Microwave Coaxial Connectors

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Cat.No.O30E-8

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for EU RoHS Compliant

- All the products on this catalog are complied with EU RoHS.
- EU RoHS is "the European Directive 2002/95/EC on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment".
- For more details, please refer to our website ‘Murata’s Approach for EU RoHS’ (http://www.murata.com/info/rohs.html).
<table>
<thead>
<tr>
<th>Part Numbering</th>
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<tbody>
<tr>
<td>1</td>
<td>Microwave Coaxial Connectors with Switch SWF Type</td>
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<td>Notice</td>
</tr>
<tr>
<td></td>
<td>Package</td>
</tr>
<tr>
<td>2</td>
<td>Microwave Coaxial Connectors with Switch SWD Type</td>
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<tr>
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<td>Notice</td>
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<td>Package</td>
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<td>3</td>
<td>Ultra Miniature SMT HSC Type</td>
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<td></td>
<td>Package</td>
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<tr>
<td></td>
<td><strong>Miniaturized Microwave Coaxial Connector Cable List</strong></td>
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**Coaxial Connectors (with Cable)**

(Part Number)  **MM | 7329 | -27 | 00 | R | A1**

<table>
<thead>
<tr>
<th><strong>Product ID</strong></th>
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<td><strong>Product ID</strong></td>
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<tr>
<td>MM</td>
<td>Microwave Coaxial Connectors (Chip Type Receptacle)</td>
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<table>
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<tr>
<th><strong>Coaxial Connectors (with Cable)</strong></th>
<th><strong>Coaxial Connectors (with Cable)</strong></th>
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<tr>
<td>Code</td>
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<td>XX</td>
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<tr>
<th><strong>Length</strong></th>
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<td>Ex.) Code</td>
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<tr>
<td>5000</td>
<td>10001</td>
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<tr>
<td>500mm = 500 x 10^0</td>
<td>1000mm = 100 x 10^1</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Individual Specification Code</strong></th>
<th><strong>Individual Specification Code</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Expressed by two sign.</td>
<td>Expressed by two sign.</td>
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</table>
**Features**

1. The coaxial connector with switch is very useful for characteristic measurement Cellular phone and microwave circuit.
2. It is possible to switch the line connection and disconnection easily by special probe.
3. Small size, low profile, size 2.5x2.5x1.4mm (LxWxH)
4. Excellent characteristics, low IL 0.2dB max. V.S.W.R. 1.3 max. Isolation 15dB min. (DC to 6GHz)
5. Surface mountable and reflow solderable
6. Tape package available

**Applications**

Cellular phone, W-LAN, Other wireless and measurement equipment

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Rated Voltage (Vrms)</th>
<th>Contact Resistance (max.) (ohm)</th>
<th>Withstand Voltage (Vrms)</th>
<th>Insulation Resistance (M ohm)</th>
<th>Durability (cycles)</th>
<th>Frequency Rating</th>
<th>Temperature Range (degree C)</th>
<th>VSWR</th>
<th>Insertion Loss (On) (dB)</th>
<th>Isolation (Off) (dB)</th>
<th>Inner Electrode (C)</th>
<th>Inner Electrode (R) (material)</th>
<th>Outer Electrode (material)</th>
<th>Impedance: 50ohm</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM8130-2600</td>
<td>250</td>
<td>0.07</td>
<td>300 (AC)</td>
<td>500</td>
<td>100</td>
<td>6GHz</td>
<td>-40 to +65</td>
<td>1.2 max.</td>
<td>0.1 max.</td>
<td>20 min.</td>
<td>Stainless Steel</td>
<td>Gold plated</td>
<td>Stainless Steel, Gold plated</td>
<td></td>
</tr>
</tbody>
</table>

Impedance: 50ohm

**Measurement Probe Dimensions**

MM126036

MXHS83QE3000

Continued on the following page.
■ Standard Land Dimensions

1. Standard Pattern Dimensions

- I/O pattern should be designed to match 50 ohm impedance circuit.
- Typical PCB material is glass epoxy (\(\varepsilon_r = 4.8\)). Thickness is 1.0mm.
- The solder resist should be printed except for the land pattern on the PCB.

