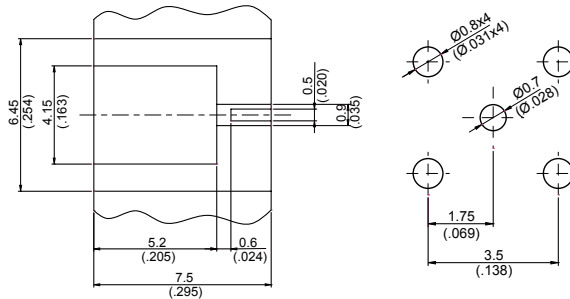
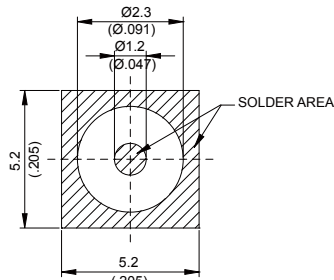


Figure 5

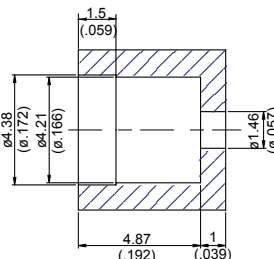


M.H 83A (PANEL CUT-OUT)

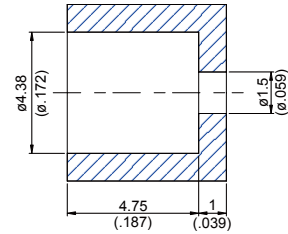
M.H 145



M.H A (PCB LAY-OUT)



M.H B (PANEL CUT-OUT)



M.H C (PANEL CUT-OUT)

SMP

| PART NUMBER | Fig. | M.H | Weight | Material | Remarks |
|--|------|-----|--------|----------|----------------|
| SMP PLUG P.C.B EDGE LAUNCH | | | | | |
| MMCSPPP-SB | 1 | 83A | | A1 | Smooth Bore |
| MMCSPPP-LD | 1 | 83A | | A1 | Limited Detent |
| MMCSPPP-FD | 1 | 83A | 0.94 g | A1 | Full Detent |
| SMP PLUG P.C.B MOUNT | | | | | |
| MMCSPPMP-SB | 2 | 145 | 0.16 g | A1 | Smooth Bore |
| MMCSPPMP-LD | 2 | 145 | | A1 | Limited Detent |
| MMCSPPMP-D | 2 | 145 | | A1 | Full Detent |
| MMCSPPMP-SBTM | 3 | A | | A1 | Smooth Bore |
| MMCSPPMP-LDTM | 3 | A | 0.31g | A1 | Limited Detent |
| MMCSPPMP-FDTM | 3 | A | | A1 | Full Detent |
| PRESS FIT SMP PLUG FOR BULKHEAD | | | | | |
| MMCSPBHP-SB38 | 4 | B | | A1 | Smooth Bore |
| MMCSPBHP-LD38 | 4 | B | | A1 | Limited Detent |
| MMCSPBHP-FD38 | 4 | B | | A1 | Full Detent |
| MMCSPBHP-SB48 | 5 | C | | A1 | Smooth Bore |
| MMCSPBHP-LD48 | 5 | C | | A1 | Limited Detent |
| MMCSPBHP-FD48 | 5 | C | | A1 | Full Detent |

