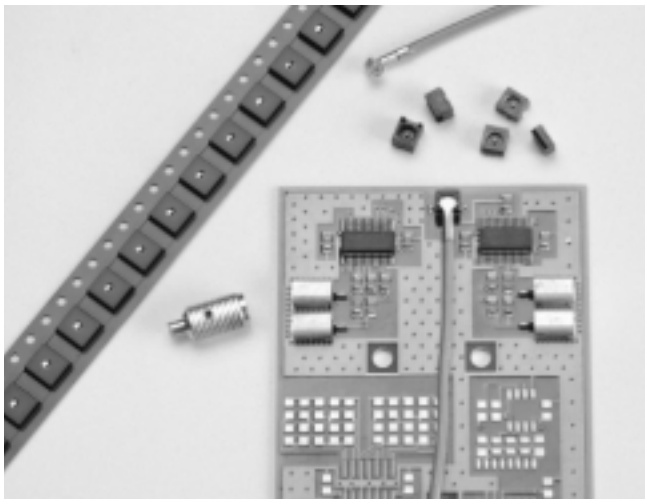
OSMT Interconnect System
Surface Mount Coaxial Connectors

Features
- Occupies less (PCB) real-estate than conventional through hole connectors
- 4.2 [.165] fully mated height off PCB
- Performance through 6GHz
- Tape & reel packaging available

Applications
- Telecommunications
- GPS
- Consumer & automotive electronics



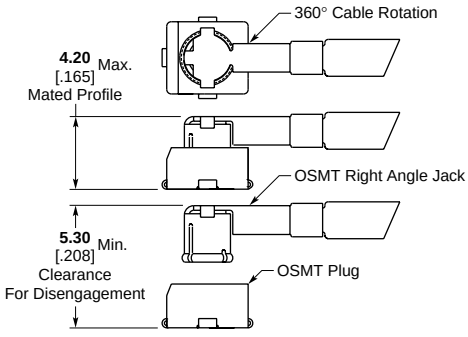
The OSMT Interconnect System is designed to meet the growing demand for surface mount RF connector technology. The OSMT occupies less printed circuit board (PCB) real estate than conventional through hole coaxial connectors. An innovative microstrip mounting pattern and plug receptacle design ensure reliable grounding and PCB retention characteristics. The OSMT Interconnect System also allows closer PCB pitch/spacing, standing a mere 4.2 [.165] (fully mated height) off the board. A new higher cable retention plug receptacle has been added to the OSMT product family. This new design addresses applications where force is applied to the mated connector interface as a result of cable flexure between boards or around other PCB components.

The OSMT Interconnect System consistently achieves broad band electrical performance through 6 GHz with a maximum VSWR of 1.20:1 at 2 GHz and 1.40:1 at 6 GHz. This broad band performance establishes a reliable interface that can be utilized for future system upgrades without concerns for performance degradation.

The OSMT plug receptacle is designed for high volume assembly using surface mount technology and is available in tape and reel packaging for automated pick and place board assembly. The mating cable jack is available terminated to a specially designed coax cable as either a pigtail, jumper or standard interseries connector assembly.

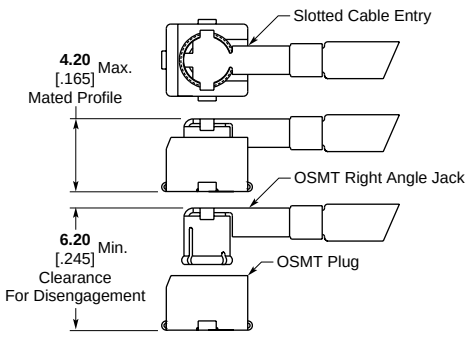
Specially designed engage/disengage tooling is available to ensure proper alignment of the OSMT interface during assembly. The higher retention plug receptacle can be hand engaged as a result of a unique lead-in chamfer design which also aligns the contacts prior to mating to ensure mechanical integrity. Interface durability is rated at 100 mating cycles.

