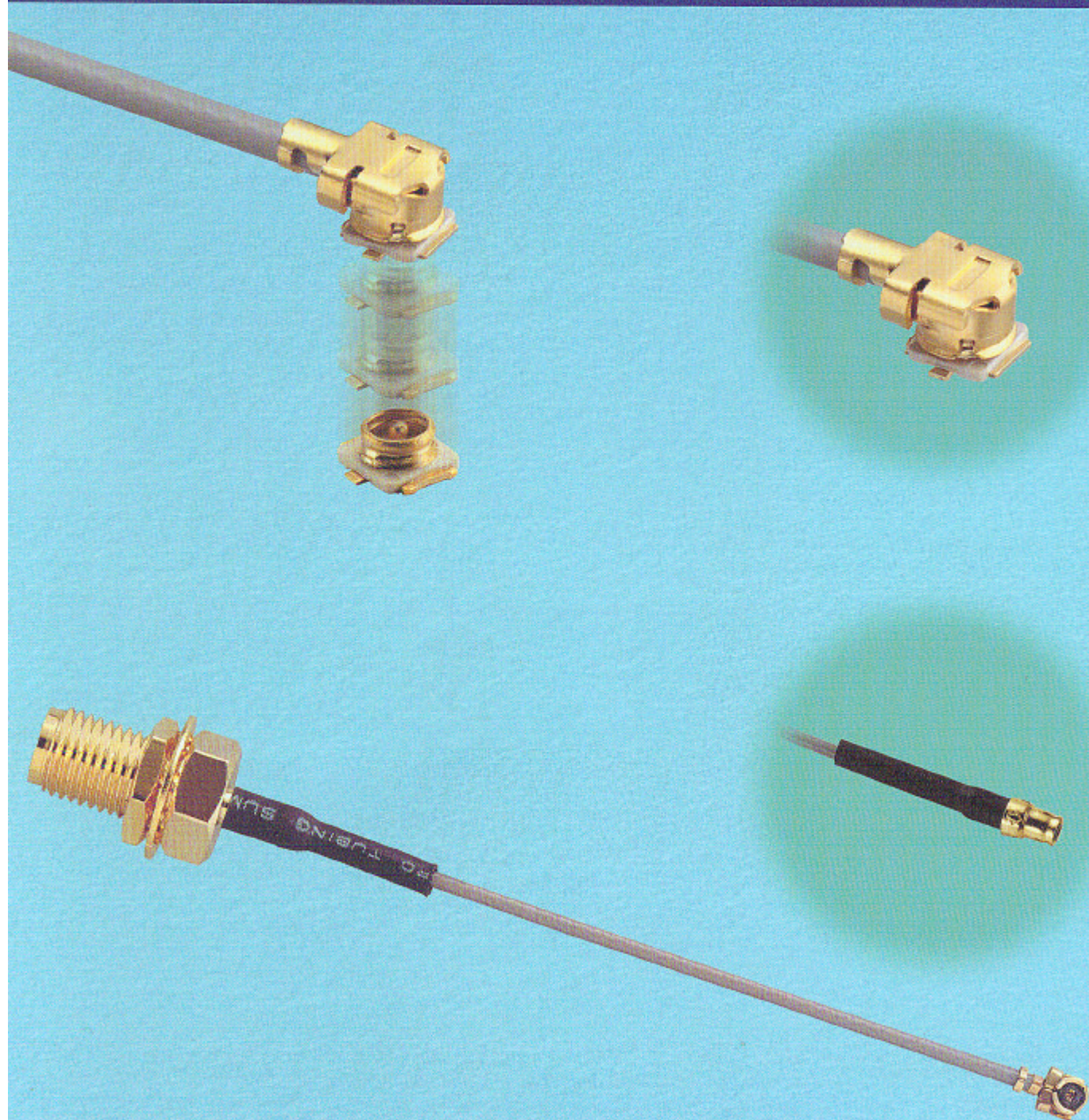


MC Series

**Ultra-Miniature Coaxial SMT Receptacle
and Mating Cable Plug**



◆ Key Features

1. Fully Compatible with MuRata's GSC Series and Hirose's U.FL/U.FL(V) Series

Insert #	Description	Compatible Item
MC-921	SMT Receptacle	MuRata SMT GSC
MC-901	SMT Receptacle	Hirose U.FL-R-SMT
MC-380	Mating Cable Plug	MuRata MXTK88/ MXTK92
MC-280	Mating Cable Plug	Hirose U.FL(V)-LP-040
MC-081	Mating Cable Plug	Hirose U.FL-LP-040
MC-113	Mating Cable Plug	Hirose U.FL-LP-066
MC-130	Mating Cable Plug	Hirose U.FL-LP-066

2. Ultra Low Profile with Mating Height 2.0mm or 2.5mm Maximum

Height from the printed circuit board when couples a receptacle with a cable plug is 2.0mm or 2.5mm maximum. Please refer the table as below.

