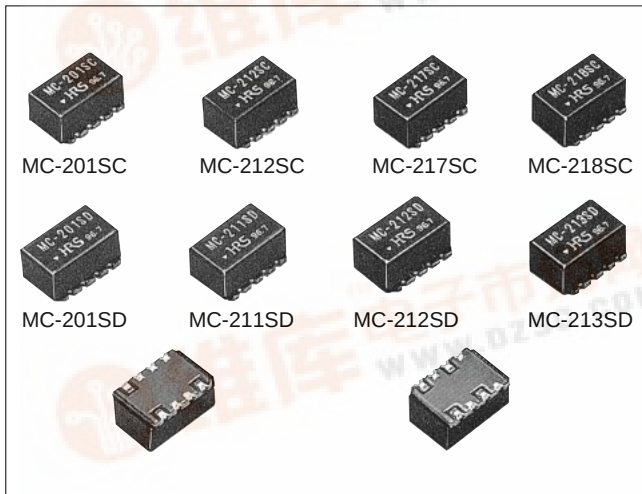


# Coil Components (SMD)

## MC-200SC and MC-200SD Series



### ■Features

#### 1.Excellent High Frequency Characteristics

Insertion loss: 0.6 dB TYP.

Phase balance:  $\pm 3^{\circ}$ deg TYP.

#### 2.Highly Reliable Design

PPS resin is used for the exterior cladding of the cover, glass epoxy substrate is used for the board material, and solder plating is used for the electrodes. All these factors contribute to excellent mechanical strength, heat resistance, and soldering qualities

#### 3.Suited to Automatic Mounting

Embossed tape packaging permits automatic mounting. (Individual delivery can also be accommodated.)

### ■Product Specifications

| Ratings | Frequency range (Note)<br>Characteristic impedance (Note)<br>Maximum Input Power | 30 to 370 MHz<br>50 ohms, 75 ohms<br>0.5 W | Operating temperature range<br>Operating relative humidity | -10°C to +65°C<br>95% Max. |
|---------|----------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------|----------------------------|
|---------|----------------------------------------------------------------------------------|--------------------------------------------|------------------------------------------------------------|----------------------------|

Note: The frequency range and the characteristic impedance will differ depending on the products.

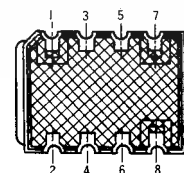
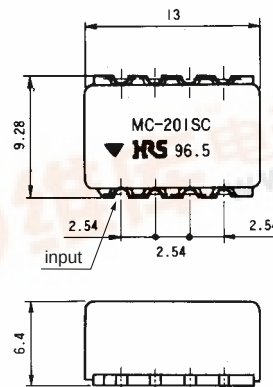
| Item                   | Standard                                | Conditions                                                                                                                        |
|------------------------|-----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| 1.Vibration            | No damage, cracks, or parts dislocation | Frequency of 10 to 2000 Hz, overall amplitude of 1.52 mm, acceleration of 98 m/s <sup>2</sup> for 4 hours in each of 3 directions |
| 2.Shock                |                                         | Acceleration of 294 m/s <sup>2</sup> , sine half-wave waveform, 3 cycles in each of the 3 axis                                    |
| 3.Temperature cycle    |                                         | (-60 to 55°C: 30 min. → 20 to 35°C: 15 min.<br>→ 125 to 128°C: 30 min. → 20 to 35°C: 15 min.)<br>for 100 cycles                   |
| 4.Corrosion resistance | No serious corrosion                    | Exposed to 5% salt water solution for 48 hours                                                                                    |

●The test method conforms to MIL-STD-202.

### ■Materials

| Part  | Material    | Finish         |
|-------|-------------|----------------|
| Board | Glass epoxy | Solder plating |
| Cover | PPS         | —              |

### ■External Dimensions



●The contact numbers are common for both the 0° type and the 90° type.