The OSMT Interconnect System is ideal for surface mount applications in telecommunictions, GPS, consumer and automotive electronics. The OSMT provides versatile RF solutions for next generation interconnect needs.



M/A-COM Model Number	Part No.
2367-0000-54	1251802-1

High Retention Design



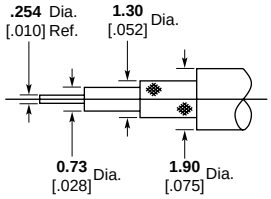
M/A-COM Model Number	Part No.
2367-5006-54	1055690-1

RF Coax Connectors

OSMT Surface Mount Coaxial Connectors

Specifications

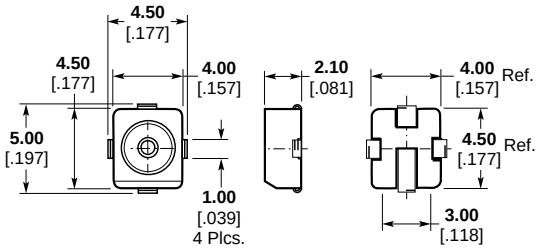
General	
Materials	
OSMT Plug	Housing: Polyphenylene Sulfide Contacts: Copper alloy
OSMT Cable Jack	Outer Contact: Beryllium Copper Inner Contact: Beryllium Copper Dielectric: Polypropylene, GF
Finish	Plug and cable jack - Contacts: Gold plate over nickel plate
Electrical	
Frequency	dc - 6 GHz
Nominal Impedance	50 ohms
Voltage Rating	250 Volts (VRMS Maximum) @ Sea Level
VSWR (Mated Connectors Only)	1.20:1 Maximum @ 2 GHz 1.40:1 Maximum @ 6 GHz
Insulation Resistance	1000 Megohms Minimum
Dielectric Withstanding Voltage	500 Volts (VRMS Minimum) @ Sea Level
Contact Resistance (Connectors Only) Center Contact Outer Contact	 15 milliohms Maximum 10 milliohms Maximum
Insertion Loss (Connectors Only)	.15dB Max. @ 6 GHz
Mechanical	
Connector Durability	100 mating cycles
Tape/Reel Packaging (Plug)	12mm per EIA-481
Force to Engage	4.0 lbs. Max. (2.5 lbs. typ.)
Force to Disengage	4.5 lbs. Max. (3.0 lbs. typ.)
Environmental	
Temperature Rating (Mated Pair)	PVC Flexible Cable: -40°C (-40°F) to +105°C (221°F)
Resistance to Solder Heat	Infrared, convection and vapor phase solderable (plug only). Maximum reflow time/temperature not to exceed 260°C for 3 minutes.
Cable Specifications	
Materials	PVC Flexible Cable (105°C)
Jacket:	Polyvinyl Chloride
Shield:	Silver Plated Copper Wire, 38 AWG, 90% Min. Coverage
Dielectric:	PFA or FEP
Center Conductor:	Silver Plated Copper Clad Steel, 30 AWG
Minimum Bend Radius	9.5 [.375]
Insertion Loss (PVC and FEP Cable Only)	0.4 dB/ft., 1.3d B/m @ 500 MHz 0.6 dB/ft., 2.0 dB/m @ 1 GHz 0.9 dB/ft., 3.0 dB/m @ 2 GHz
Center Conductor Resistance (PVC and FEP Cable Only)	.26 Ohms per foot average



OSMT Surface Mount Coaxial Connectors (Continued)

Straight SMT PCB Mount Plug Receptacles

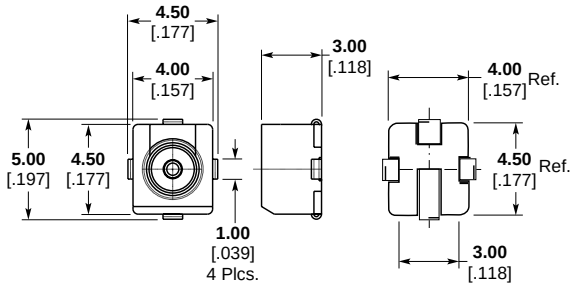
Multi-directional cable entry, 360° rotation. Recommended for use in passive cable applications or with supplementary cable tie-downs.