Mating Height (max.)	Receptacle	Mating Cable Plug	Teflon Coaxial Cable
2.0mm	MC-921	MC-380	0.81mm
2.0mm	MC-901	MC-280	0.81mm
2.5mm	MC-901	MC-081	0.81mm
2.5mm	MC-901	MC-113	1.13mm
2.5mm	MC-901	MC-130	1.30mm

3. Meet up to 6.0GHz Frequency

The Receptacle and Mating Cable Plug offer high frequency performance from DC to 6.0GHz with V.S.W.R. 1.3 maximum.

4. Quality and Efficiency of Cable Termination

By soldering and a terminal crimping machine to ensure quality and efficiency of cable termination.

5. Surface Mountable and Reflow Solderable

The tape and reel package of receptacles permits automatic mounting and reflow soldering.

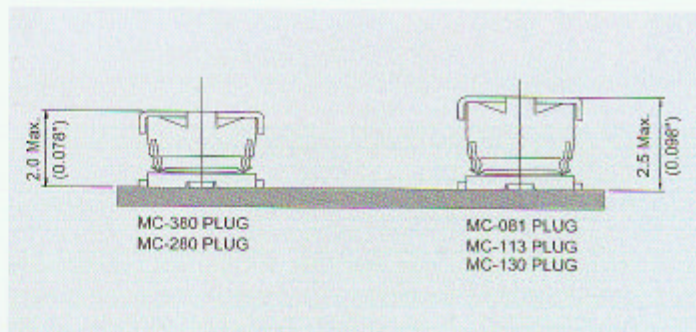
◆ Main Applications

1. Wireless LAN, Mini-PCI
2. GSM, GPRS & CDMA Mobile Phones
3. PDA & Notebook Computer
4. GPS
5. Bluetooth
6. Microwave radio and measurement

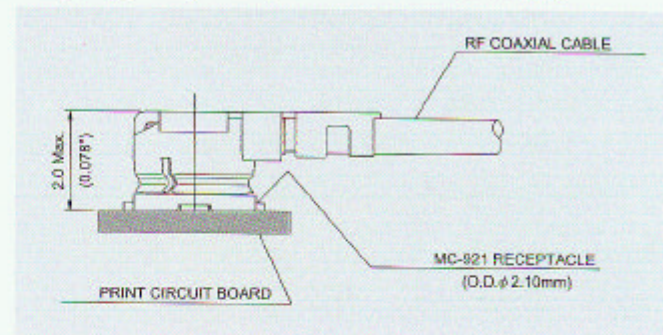
◆ Product Specifications

Impedance	50 Ω (Nominal)
Temperature Range	-40 °C to +90 °C
Frequency Rating	0-6 GHz
VSWR	1.30 max. (0-6 GHz)
Contact Resistance	20 m Ω max. (Center)
	20 m Ω max. (Outer, for plug)
	10 m Ω max. (Outer, for receptacle)
Withstanding Voltage	200 V AC for one minute
Insulation Resistance	500 M Ω min.
Durability	30 cycles
Holding Force (min.)	0.15 N (Female contact)

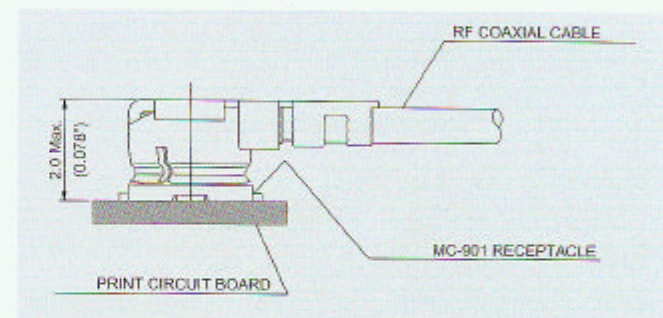
The above V.S.W.R. values were measured by following configurations.



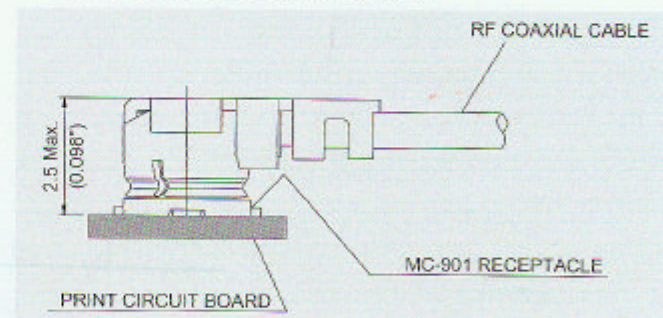
Mating Height Comparison (2.0mm max. v.s. 2.5mm max.)



