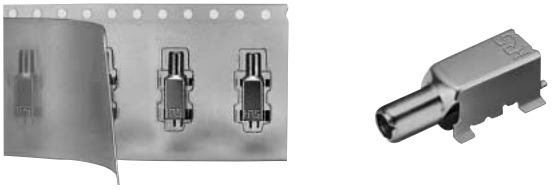
Coaxial Switches

MS-136 Series

Inspection Plug MS-136-C (P)



MS-136

■ Features

1.Simplification of Internal Output Checks

The high frequency signal can be simply switched by coupling or uncoupling.

2.Small, Lightweight Design

Switches are small and lightweight with a height of 3.6 mm, length of 11.5 mm, width of 4.6 mm, and weight of 0.5 g.

3.Suited to Automatic Mounting

Embossed tape packaging permits automatic mounting.

■ Product Specifications

Ratings	Frequency range Characteristic impedance Maximum Input Power	DC to 3 GHz 50 ohms 2 W	Operating temperature range Operating relative humidity	-30℃ to +85℃ (No freezing) 90% Max.

Item	Standard				Conditions
1.Contact resistance	50 m ohms max.				10 mA
2.Insulation resistance	1000 M ohms min.				100 V DC
3.Withstanding voltage	No flashover or insulation breakdown				100 V AC/one minute
4.V.S.W.R.	N•C	1.3 1.35 Max. 1.4	N•O	1.4 1.7 Max. 1.8	DC to 1 GHz 1 to 2 GHz 2 to 3 GHz
5.Insertion loss	N•C	0.3 dB 0.4 dB Max. 0.5 dB	N•O	0.3 dB 0.6 dB Max. 0.8 dB	DC to 1 GHz 1 to 2 GHz 2 to 3 GHz
6.Isolation	20 dB 16 dB Min. 14 dB				DC to 1 GHz 1 to 2 GHz 2 to 3 GHz
7.Vibration	No electrical discontinuity of 1μs or more Contact resistance: 70 m ohms max. No damage, cracks, or parts dislocation				Frequency of 10 to 55 Hz, overall amplitude of 1.5 mm for 2 hours in each of 3 directions
8.Shock					Acceleration of 490 m/s², sine half-wave waveform, 6 cycles in each of the 3 axis
9.Durability(Insertion/withdrawal)	70 mΩ or less				5000 cycles
10.Humidity	Contact resistance: 70 m ohms max. Insulation resistance: 10 M ohms min. No damage, cracks, or parts dislocation				96 hours at temperature of 40℃ and humidity of 90% to 95%
11.Temperature cycle	Contact resistance: 70 m ohms max. Insulation resistance: 1000 M ohms min. No damage, cracks, or parts dislocation				Temperature: -35℃ → +5℃ to +35℃ → +85℃ → +5℃ to +35℃ Time: 30 → 15 max. → 30 → 15 max. (Minutes) 5 cycles
12.Corrosion resistance	Contact resistance: 70 m ohms max. No serious corrosion				Exposed to 5% salt water solution for 48 hours

●The test method conforms to JIS.

●The temperature resistance cycle, humidity resistance, and shock resistance tests are verification tests of part deterioration and looseness, not tests to be conducted at time of switching or when conducting.

■ Applications

Portable terminals and mobile wireless equipment.

■Materials

MS-136

Part	Material	Finish
Outer conductor	Phosphor bronze	Gold plating
Insulator	Polyamide resin	——
Contact (A)	Phosphor bronze	Gold plating
Contact (B)	Beryllium copper	Gold plating

MS-136-C (P)

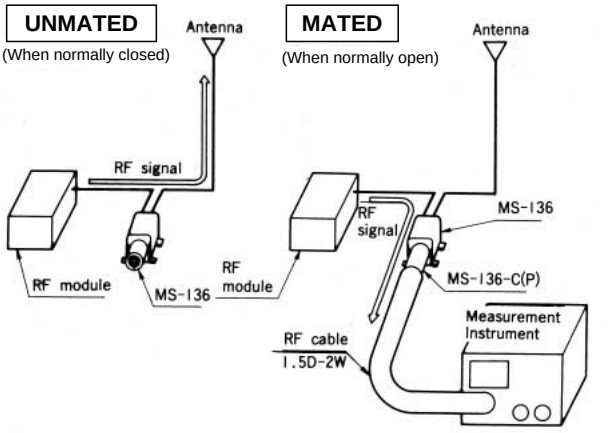
Part	Material	Finish
External ring	Phosphor bronze	Gold plating
Outer conductor	Phosphor bronze	Nickel plating
Male contact	Phosphor bronze	Gold plating
Insulator	PTFE	——
Crimp sleeve	Copper	Nickel plating