2. Standard Solder Stencil Mask Pattern

Follow standard solder stencil mask pattern to avoid the possibility of solder being trapped under connector.
1. Environment Conditions

(1) This product is designed for use in electrical equipment in the environment (temperature, humidity, atmospheric pressure, etc.) specified in this approval drawing. It may not be used in the following environments or under the following conditions:

(a) Ambient air containing corrosive gas
   (Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
(b) Ambient air containing volatile or combustible gas
(c) In liquid (water, oil, chemical solution, organic solvents, etc.)
(d) In environments with a high concentration of airborne particles
(e) In direct sunlight
(f) Dusty conditions
(g) In freezing
(h) Other environments similar to the above conditions

(2) Contact the manufacturer before using the product in any of the above environments or under any of the above conditions.

2. Storage

Store in manufacturer's package or tightly re-closed box with the following conditions. Use this product within 6 months after receipt. Check the terminal solderability before use if the product has been stored for more than 6 months.

Temperature: -10 to +40 degree C
Humidity: 15 to 85% RH
1. Reflow soldering
   Solders must be carried out without exceeding the acceptable soldering temperature and time shown within the shaded area of Figure "Allowable Temperature and Time of Reflow Soldering". In case the soldering is repeated, the maximum time in Figure "Allowable Temperature and Time of Reflow Soldering" should be accumulated. The standard soldering conditions are shown in Figure "Reflow Soldering Standard Conditions". Follow standard solder stencil mask pattern to avoid the possibility of solder being trapped under connector.

2. Soldering by soldering iron
   Soldering by soldering iron should be carried out in accordance with the following conditions.
   - Pre-heating: Temperature 150°C, Time 60 to 120 s.
   - Soldering: Temperature (at the tip of the soldering iron) less than 350°C, Time less than 3 s.

3. We cannot warrant against mishaps caused by any use of this product that deviates from allowable temperature and time of reflow soldering.

4. In soldering, do not apply excessive mechanical force to terminals or leads greater than specified in the drawing.

5. Please note the following in case of soldering terminals or leads of the product.
   (1) Use Rosin based flux, but not with strong acid flux (Chlorine content should be less than 0.20wt%).
   (2) Flux should be thoroughly cleaned from connector to prevent possible deterioration of electrical characteristics.

6. Please mount this product at the position so that stress by wrap and/or bend of the PCB may not apply to it.

7. Please avoid the cleaning of this product.
1. Automatic Measurement Probe (MM126036)
   - Automatic measurement probe (MM126036) should be
     used on the condition in Fig. 1 for good connection
     without any damages.
   - The engagement strokes from the flange to the tip of
     probe is 18.28mm to 19.78mm with vertical (0+/2 degree)
     direction.

2. L Type Probe with Locking Function
   (MXHS83QE3000, MXHS83QH3000)
   - Do not try to pull the cable, when a connector with a
     coaxial cable is handled.
   - Do not give a twisted torque to the cable and connector.
   - Mechanical stress:
     The stress to the connector should be limited as figure
     shown right.
     (1) Stress to the housing.
         Stress A and B: 0.5N max.
     (2) Stress to the outer sleeve.
         Stress C: 0.6N max.
         Stress D: 0.6N max.
     (3) Cable pull strength.
         Stress E: 0.5N max.

3. Usage Condition
   (1) Do not apply electrical voltage greater than specified
       in the catalog. It might cause degradation or
       destruction of the product. Even if it endures during a
       short time, long time qualification is not guaranteed.
   (2) Confirm that product performance is not influenced
       with any other components or materials which
       directly contact products.

4. Handling
   Do not apply excessive shock or load to subassembly
   products such as soldered printed circuit board in case
   handling or transporting.
Minimum Quantity

MM8130-2600RB8: 330 mm dia. reel/8000 pcs.
MM8130-2600B: Bulk/free
Features

1. The coaxial connector with switch is very useful for characteristic measurement of hand held phone and microwave circuit.
2. It is possible to switch the line connection and disconnection easily by special probe.
3. Small size, low profile, size 3x3x1.75mm (LxWxH)
4. Excellent characteristics, low IL 0.2dB max. V.S.W.R. 1.3 max. Isolation 15dB min. (DC to 6GHz)
5. Surface mountable and reflow solderable
6. Tape package available