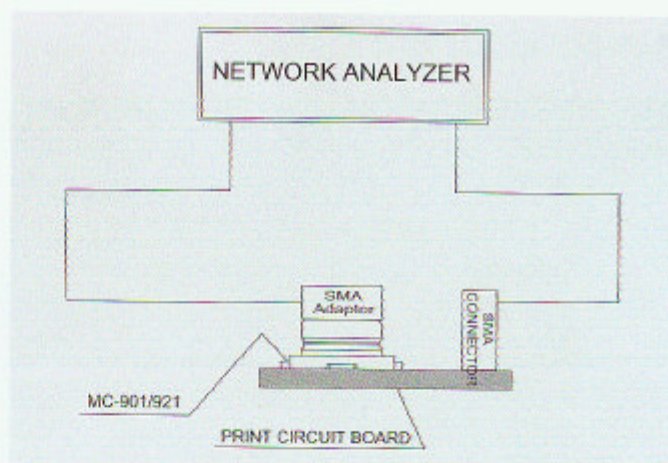
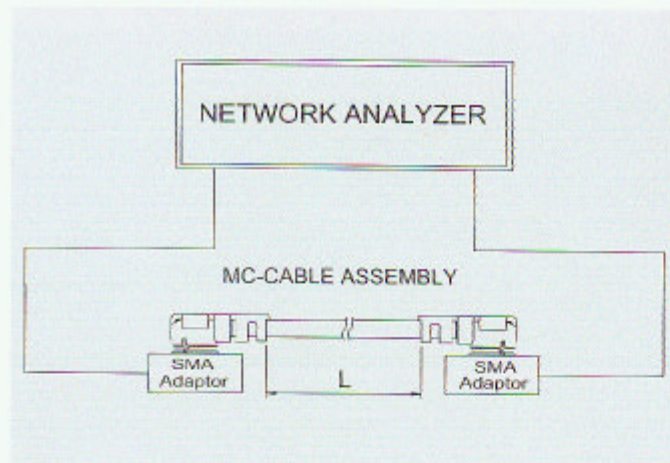
MC-380 and MC-921 Coupled Connector



MC-280 and MC-901 Coupled Connector



MC-081/MC-113/MC-130 and MC-901 Coupled Connector



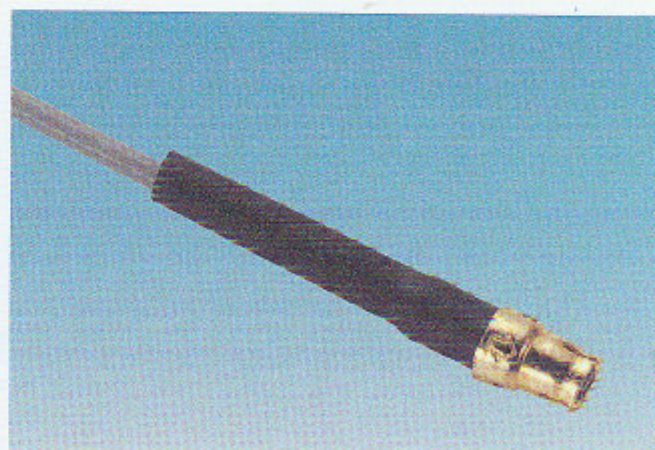
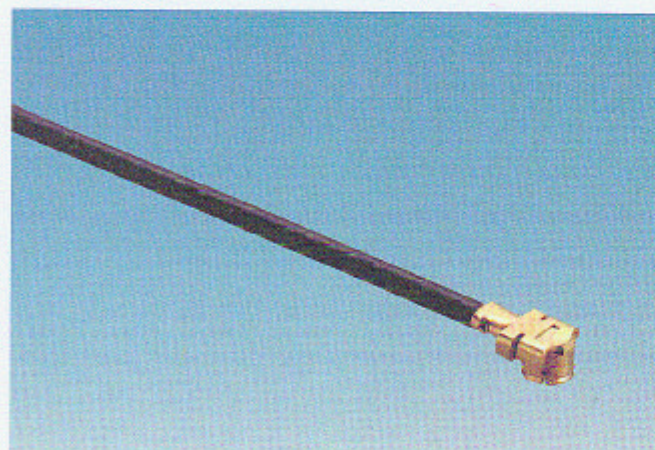
Note: 1. The Mating Cable Plugs were measured with SMA conversion adapters attached to both ends of $\phi 0.81\text{mm}$, $\phi 1.13\text{mm}$ or $\phi 1.30\text{mm}$ teflon coaxial cable with length 1,000mm.

2. The SMT Receptacles were mounted to a $50\ \Omega$ printed circuit board and measured with SMA conversion adapters attached.