Packaging	Quantity	M/A-COM Model No.	Part No.
Bulk	Customer Specified	2367-0000-54	**1251802-1**
178 [7.0] Dia. Taping	800 pcs/reel	2367-5001-54	**1083946-1**
330 [13.3] Dia. Taping	3000 pcs/reel	2367-5002-54	**1055689-1**

Note: Requires part number 1221286-1 Engagement/Disengagement Tool.

Slotted single direction cable entry. Recommended for use in applications where bending forces may be applied to the cable.

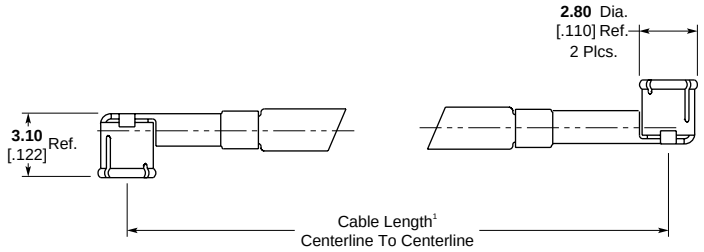


Packaging	Quantity	M/A-COM Model No.	Part No.
Bulk	Customer Specified	2367-5006-54	**1055690-1**
178 [7.0] Dia. Taping	600 pcs/reel	2367-5015-54	**1254242-1**
330 [13.3] Dia. Taping	2500 pcs/reel	2367-5016-54	**1055692-1**

Note: Requires part number 1055886-1 Disengagement Tool. Engagement requires no tooling.

OSMT Surface Mount Coaxial Connectors (Continued)

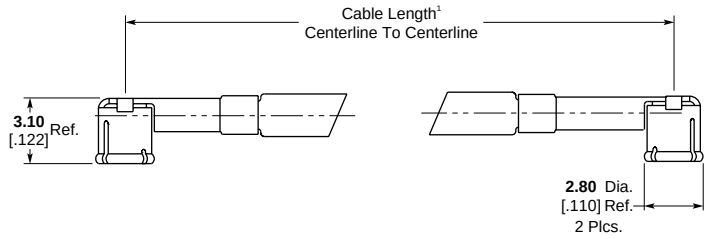
Right Angle Jack to Jack Cable Assembly 180° Offset



Cable Lengths	M/A-COM Model No.	Part No.
100 [4.0]	9950-3100-23	**1064353-1**
200 [8.0]	9950-3200-23	**1064357-1**
305 [12.0]	9950-3305-23	**1064358-1**

Notes: 1. Consult AMP for non-standard cable lengths.
2. Connector centerlines align 180° ± 30° as shown.
3. Cable length tolerance: 50.0 [1.97]-20000.0 [787.4]: ± (2.0 [0.08] +1% of cable length)

Right Angle Jack to Jack Cable Assembly



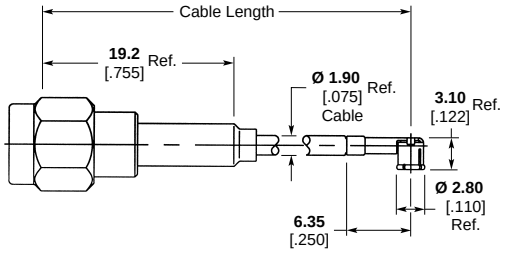
Cable Lengths	M/A-COM Model No.	Part No.
100 [4.0]	9950-1100-23	**1064303-1**
200 [8.0]	9950-1200-23	**1064309-1**
305 [12.0]	9950-1305-23	**1064315-1**

Notes: 1. Connectors are randomly aligned.
2. Consult AMP for non-standard cable lengths. Cable length tolerance: 50.0 [1.97]-20000.0 [787.4]: ± (2.0 [0.08] +1% of cable length)