Applications

Cellular phone, W-LAN, Other wireless and measurement equipment

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Rated Voltage (Vrms)</th>
<th>Contact Resistance (max.) (ohm)</th>
<th>Withstand Voltage (Vrms)</th>
<th>Insulation Resistance (M ohm)</th>
<th>Durability (cycles)</th>
<th>Frequency Range (degree C)</th>
<th>VSWR</th>
<th>Insertion Loss (On) (dB)</th>
<th>Isolation (Off) (dB)</th>
<th>Inner Electrode (C)</th>
<th>Inner Electrode (R) (material)</th>
<th>Inner Electrode (material)</th>
<th>Impedance (Ohm)</th>
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</thead>
<tbody>
<tr>
<td>MM8430-2610</td>
<td>250</td>
<td>0.05</td>
<td>300 (AC)</td>
<td>500</td>
<td>500</td>
<td>-40 to +45</td>
<td>1.2 max. DC to 3GHz</td>
<td>0.1 max. DC to 3GHz</td>
<td>20 min. (DC to 3GHz)</td>
<td>Stainless Steel</td>
<td>Copper Alloy</td>
<td>Copper Alloy</td>
<td>50 ohm</td>
</tr>
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</table>

Impedance: 50ohm

Measurement Probe Dimensions

MM126036

MXHS83QE3000

Continued on the following page.
**Standard Land Dimensions**

1. **Standard pattern dimensions**
   - I/O pattern should be designed to match 50 ohm impedance circuit.
   - Typical PCB material is glass epoxy (εr=4.8). Thickness is 1.0mm.
   - The solder resist should be printed except for the land pattern on the PCB.

2. **Standard solder stencil mask pattern**
   Follow Standard solder stencil mask pattern to avoid the possibility of solder being trapped under connector.
1. Environment Conditions
   (1) This product is designed for use in electrical equipment in the environment (temperature, humidity, atmospheric pressure, etc.) specified in this approval drawing. It may not be used in the following environments or under the following conditions:
   (a) Ambient air containing corrosive gas
       (Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
   (b) Ambient air containing volatile or combustible gas
   (c) In liquid (water, oil, chemical solution, organic solvents, etc.)
   (d) In environments with a high concentration of airborne particles
   (e) In direct sunlight
   (f) Dusty conditions
   (g) In freezing
   (h) Other environments similar to the above conditions

   (2) Contact the manufacturer before using the product in any of the above environments or under any of the above conditions.

2. Storage
   Store in manufacturer's package or tightly re-closed box with the following conditions. Use this product within 6 months after receipt. Check the terminal solderability before use if the product has been stored for more than 6 months.
   Temperature: -10 to +40 degree C
   Humidity: 15 to 85% RH
1. Reflow soldering
   Soldering must be carried out without exceeding the allowable soldering temperature and time shown within the shaded area of Figure "Allowable Temperature and Time of Reflow Soldering". In case the soldering is repeated, the maximum time in Figure "Allowable Temperature and Time of Reflow Soldering" should be accumulated time. The standard soldering conditions are shown in Figure "Reflow Soldering Standard Conditions". Follow standard solder stencil mask pattern to avoid the possibility of solder being trapped under connector.

2. Soldering by soldering iron
   Soldering by soldering iron should be carried out in accordance to the following conditions.
   Pre-heating  Temperature  150°C
   Time  60 to 120 s.
   Soldering  Temperature (at the tip of the soldering iron) less than 350°C
   Time  less than 3 s.

3. We cannot warrant against mishaps caused by any use of this product that deviates from allowable temperature and time of reflow soldering.

4. In soldering, do not apply excessive mechanical force to terminals or leads greater than specified in the drawing.

5. Please note the following in case of soldering terminals or leads of the product.
   (1) Use Rosin based flux, but not with strong acid flux (Chlorine content should be less than 0.20wt%).
   (2) Flux should be thoroughly cleaned from connector to prevent possible deterioration of electrical characteristics.

6. Please mount this product at the position so that stress by wrap and/or bend of the PCB may not apply to it.

7. Please avoid the cleaning of this product.
1. Automatic Measurement Probe (MM126036)
   - Automatic measurement probe (MM126036) should be used under conditions in Fig. 1 for good connection without any damages.
   - The engagement strokes from the flange to the tip of probe is 18.28mm to 19.78mm with vertical (0±2°) direction.