■Ordering Information

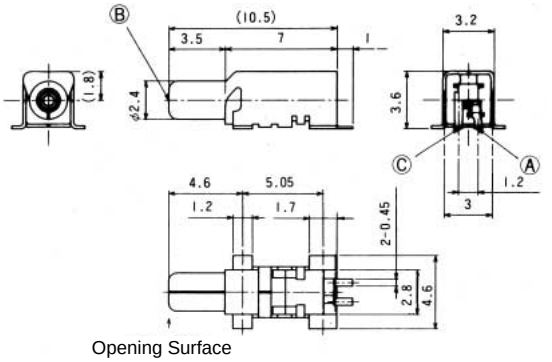
MS - 136 - C (P)
❶ ❷ ❸

❶ MS: Indicates coaxial switches (Mobile Switches)
❷ Series No.: 136
❸ C (P): Indicates a straight plug

■Application Diagram

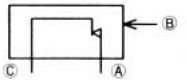


■External Dimensions



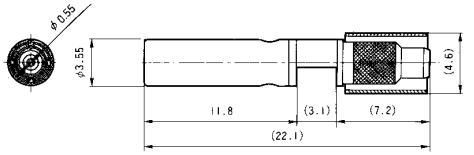
Opening Surface

The circuit structure is as described below.
Between Ⓐ and Ⓒ: Normally closed
Between Ⓑ and Ⓒ: Normally open



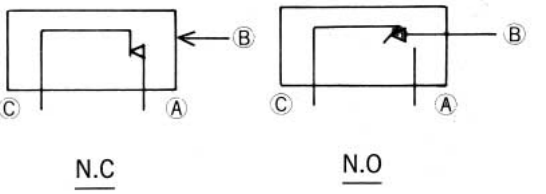
Part Number	Weight
MS-136	0.5g

Note: When ordering embossed tape packaged items, affix (06) to the end of the product number.

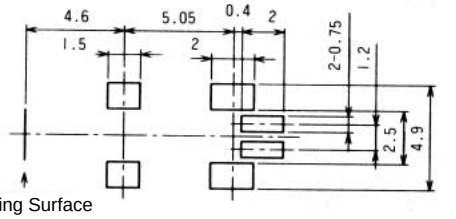


Part Number	Weight	Suitable Cable
MS-136-C (P)	1g	1.5D-2W (JIS standard)

■Circuit Diagram

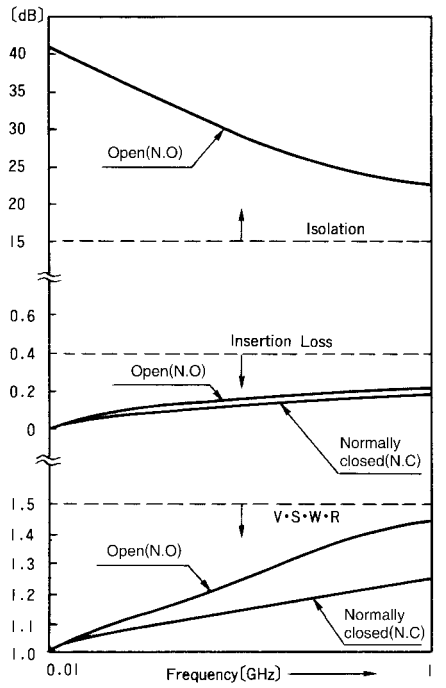


■PCB Mounting Pattern



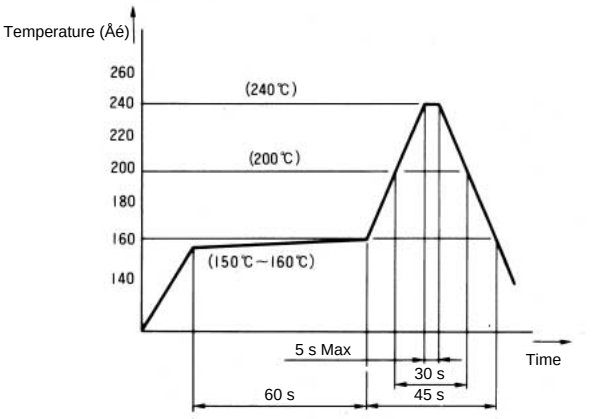
Opening Surface

■Typical Data



(When normally closed: MS-136 single item condition
When normally open: MS-136 and MS-136-C (P) coupled condition)

■Recommended Temperature Profile



When hand soldering is used, use a tip temperature of 280℃ or less and a soldering time of 3 seconds or less.