OSMT Surface Mount Coaxial Connectors (Continued)

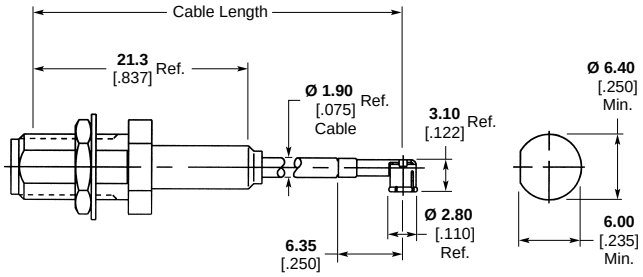
Inter-Series Cable Assemblies

SMA Straight Plug



Cable Length	M/A-COM Model No.	Part No.
100 [4.0]	9950-4100-01	**1064367-1**
200 [8.0]	9950-4200-01	**1064391-1**
305 [12.0]	9950-4305-01	**1064409-1**

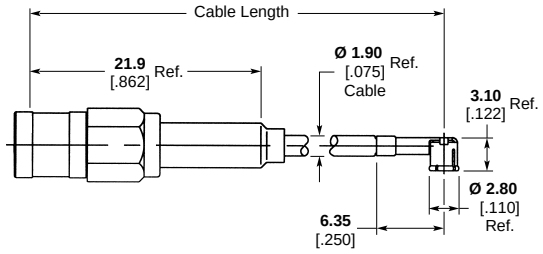
SMA Bulkhead Feed Through Jack



Recommended Mounting Hole

Cable Length	M/A-COM Model No.	Part No.
100 [4.0]	9950-4100-03	**1064369-1**
200 [8.0]	9950-4200-03	**1064393-1**
305 [12.0]	9950-4305-03	**1064411-1**

SMB Straight Plug

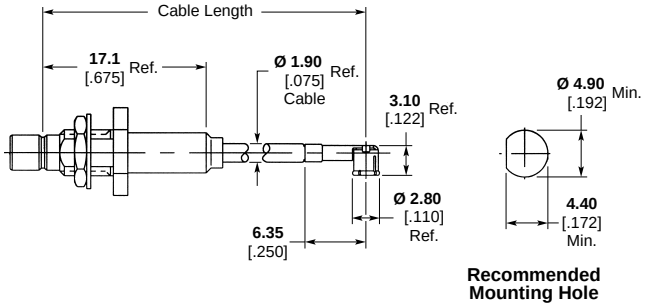


Cable Length	M/A-COM Model No.	Part No.
100 [4.0]	9950-4100-08	**1081124-1**
200 [8.0]	9950-4200-08	**1064397-1**
305 [12.0]	9950-4305-08	**1064414-1**

OSMT Surface Mount Coaxial Connectors (Continued)

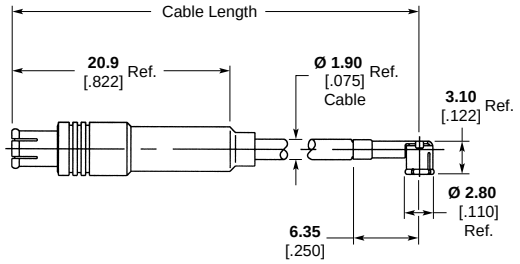
Inter-Series Cable Assemblies (Continued)

SMB Bulkhead Feed Through Jack



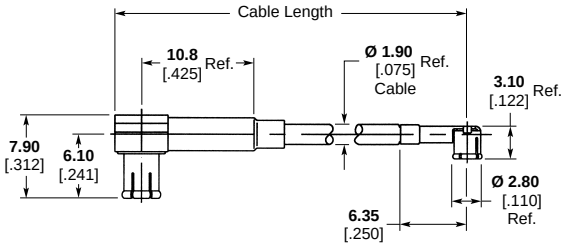
Cable Length	M/A-COM Model No.	Part No.
100 [4.0]	9950-4100-10	**1408002-1**
200 [8.0]	9950-4200-10	**1064399-1**
305 [12.0]	9950-4305-10	**1408002-2**