2. L Type Probe with Locking Function (MXH83QE3000, MXH83QH3000)
   - Avoid pulling cable when probe is locked into connector.
   - Avoid twisting probe or cable when engaging or disengaging from connector.
   - Mechanical stress:
     The stress to the connector should be limited as figure shown right.
     (1) Stress to the housing.
         Stress A and B: 0.5N max.
     (2) Stress to the outer sleeve.
         Stress C: 0.6N max.
         Stress D: 0.6N max.
     (3) Cable pull strength.
         Stress E: 0.5N max.

3. Usage Condition
   (1) Do not apply electrical voltage greater than specified in the catalog. It might cause degradation or destruction of the product. Even if it endures during a short time, long time qualification is not guaranteed.
   (2) Confirm that product performance is not influenced with any other components or materials which directly contact products.

4. Handling
   Avoid excessive stress when handling and transporting printed circuit board after connector and/or assembly has been secured to PCB.
Minimum Quantity

MM8430-2610RA1: dia.180 mm reel/1000 pcs.
MM8430-2610RB3: dia.330 mm reel/3000 pcs.
MM8430-2610B: Bulk/free
Features
1. The mating height is only 1.2mm maximum by new mechanical design. Suitable for low profile design.
2. New mating mechanical design makes stable feeling connection.
3. Soft and ultra thin 0.81mm diameter flexible coaxial cables is available.
4. High performance with wide frequency range (DC to 6GHz). VSWR at 3GHz to 6GHz is 1.45 maximum.

Applications
Portable telephone, cordless telephone (analog and digital), GPS, and other microwave radio and measurement equipment.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Rated Voltage (V)</th>
<th>Contact Resistance (max.) (ohm)</th>
<th>Withstanding Voltage (rms) (V)</th>
<th>Insulation Resistance min. (M ohm)</th>
<th>Durability (cycles)</th>
<th>Frequency Rating (GHz)</th>
<th>Temperature Range (degree C)</th>
<th>VSWR</th>
<th>Center Contact</th>
<th>Outer Contact</th>
<th>Insulator</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM4829-2702</td>
<td>250</td>
<td>0.020</td>
<td>300 (AC)</td>
<td>500</td>
<td>30</td>
<td>to 6.0</td>
<td>-40 to +85</td>
<td>1.3 max. (DC to 3GHz)</td>
<td>Copper Alloy</td>
<td>Copper Alloy</td>
<td>Engineering</td>
</tr>
</tbody>
</table>

Impedance: 50 ohm

Measurement Adapter Dimensions (for Receptacle)
Note: Please read rating and caution (for storage, operating, rating, soldering, mounting, and handling) in this catalog to prevent smoking and/or burning, etc.

This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.

Disengagement Tool (Part Number: M1900)

Profile Dimensions

Table: Cable Length L (mm) and Dimensional Tolerance (mm)

<table>
<thead>
<tr>
<th>Length</th>
<th>Dimensional Tolerance</th>
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<tbody>
<tr>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>500</td>
<td>1000</td>
</tr>
<tr>
<td>1000</td>
<td></td>
</tr>
</tbody>
</table>

Cable Length Tolerance:
- +2% of L
- -0% of L

Profile Dimensions:
- HSC
- Diameter 2.7
- Cable Length L (mm)
- Measurement Adapter Dimensions (for Cable Assembly)

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Note O30E.pdf
07.9.3
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2. Standard solder stencil mask pattern

Follow Standard solder stencil mask pattern to avoid the possibility of solder being trapped under connector.
1. Environment Conditions
   (1) This product is designed for use in electrical equipment in the environment (temperature, humidity, atmospheric pressure, etc.) specified in this approval drawing. It may not be used in the following environments or under the following conditions:
   (a) Ambient air containing corrosive gas
       (Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
   (b) Ambient air containing volatile or combustible gas
   (c) In liquid (water, oil, chemical solution, organic solvents, etc.)
   (d) In environments with a high concentration of airborne particles
   (e) In direct sunlight
   (f) Dusty conditions
   (g) In freezing
   (h) Other environments similar to the above conditions
   (2) Contact the manufacturer before using the product in any of the above environments or under any of the above conditions.