◆ Materials

Part Description	Material	Finish
Plug shell	Phosphor bronze	Gold plating
Female center contact	Phosphor bronze	Gold plating
Receptacle ground contact	Brass	Gold plating
Male center contact	Brass	Gold plating
Insulator (Plug)	PBT+15% G.F.	Black, UL94V-0
Insulator (Receptacle)	LCP	Beige, UL94V-0

◆ Mating Cable Plug



◆ Part Number and Order Information

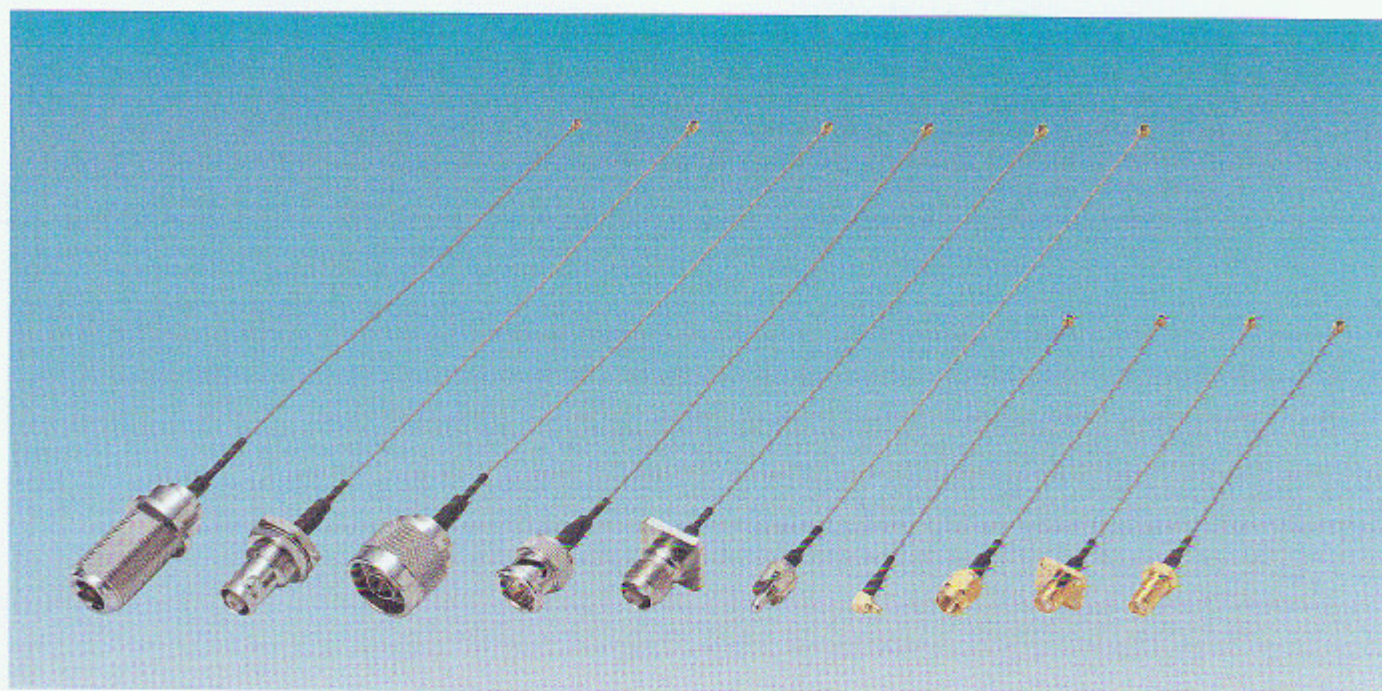
Part No.	Description	Sales Quantity	Suitable Cable
MC-380	Mating Cable Plug	Reel or pack sales	$\phi 0.81\text{mm}$ teflon coaxial cable
MC-280	Mating Cable Plug	Reel or pack sales	$\phi 0.81\text{mm}$ teflon coaxial cable
MC-081	Mating Cable Plug	Reel or pack sales	$\phi 0.81\text{mm}$ teflon coaxial cable
MC-113	Mating Cable Plug	Reel or pack sales	$\phi 1.13\text{mm}$ teflon coaxial cable
MC-130	Mating Cable Plug	Reel or pack sales	$\phi 1.30\text{mm}$ teflon coaxial cable

Note: 1. The sales quantity is 100 pieces per pack or 2,000 pieces per reel.