MCX Straight Plug



Cable Length	M/A-COM Model No.	Part No.
100 [4.0]	9950-4100-15	**1064374-1**
200 [8.0]	9950-4200-15	**1408003-1**
305 [12.0]	9950-4305-15	**1408003-2**

MCX Right Angle Plug

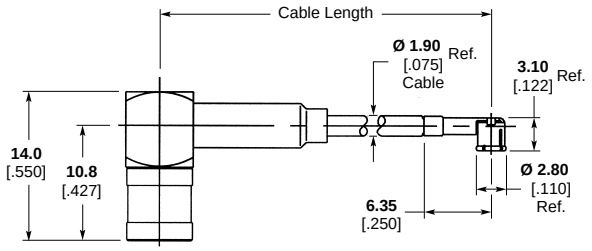


Cable Length	M/A-COM Model No.	Part No.
100 [4.0]	9950-4100-16	**1064375-1**
200 [8.0]	9950-4200-16	**1064401-1**
305 [12.0]	9950-4305-16	**1064416-1**

OSMT Surface Mount Coaxial Connectors (Continued)

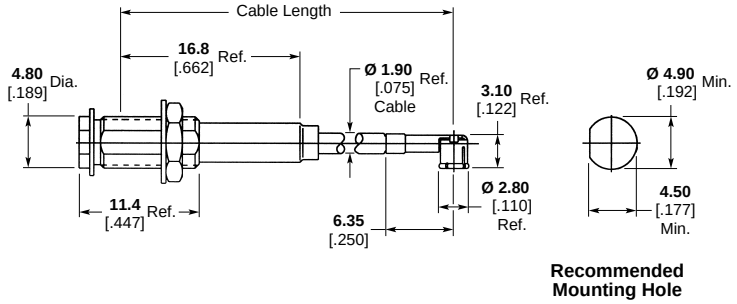
Inter-Series Cable Assemblies (Continued)

SMB Right Angle Plug



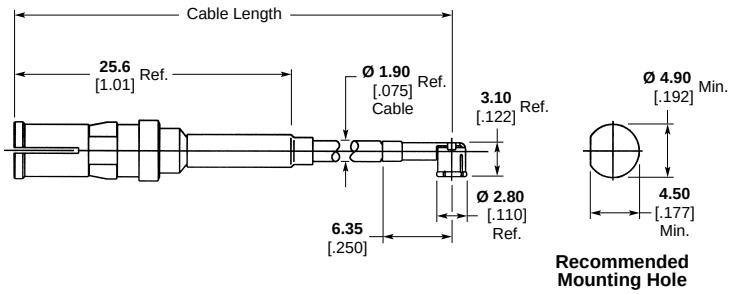
Cable Length	M/A-COM Model No.	Part No.
100 [4.0]	9950-4100-27	**1408004-1**
200 [8.0]	9950-4200-27	**1408004-2**
305 [12.0]	9950-4305-27	**1408004-3**

MCX Bulkhead Jack



Cable Length	M/A-COM Model No.	Part No.
100 [4.0]	9950-4100-38	**1408005-1**
200 [8.0]	9950-4200-38	**1408005-2**
305 [12.0]	9950-4305-38	**1408005-3**

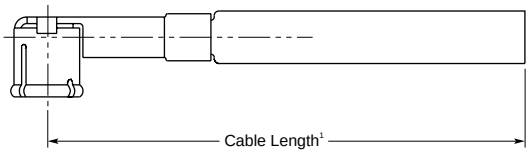
50 Ohm D-Sub Coaxial Receptacle



Cable Length	M/A-COM Model No.	Part No.
100 [4.0]	9950-4100-39	**1408006-1**
200 [8.0]	9950-4200-39	**1408006-2**
305 [12.0]	9950-4305-39	**1408006-3**

OSMT Surface Mount Coaxial Connectors (Continued)