2. Storage
   Store in manufacturer's package or tightly re-closed box with the following conditions. Use this product within 6 months after receipt. Check the terminal solderability before use if the product has been stored for more than 6 months.
   Temperature: -10 to +40 degree C
   Humidity: 15 to 85% RH
1. Reflow soldering
   Reflow soldering must be carried out without exceeding the
   allowable soldering temperature and time shown within
   the shaded area of Figure "Allowable Temperature and
   Time of Reflow Soldering". In case the soldering is repeated, the maximum time in
   Figure "Allowable Temperature and Time of Reflow Soldering" should be accumulated time. The standard
   soldering conditions are shown in Figure "Reflow
   Soldering Standard Conditions".

   Use the Pattern and Metal mask pattern is illustrated in
   details.

   Follow standard solder stencil mask pattern to avoid
   the possibility of solder being trapped under connector.

2. Soldering by soldering iron
   Soldering by soldering iron should be carried out in
   accordance to the following conditions.

   Pre-heating
   Temperature 150°C
   Time 60 to 120 s.

   Soldering
   Temperature (at the tip of the soldering
   iron) less than 350°C
   Time less than 3 s.

3. We cannot warrant against mishaps caused by any use
   of this product that deviates from allowable temperature
   and time of reflow soldering.

4. In soldering, do not apply excessive mechanical force to
   terminals or leads greater than specified in the drawing.

5. Please note the following in case of soldering terminals
   or leads of the product.
   (1) Use Rosin based flux, but not with strong acid flux
       (Chlorine content should be less than 0.20wt%).
   (2) Flux should be thoroughly cleaned from connector
       to prevent possible deterioration of electrical
       characteristics.

6. Please mount this product at the position so that stress
   by wrap and/or bend of the PCB may not apply to it.

7. Please dry out this product immediately after soldering
   and cleaning.

---

Notice (Soldering and Mounting)

Soldering must be carried out without exceeding the
allowable soldering temperature and time shown within
the shaded area of Figure "Allowable Temperature and
Time of Reflow Soldering".

In case the soldering is repeated, the maximum time in
Figure "Allowable Temperature and Time of Reflow
Soldering" should be accumulated time. The standard
soldering conditions are shown in Figure "Reflow
Soldering Standard Conditions".

Use the Pattern and Metal mask pattern is illustrated in
details.

Follow standard solder stencil mask pattern to avoid
the possibility of solder being trapped under connector.

2. Soldering by soldering iron
   Soldering by soldering iron should be carried out in
   accordance to the following conditions.

   Pre-heating
   Temperature 150°C
   Time 60 to 120 s.

   Soldering
   Temperature (at the tip of the soldering
   iron) less than 350°C
   Time less than 3 s.

3. We cannot warrant against mishaps caused by any use
   of this product that deviates from allowable temperature
   and time of reflow soldering.

4. In soldering, do not apply excessive mechanical force to
   terminals or leads greater than specified in the drawing.

5. Please note the following in case of soldering terminals
   or leads of the product.
   (1) Use Rosin based flux, but not with strong acid flux
       (Chlorine content should be less than 0.20wt%).
   (2) Flux should be thoroughly cleaned from connector
       to prevent possible deterioration of electrical
       characteristics.

6. Please mount this product at the position so that stress
   by wrap and/or bend of the PCB may not apply to it.

7. Please dry out this product immediately after soldering
   and cleaning.

---

![Reflow Soldering Standard Conditions](image)

**Allowable Temperature and Time of Reflow Soldering**

- **Temperature (°C)**
- **Time (sec.)**
- **Temperature (°C)**
- **Time (sec.)**
- **Temperature (°C)**
- **Time (sec.)**
- **Temperature (°C)**
- **Time (sec.)**
- **Temperature (°C)**
- **Time (sec.)**
- **Temperature (°C)**
- **Time (sec.)**

**Reflow Soldering Standard Conditions**

- **Pre-heating**
- **Peak temperature**
- **Measuring point of temperature**
  - In-Out Terminals of the Device
  - Both Convection and Infrared
  - Hot Air
  - Hot Plate

Continued on the following page.
1. Usage Condition
(1) Do not apply electrical voltage greater than specified in the drawing. It might cause degradation or destruction of the product. Even if it endures during a short time, long time qualification is not guaranteed.
(2) Confirm product’s performance is not influenced by contact of other components.
(3) Please contact the manufacturer beforehand, if the product is to be used in frequently bent position.

