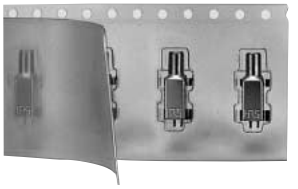
Coaxial Switches for Check Purposes

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

Rating	Frequency range	DC to 3 GHz	Operating temperature range	-30℃ to +85℃
	Characteristic impedance	50Ω		(No freezing)
	Maximum usable power	2 W	Operating relative humidity	90% or less

Item	Standard				Conditions
1.Contact resistance	50 mΩmax.				Measured at 10 mA
2.Insulation resistance	1000 MΩ min.				Measured at 100 V DC
3.Withstand voltage	No line or insulation breakdown				100 V AC for one minute
4.VSWR	N•C	1.3 1.35 or less 1.4	N•O	1.4 1.7 or less 1.8	Measured at DC to 1 GHz Measured at 1 to 2 GHz Measured at 2 to 3 GHz
5.Insertion loss	N•C	0.3 dB 0.4 dB or less 0.5 dB	N•O	0.3 dB 0.6 dB or less 0.8 dB	Measured at DC to 1 GHz Measured at 1 to 2 GHz Measured at 2 to 3 GHz
6.Reverse Direction Loss	20 dB 16 dB or greater 14 dB				Measured at DC to 1 GHz Measured at 1 to 2 GHz Measured at 2 to 3 GHz
7.Vibration resistance	No electrical disconnections of 1μs or greater Contact resistance: 70 mΩ max. No damage, cracks, or parts looseness				Frequency of 10 to 55 Hz, overall amplitude of 1.5 mm, in 3 axial directions, 2 hours each
8.Shock resistance	No electrical disconnections of 1μs or greater Contact resistance: 70 mΩ max. No damage, cracks, or parts looseness				490 m/s² acceleration, half sine wave, in 3 axial directions, 6 times each
9.Insertion/Withdrawal life	70 mΩ or less				5000 insertion/withdrawal cycles
10.Humidity resistance	Contact resistance: 70 mΩ max. Insulation resistance: 10 MΩ min. No damage, cracks, or parts looseness				Leave for 96 hours at a temperature of 40℃ and humidity of 90 to 95%
11.Temperature resistance cycle	Contact resistance: 70 mΩ max. Insulation resistance: 1000 MΩ min. No damage, cracks, or parts looseness				(-55℃: 30 min. → 5 to 35℃: 5 min. → 85℃: 30 min. →5 to 35℃: 5 min.) for 5 cycles
12.Corrosion resistance	Contact resistance: 70 mΩ max. No serious corrosion				Continuous immersion in 5% salt water 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	Processing
External conductor (B)	Phosphor bronze	Gold plating
Insulation	Polyamide resin	——
Contact (A)	Phosphor bronze	Gold plating
Contact (B)	Beryllium copper	Gold plating

MS-136-C (P)

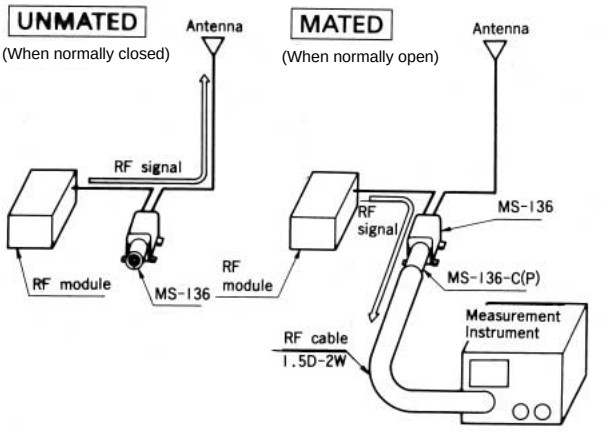
Part	Material	Processing
External ring	Phosphor bronze	Gold plating
External conductor	Phosphor bronze	Nickel plating
Male contact	Phosphor bronze	Gold plating
Insulation	Teflon	——
Crimp sleeve	Copper	Nickel plating