2. A set of mating cable plug includes plug shell, plug insulator and female center contacts.

◆ Cable Assembly Specifications

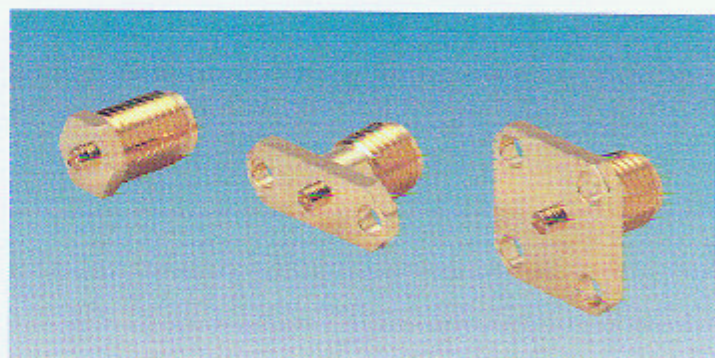
Mating Cable Plug Cable Assembly



Tolerance of Cable Assembly

Overall Length L (mm)	Tolerance (mm)
$35 \leq L \leq 200$	± 4
$200 < L \leq 500$	± 8
$500 < L \leq 1000$	± 12
$1000 < L$	$\pm 1.5\%$

SMA Conversion Adapter for Mating Cable Plug



◆ Part Number and Order Information

MC XXX XXX X X XXXX

1 2 3 4 5

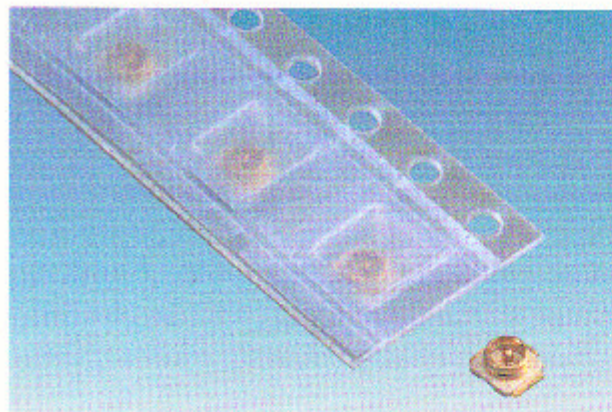
1	2	3	4	5
Connector End #1 Information 113 - MC -113 R/A plug 130 - MC -130 R/A plug 380 - MC -380 R/A plug 081 - MC - 081 R/A plug 280 - MC -280 R/A plug Z00 - Open Z01 - Striped cable with tin finish SAS - SMA straight plug SAR - Reverse SMA straight plug	Connector End #2 Information - Use same codes as End #1	Cable Type A: ϕ 1.13mm cable B: ϕ 1.30mm cable C: ϕ 0.81mm cable	Mating Height H: Mating height 2.5mm L: Mating height 2.0mm	Overall length in mm

For Example :

MC113113AH0200
 MC380380CL0300
 MC113SARAH0600

MC-113 plug to MC-113 plug with ϕ 1.13mm cable length 200mm
 MC-380 plug to MC-380 plug with ϕ 0.81mm cable length 300mm
 MC-113 plug to Reverse SMA straight plug with ϕ 1.13mm cable length 600mm