### ■Ordering Information

**MC - 201SC**  
① ② ③ ④ ⑤ ⑥

|                                                                          |                                                          |
|--------------------------------------------------------------------------|----------------------------------------------------------|
| ① Series Name: MC                                                        | ④ Suffix                                                 |
| ② Number of Divisions<br>Indicated by number of divisions of output.     | ⑤ Board Mounting Method<br>S : SMT type                  |
| ③ Phase Difference<br>Indicated by phase difference of output.<br>0 : 0° | ⑥ Characteristic Impedance<br>C : 75 ohms<br>D : 50 ohms |

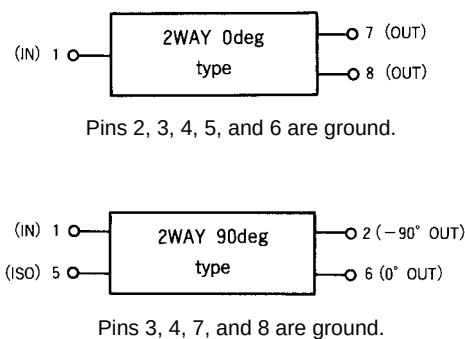
## ■Specifications

| Part Number | Frequency Range (MHZ) | Phase Difference (deg) | ※ above 3dB Insertion Loss (dB Max) | Isolation (dB Min) | V.S.W.R. (Max) | Balance     |                | Impedance (ohms) | Weight (g) |
|-------------|-----------------------|------------------------|-------------------------------------|--------------------|----------------|-------------|----------------|------------------|------------|
|             |                       |                        |                                     |                    |                | Phase (deg) | Amplitude (dB) |                  |            |
| MC-201SC    | 30~200                | 0                      | 0.6                                 | 20                 | 1.3            | ±3          | ±0.1           | 75               | 1          |
| MC-212SC    | 50~ 95                | - 90                   | 0.6                                 | 20                 | 1.2            | ±3          | ±0.5           | 75               | 1          |
| MC-217SC    | 45~ 70                | - 90                   | 0.6                                 | 20                 | 1.2            | ±3          | ±0.5           | 75               | 1          |
| MC-218SC    | 70~100                | - 90                   | 0.6                                 | 20                 | 1.2            | ±3          | ±0.5           | 75               | 1          |
| MC-201SD    | 30~230                | 0                      | 0.6                                 | 20                 | 1.3            | ±3          | ±0.15          | 50               | 1          |
| MC-211SD    | 170~230               | - 90                   | 0.6                                 | 20                 | 1.2            | ±3          | ±0.5           | 50               | 1          |
| MC-212SD    | 45~104                | - 90                   | 0.6                                 | 20                 | 1.2            | ±3          | ±0.5           | 50               | 1          |
| MC-213SD    | 330~370               | - 90                   | 1.3                                 | 16                 | 1.4            | ±4          | ±0.5           | 50               | 1          |

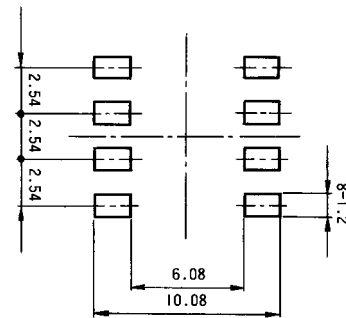
Note 1: The insertion loss of the 2-way 90° type is the average output of the 0° port and the -90° port minus 3 dB coupling.

Note 2: When ordering items with embossed tape packaging, affix (06) to the end of the product number. One reel contains 500 pieces.

## ■Function Diagram



## ■PCB Mounting Pattern



●Please apply resist processing to the area around the electrode pads.

## ■Precautions

|                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.Soldering<br>(1)Recommended temperature profile | <p>The graph shows the recommended temperature profile for reflow soldering. The y-axis represents temperature in degrees Celsius, ranging from 100 to 300. The x-axis represents time in seconds, divided into three phases: Preheating (40 to 120 s), Soldering (20 to 60 s), and Slow cooling (Natural cooling for 1 minute Min.). The temperature starts at approximately 130°C, rises during preheating to a peak of 210-230°C during the soldering phase, and then gradually decreases during slow cooling.</p> <p>Note 1: Up to 2 cycles of reflow soldering are possible under the same conditions, provided that there is a return to normal temperature between the first and second cycle.</p> <p>Note 2: The temperature profile indicates the board surface temperature at the point of contacts with the connector terminals (for surface mounted receptacle).</p> |
| (2)Recommended manual soldering                   | Manual soldering: 260°C for 10 seconds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| (3)Recommended screen thickness                   | 0.15 mm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 2.Product Storage                                 | <p>①After opening the package reseal promptly or store in a desiccator with a desiccant.</p> <p>②Store in a place that is not exposed to harmful gases which include sulfur or chlorine, etc.</p> <p>③Use within one year of delivery.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## Typical Data