Right Angle Jack Cable Pigtail

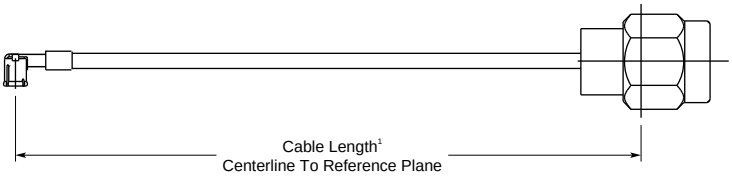


Cable Length	M/A-COM Model No.	Part No.
100 [4.0]	9950-2100-23	**1064331-1**
200 [8.0]	9950-2200-23	**1064333-1**
305 [12.0]	9950-2305-23	**1064338-1**

Note: 1. Consult AMP for non-standard cable lengths.
Cable length tolerance: 50.0 [1.97]-20000.0 [787.4]: ± (2.0 [0.08] +1% of cable length)
2. To avoid damaging the cable, minimize time at temperature while soldering and/or heat shrinking connector to the cable.

SMA Straight Plug (Male)

Recommended for Customer System Verification

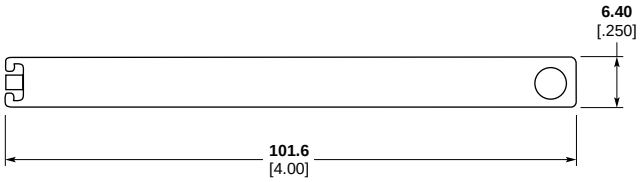


Cable Length	M/A-COM Model No. PVC Flexible Cable	Part No.
200 [8.0]	9950-4200-01	**1064391-1**

Finish: SMA, Passivated stainless steel body and gold plated center contact.

Tools

Engagement/Disengagement Tool



M/A-COM Model No.	Part No.
2598-5342-54	**1221286-1**

See Application Notes for instructions.
For use with 1251802-1 plug only

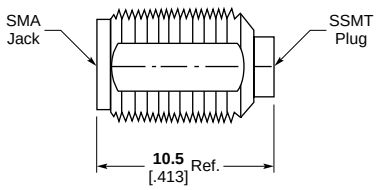
Disengagement Tool

M/A-COM Model No.	Part No.
2598-5401-54	**1055886-1**

See Application Notes for instructions.
For use with 1055690-1 plug only

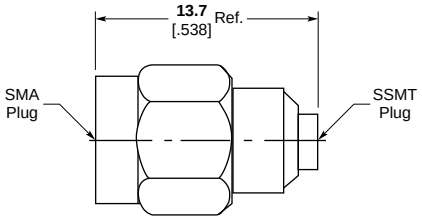
OSMT Surface Mount Coaxial Connectors (Continued)

OSMT Plug to SMA Jack Adapter



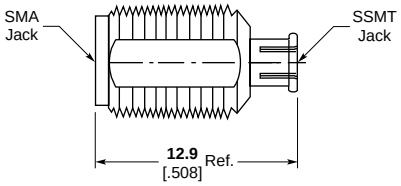
M/A-COM Model No.	Part No.
2382-2240-00	**1055696-1**

OSMT Plug to SMA Plug Adapter



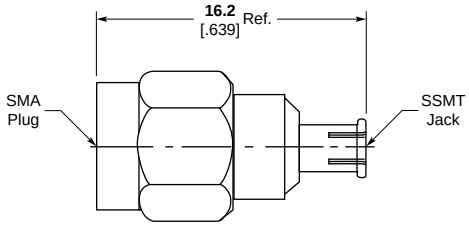
M/A-COM Model No.	Part No.
2381-2241-00	**1055695-1**

OSMT Jack to SMA Jack Adapter



M/A-COM Model No.	Part No.
2380-2240-00	**1055694-1**

OSMT Jack to SMA Plug



M/A-COM Model No.	Part No.
2382-2241-00	**1055697-1**

Engineering Notes (Continued)