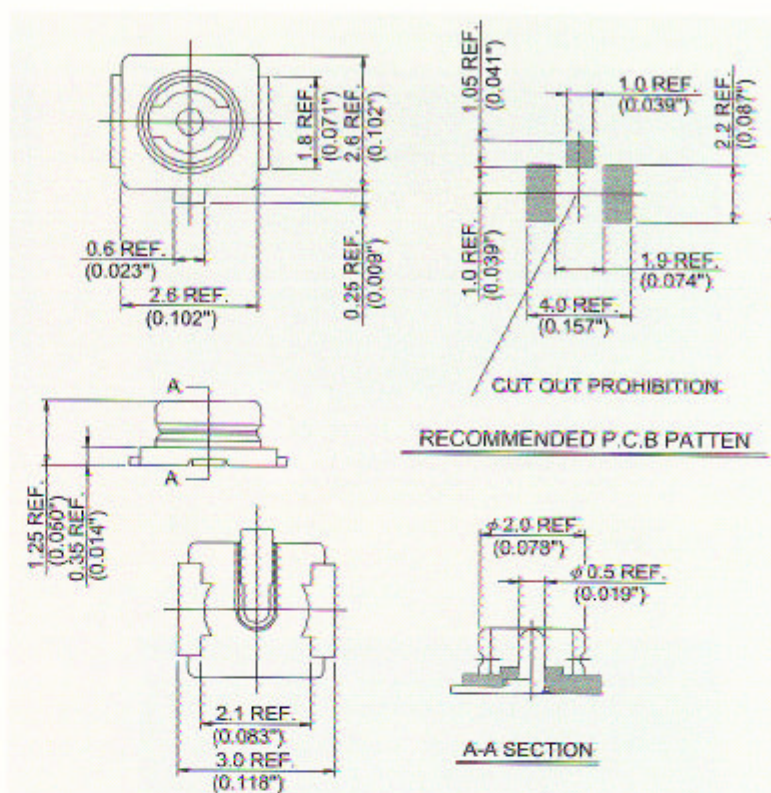
◆ SMT Receptacle



◆ Part Number and Order Information

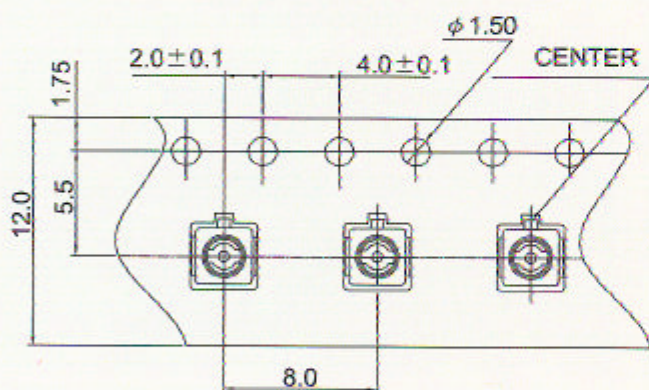
Part No.	Description	Sales Quantity
MC-901	SMT Receptacle in reel	Reel sales
MC-901PA	SMT Receptacle in pack	Pack sales
MC-921	SMT Receptacle in reel	Reel sales
MC-921PA	SMT Receptacle in pack	Pack sales

Note: The sales quantity is 100 pieces per pack or 2,500 pieces per reel.

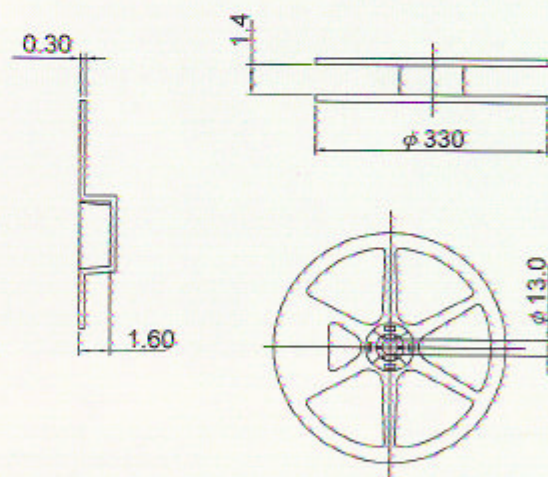


Tape and Reel Package Specifications

DIMENSIONS OF TAPING



DIMENSIONS OF REEL



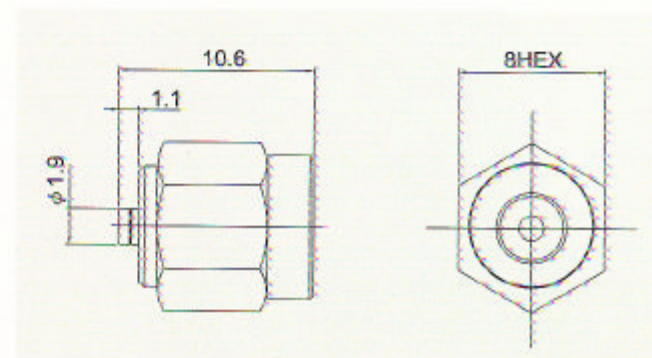
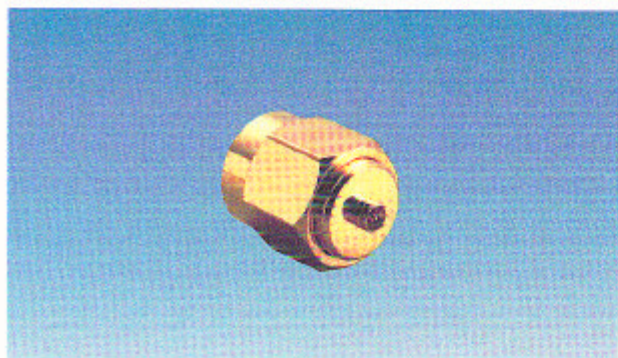
◆ Conversion Adapter

1. SMA Conversion Adapter for Mating Cable Plug

(Mating Cable Plug side jack to SMA side plug)

Part No. AMC-113 for MC-081/113/130/280

Part No. AMC-380 for MC-380



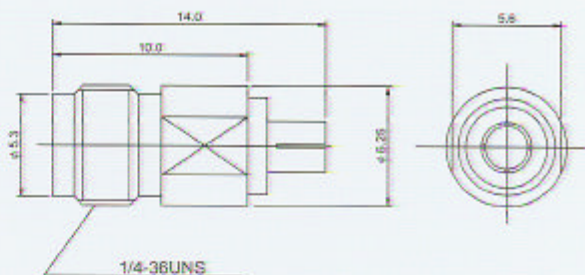
Note: The coupling portion of mating cable plug side has a weaker lock than the a normal RF connector, so this conversion adapter is for performance measurement only.