2. Handling
(1) Avoid excessive stress when handling and transporting printed circuit board after connector and/or assembly has been secured to PCB.
(2) Do not try to pull the cable, when a connector with a coaxial cable is handled.
(3) Disregarding the following notes could cause mechanical damage and/or poor electrical performance.

3. Handling Instructions
(1) Cable is designed to fit only with MM4829-2702 receptacle. Any other receptacle cannot be used with this cable.
(2) Disengagement:
   Use tool P/N M19100 to insert or remove cable in a vertical direction from receptacle. Avoid pulling only the cable to prevent cable damage.
(3) Avoid twisting probe or cable when engaging or disengaging from connector.
(4) Mechanical stress:
   The stress to the connector should be limited as shown in Figure 1.
   (a) Stress to the housing.
      Stress A and B: 5.0N max.
   (b) Stress to the outer sleeve.
      Stress C: 1.0N max.
      Stress D: 1.0N max.
   (c) Cable pull strength.
      Stress E: 5.0N max.

Figure 1. Mechanical stress after engagement
Minimum Quantity

MM4829-2702RA4: 180 mm dia. reel/4000 pcs.
MM4829-2702RB0: 330 mm dia. reel/10000 pcs.
MM4829-2702B: Bulk/free
## Features

1. The mating height is only 2mm maximum by new mechanical design. Suitable for low profile design.
2. New mating mechanical design makes stable feeling connection.
3. Soft and ultra thin 0.8mm diameter flexible coaxial cables is available.
4. High performance with wide frequency range (DC to 6GHz). VSWR at DC to 3GHz is 1.2 maximum. VSWR at 3GHz to 6GHz is 1.3 maximum.

## Applications

Portable telephone, cordless telephone (analog and digital), GPS, and other microwave radio and measurement equipment.

---

### Measurement Adapter Dimensions (for Receptacle)

**MM121470** (Hand measurement)

**MM121471** (Automatic measurement)

---

Impedance: 50ohm

---

**Part Number**

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Rated Voltage (V)</th>
<th>Contact Resistance (max.) (ohm)</th>
<th>Withstanding Voltage (rms) (V)</th>
<th>Insulation Resistance (min.) (M ohm)</th>
<th>Durability (cycles)</th>
<th>Frequency Rating (GHz)</th>
<th>Temperature Range (degree C)</th>
<th>VSWR</th>
<th>Center Contact</th>
<th>Outer Contact</th>
<th>Insulator</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM9329-2700</td>
<td>250</td>
<td>0.015</td>
<td>300 (AC)</td>
<td>500</td>
<td>100</td>
<td>to 6.0</td>
<td>-40 to +90</td>
<td>1.2 max.</td>
<td>Copper Alloy</td>
<td>Gold plated</td>
<td>Copper Alloy Silver plated</td>
</tr>
</tbody>
</table>

---

Continued on the following page.
**Disengagement Tool (Part Number: M22001)**

**Profile Dimensions**

<table>
<thead>
<tr>
<th>Cable Length L (mm) ((\ast))</th>
<th>Dimensional Tolerance (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over</td>
<td>40</td>
</tr>
<tr>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>1000</td>
<td>–</td>
</tr>
</tbody>
</table>

\(\ast\) L must be 20mm Min.

---

Note: Please read and understand the caution (for storage, operating, rating, soldering, mounting, and handling) in this catalog to prevent smoking and/or burning, etc.

*This PDF catalog is downloaded from the website of Murata Manufacturing Co., Ltd. Therefore, its specifications are subject to change or our products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering.*

*This PDF catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.*

---

**Measurement Adapter Dimensions (for Cable Assembly)**

Continued on the following page.
2. Standard solder stencil mask pattern

Follow Standard solder stencil mask pattern to avoid the possibility of solder being trapped under connector.

- Typical PCB material is glass epoxy (ε=4.8). Thickness is 1.0mm
- The solder resist should be printed except for the land pattern on the PCB.
1. Environment Conditions
   (1) This product is designed for use in electrical equipment in the environment (temperature, humidity, atmospheric pressure, etc.) specified in this approval drawing. It may not be used in the following environments or under the following conditions:
   (a) Ambient air containing corrosive gas
       (Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
   (b) Ambient air containing volatile or combustible gas
   (c) In liquid (water, oil, chemical solution, organic solvents, etc.)
   (d) In environments with a high concentration of airborne particles
   (e) In direct sunlight
   (f) Dusty conditions
   (g) In freezing
   (h) Other environments similar to the above conditions
   (2) Contact the manufacturer before using the product in any of the above environments or under any of the above conditions.