■Product Number Breakdown

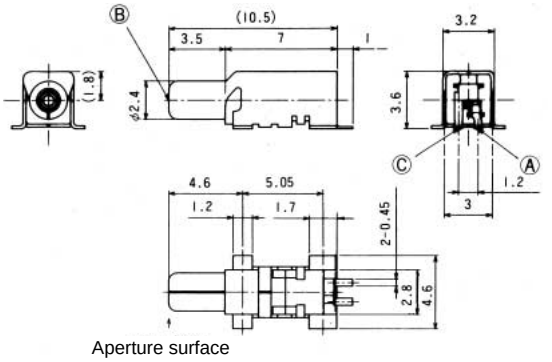
MS - 136 - C (P)
❶ ❷ ❸

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

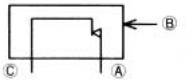
■Application Diagram



■External Dimensions

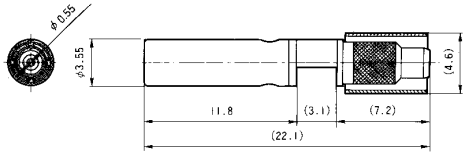


The circuit structure is as described below.
Between Ⓐ and Ⓒ: Normally closed
Between Ⓑ and Ⓒ: Normally open



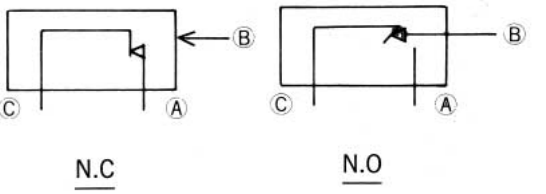
Product Number	Weight
MS-136	0.5g

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

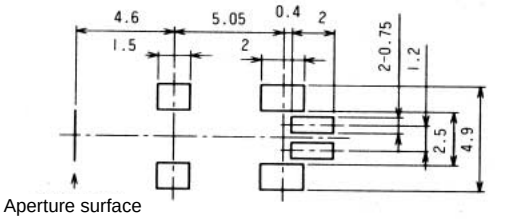


Product Number	Weight	Suitable Cable
MS-136-C (P)	1g	1.5D-2W (JIS standard)

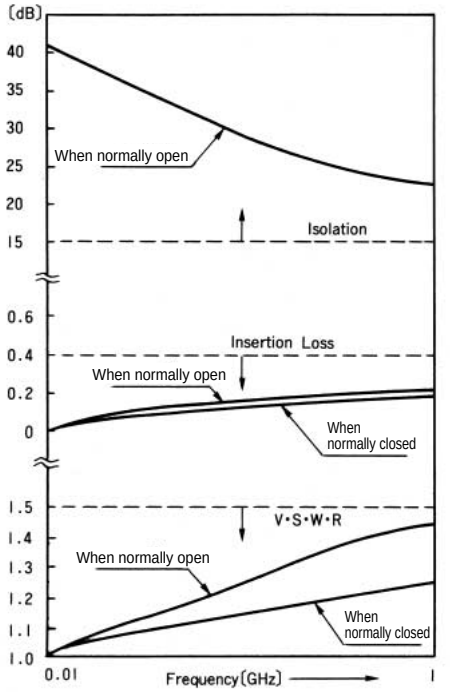
■Circuit Structure Diagram



■Recommended Board Pattern Diagram



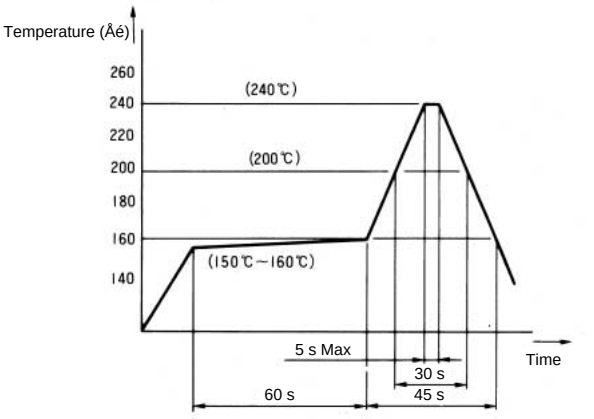
■Typical Data



(When normally closed: MS-135 single item condition
When normally open: MS-135 and MS-135-C (P) coupled condition)

■Recommended Temperature Profile

(VPS Reflow and IR Reflow)



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