2. SMA Conversion Adapter for SMT Receptacle

(SMT Receptacle side plug to SMA side jack)

Part No. AMC-901($\phi 1.9\text{mm}$) for MC-901

Part No. AMC-921($\phi 2.1\text{mm}$) for MC-921

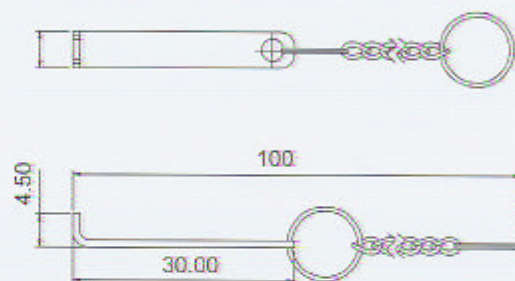


Note: The coupling portion of SMT receptacle side has a weaker lock than a normal RF connector, so this conversion adapter is for performance measurement only.

3. Separation Key

Part No. MC-901T

This separation key is used for extraction from a coupled condition



◆ Usage Instructions

1. Mating Cable Plug

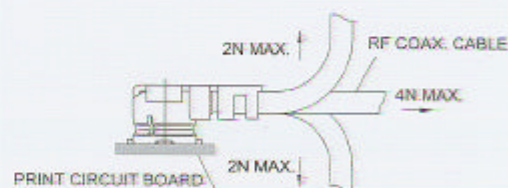
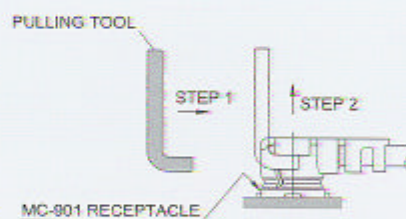
- (1) Coupling/Decoupling
 - 1) To couple the connectors, it is necessary to insert the mating plug into the SMT receptacle and make the connector coupling axis as vertically as possible.
 - 2) To decouple the connectors, hook the end part of key onto plug shell and pull off the mating plug.

- (2) Permissible load

Do not apply an excessive load to the cable, after the connectors are coupled. Please refer the permissible load as the right figure.

- (3) Precautions

Incorrect usage of insertion and removal of connectors will cause damage.
It is compulsory to use a separation key to decouple connectors.



2. SMT Receptacle

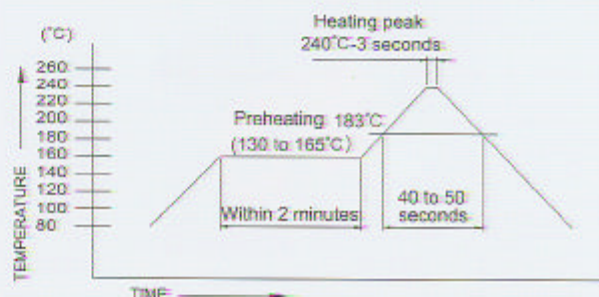
Recommended Temperature Profile (Reference)

- 1) The preferred technique for mounting the SMT Receptacle package is to reflow solder the device onto a PCB (Printed Circuit Board).
- 2) The maximum temperature for the lead of PCB surface does not exceed 240 °C.
- 3) The right reflow soldering profile is for reference and will modify under individual different conditions.

Hand Soldering (Reference only)

- 1) Soldering iron: The maximum temperature 350 °C.
- 2) Soldering period: within 5 seconds.

RECOMMENDED TEMPERATURE PROFILE (REFERENCE)



◆ RF Switch Connector



Feature

1. Fully compatible with Murata MM8430-2600

Insert #	Description	Compatible
MS-901	SMT Receptacle	MM8430-2600

2. Stabilized RF characteristic for durability

3. Available high frequency (DC to 6GHz)

4. Ultra miniature size (3.0*3.0*1.75mm)

5. Performance

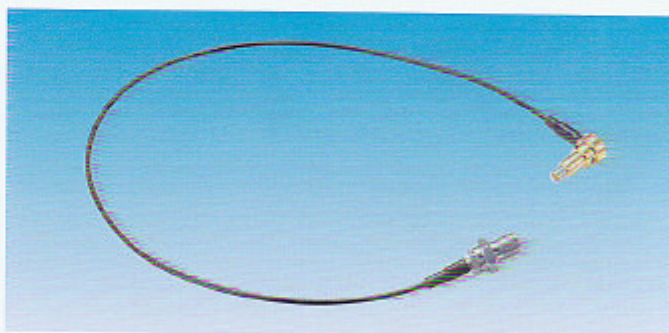
Item	Specification
Frequency Rating	DC to 6GHz
Impedance	50 ohm
Temperature Range	-40 to +90 degree °C
Voltage Rating	250V r.m.s.
Contact Resistance	50m ohm max.
Insulation Resistance	500M ohm min.
Withstanding Voltage	AC 300V
V.S.W.R.	DC to 6GHz 1.3 max.
Insertion Loss	DC to 6GHz 0.2 dB max.
Isolation Loss	DC to 6GHz 15dB min.
Durability	500 cycles