2. Storage
   Store in manufacturer's package or tightly re-closed box with the following conditions. Use this product within 6 months after receipt. Check the terminal solderability before use if the product has been stored for more than 6 months.
   Temperature: -10 to +40 degree C
   Humidity: 15 to 85% RH
1. Reflow soldering
   Soldering must be carried out without exceeding the allowable soldering temperature and time shown within the shaded area of Figure "Allowable Temperature and Time of Reflow Soldering". In case the soldering is repeated, the maximum time in Figure "Allowable Temperature and Time of Reflow Soldering" should be accumulated time. The standard soldering conditions are shown in Figure "Reflow Soldering Standard Conditions".
   Follow recommended solder stencil mask pattern to avoid the possibility of solder being trapped under connector.

2. Soldering by soldering iron
   Soldering by soldering iron should be carried out in accordance to the following conditions.
   Pre-heating  Temperature  150°C  
   Time  60 to 120 s.  
   Soldering  Temperature (at the tip of the soldering iron) less than 350°C  
   Time  less than 3 s.  

3. We cannot warrant against mishaps caused by any use of this product that deviates from allowable temperature and time of reflow soldering.

4. In soldering, do not apply excessive mechanical force to terminals or leads greater than specified in the drawing.

5. Please note the following in case of soldering terminals or leads of the product.
   (1) Use Rosin based flux, but not with strong acid flux (Chlorine content should be less than 0.20wt%).
   (2) Flux should be thoroughly cleaned from connector to prevent possible deterioration of electrical characteristics.

6. Please mount this product at the position so that stress by wrap and/or bend of the PCB may not apply to it.

7. Please dry out this product immediately after soldering and cleaning.

Continued on the following page.
1. Usage Condition
   (1) Do not apply electrical voltage greater than specified in the drawing. It might cause degradation or destruction of the product. Even if it endures during a short time, long time qualification is not guaranteed.
   (2) Confirm product’s performance is not influenced by contact of other components.
   (3) Please contact the manufacturer beforehand, if the product is to be used in frequently bent position.

2. Handling
   (1) Avoid excessive stress when handling and transporting printed circuit board after connector and/or assembly has been secured to PCB.
   (2) Do not try to pull the cable, when a connector with a coaxial cable is handled.
   (3) Disregarding the following notes could cause mechanical damage and/or poor electrical performance.

3. Handling Instructions
   (1) Cable is designed to fit only with MM9329-2700 receptacle. Any other receptacle cannot be used with this cable.
   (2) Disengagement:
       Use tool P/N M22001 to insert or remove cable in a vertical direction from receptacle. Avoid pulling only the cable to prevent cable damage.
   (3) Avoid twisting probe or cable when engaging or disengaging from connector.
   (4) Mechanical stress:
       The stress to the connector should be limited as shown in Figure 1.
       (a) Stress to the housing.
           Stress A and B: 5.0N max.
       (b) Stress to the outer sleeve.
           Stress C: 3.0N max.
           Stress D: 2.0N max.
       (c) Cable pull strength.
           Stress E: 5.0N max.

---

Figure 1. Mechanical Stress after Engagement
**Minimum Quantity**

MM9329-2700RA1: dia.180 mm reel/1000 pcs.
MM9329-2700RB5: dia.330 mm reel/5000 pcs.
MM9329-2700B: Bulk/free
■ Features
1. High engagement
2. Miniature (LxWxH: 3.4x3.4x1.5mm) for High density mounting
3. Low profile (3.0mm max.)
4. SMD and reflow soldering applicable
5. Taping package applicable
6. Mountable by automatic placer
7. High performance (V.S.W.R. 1.3 max. at 3GHz)
8. Matched with ultra-thin FEP coaxial cables (0.8mm dia)