MESA MICROWAVE

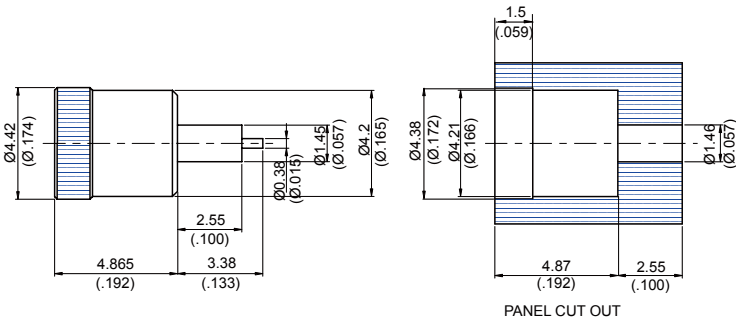


Figure 1

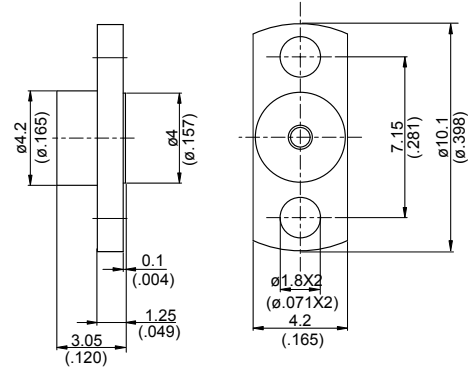


Figure 2

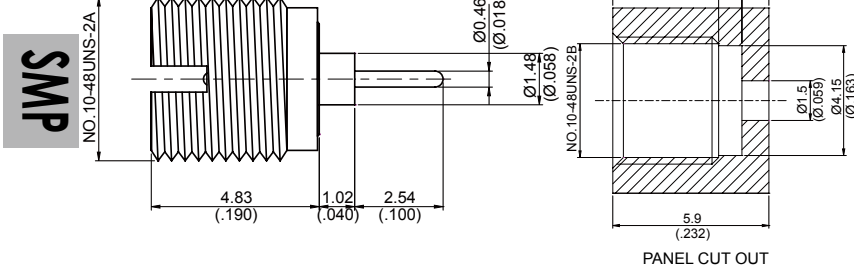


Figure 3

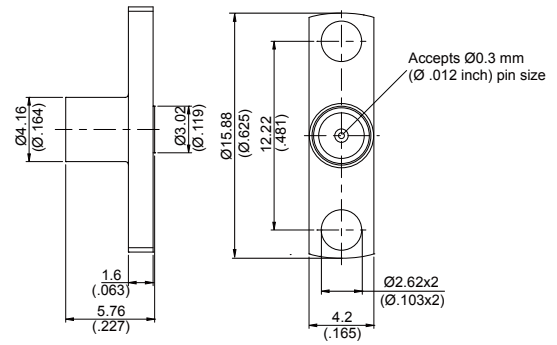


Figure 4

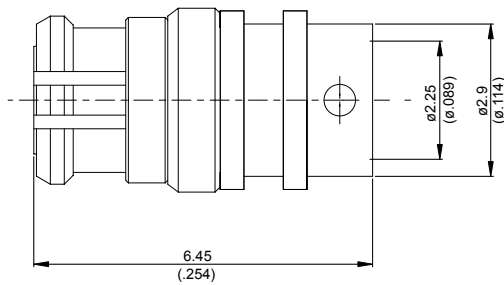


Figure 5

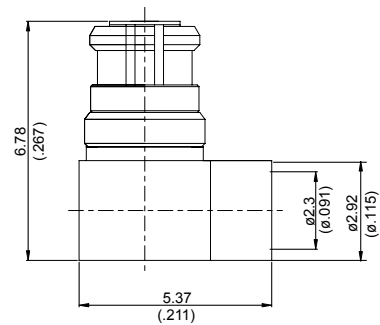


Figure 6

| PART NUMBER | Fig. | Weight | Material | Suitable Cables | Remarks | Typical VSWR |
|---|------|--------|----------|---------------------|------------------------------------|---|
| PRESS FIT SMP PLUG FOR BULKHEAD | | | | | | |
| MMCSPBHPPF-SB38 | 1 | | A1 | | Smooth Bore | |
| MMCSPBHPPF-LD38 | 1 | | A1 | | Limited Detent | |
| MMCSPBHPPF-FD38 | 1 | | A1 | | Full Detent | |
| SMP PLUG SCREW-IN SHROUD STRAIGHT TERMINAL | | | | | | |
| MMCSPTP-SB46 | 3 | | B3 | | Smooth Bore | |
| MMCSPTP-LD46 | 3 | | B3 | | Limited Detent | |
| MMCSPTP-FD46 | 3 | | B3 | | Full Detent | |
| SMP PLUG FOR PANEL RECEPTACLE | | | | | | |
| MMCSPPRP-SB | 2 | | 3 | | Smooth Bore | |
| MMCSPPRP-LD | 2 | | 3 | | Limited Detent | |
| MMCSPPRP-FD | 2 | | 3 | | Full Detent | |
| SMP PLUG FIELD REPLACABLE FOR PANEL RECEPTACLE | | | | | | |
| MMCSPPRP-FD12 | 4 | 0.9g | B3 | | Full detent; Accepts 0.3(.012) pin | 1Ghz 2Ghz 3~7Ghz 8Ghz 9~16Ghz 17Ghz 18~19Ghz 20Ghz 1.05 1.07 1.09 1.12 1.23 1.26 1.38 1.48 |
| SMP JACK SOLDER | | | | | | |
| MMCSPSJ-085 | 5 | 0.2g | B18 | Semi-rigid .085 | | |
| MMCSPSJ7-085 | 5 | 0.19g | B18 | 75Ω Semi-rigid .085 | Impedance=75ohm | |
| SMP JACK SOLDER RIGHT ANGLE | | | | | | |
| MMCSPRASJ-085 | 6 | 0.45g | B18 | Semi-rigid .085 | | |