Application

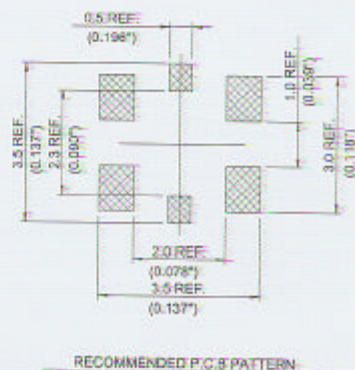
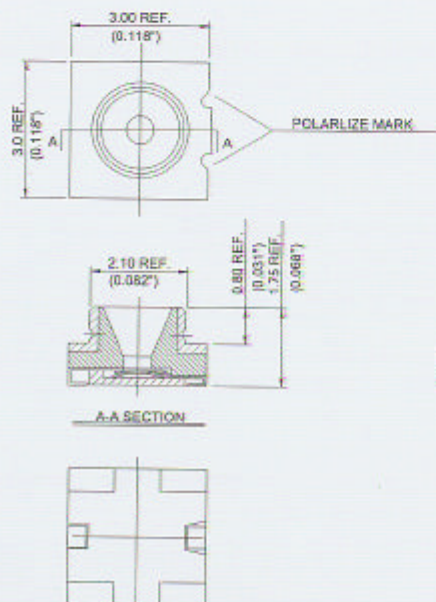
1. Cellular phone
2. Wireless Lan
3. Bluetooth
4. Cordless phone
5. GPS

◆ Conversion Adapter

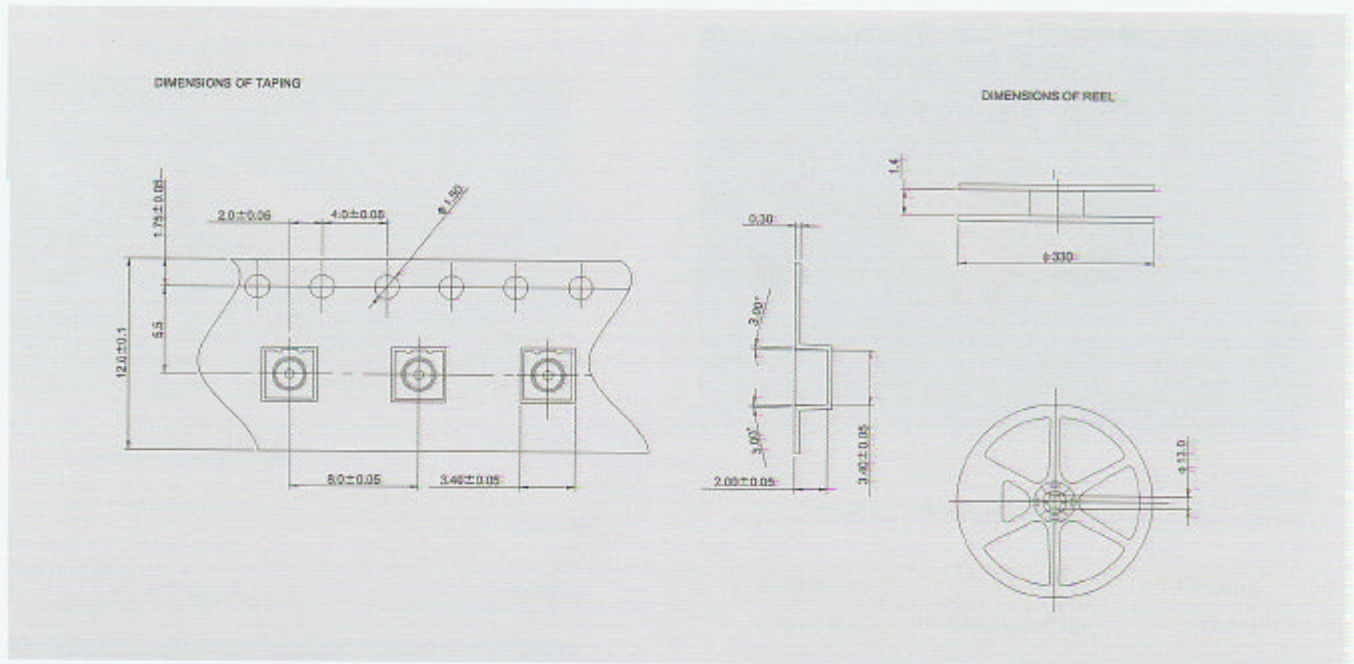
SMA Conversion Adapter & Mating Cable Plug



◆ Drawing



◆ Reel Package Specification



◆ RECOMMENDED TEMPERATURE PROFILE (REFERENCE)