■ Applications
Portable telephone, mobile telephone, cordless telephone, GPS, and other microwave radio and measurement equipment.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Rated Voltage (V)</th>
<th>Contact Resistance (max.) (ohm)</th>
<th>Withstanding Voltage (max.) (V)</th>
<th>Insulation Resistance (min.) (M ohm)</th>
<th>Durability (cycles)</th>
<th>Frequency Rating (GHz)</th>
<th>Temperature Range (degree C)</th>
<th>VSWR</th>
<th>Center Contact</th>
<th>Outer Contact</th>
<th>Insulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>MM7329-2700</td>
<td>250</td>
<td>0.015</td>
<td>300 (AC)</td>
<td>500</td>
<td>50 to 3.0</td>
<td>1.3 max.</td>
<td>-40 to +90</td>
<td>Copper Alloy Gold plated</td>
<td>Copper Alloy Gold plated</td>
<td>Engineering</td>
<td></td>
</tr>
<tr>
<td>MM7329-2702</td>
<td>250</td>
<td>0.015</td>
<td>300 (AC)</td>
<td>500</td>
<td>50 to 3.0</td>
<td>1.3 max.</td>
<td>-40 to +90</td>
<td>Copper Alloy Gold plated</td>
<td>Copper Alloy Gold plated</td>
<td>Engineering</td>
<td></td>
</tr>
</tbody>
</table>

Impedance: 50ohm
■ Land Pattern Dimensions

(Note) Pattern should be designed to match 50-ohm impedance circuit.
- Typical PCB material is glass epoxy (\(\varepsilon_r = 4.8\)). Thickness is 1.5mm.
- The solder resist should be printed except for the land pattern on the PCB.

■ Cable Length Tolerance

<table>
<thead>
<tr>
<th>Cable Length L (mm) (*)</th>
<th>Dimensional tolerance (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over</td>
<td>Till</td>
</tr>
<tr>
<td>40</td>
<td>100</td>
</tr>
<tr>
<td>100</td>
<td>500</td>
</tr>
<tr>
<td>500</td>
<td>1000</td>
</tr>
<tr>
<td>1000</td>
<td></td>
</tr>
</tbody>
</table>

* L must be 40mm Min.

■ Profile Dimensions

Downloaded from Arrow.com.
Note • Please read rating and caution (for storage, operating, rating, soldering, mounting and handling) in this catalog to prevent smoking and/or burning, etc.

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Disengagement Tool

M19004 (for MM7329-2702)

How to use tool (for MM7329-2702)

(105) (10)

(105)

(10)

(in mm)
1. Environment Conditions
   (1) This product is designed for use in electrical equipment in the environment (temperature, humidity, atmospheric pressure, etc.) specified in this approval drawing. It may not be used in the following environments or under the following conditions:
   (a) Ambient air containing corrosive gas
       (Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
   (b) Ambient air containing volatile or combustible gas
   (c) In liquid (water, oil, chemical solution, organic solvents, etc.)
   (d) In environments with a high concentration of airborne particles
   (e) In direct sunlight
   (f) Dusty conditions
   (g) In freezing
   (h) Other environments similar to the above conditions
   (2) Contact the manufacturer before using the product in any of the above environments or under any of the above conditions.

2. Storage
   Store in manufacturer's package or tightly re-closed box with the following conditions. Use this product within 6 months after receipt. Check the terminal solderability before use if the product has been stored for more than 6 months.
   Temperature: -10 to +40 degree C
   Humidity: 15 to 85% RH
1. Reflow soldering
   Soldering must be carried out without exceeding the
   allowable soldering temperature and time shown within
   the shaded area of Figure "Allowable Temperature and
   Time of Reflow Soldering". In case the soldering is repeated, the maximum time in
   Figure "Allowable Temperature and Time of Reflow
   Soldering" should be accumulated time. The standard
   soldering conditions are shown in Figure "Reflow
   Soldering Standard Conditions". Follow Standard pattern dimensions.

2. Soldering by soldering iron
   Soldering by soldering iron should be carried out in
   accordance to the following conditions.
   Pre-heating   Temperature  150°C
                 Time  60 to 120 s.
   Soldering    Temperature (at the tip of the soldering
                 iron) less than 350°C
                 Time  less than 3 s.

3. We cannot warrant against mishaps caused by any use
   of this product that deviates from allowable temperature
   and time of reflow soldering.

4. In soldering, do not apply excessive mechanical force to
   terminals or leads greater than specified in the drawing.

5. Please note the following in case of soldering terminals
   or leads of the product.
   (1) Use Rosin based flux, but not with strong acid flux
       (Chlorine content should be less than 0.20wt%).
   (2) Flux should be thoroughly cleaned from connector to
       prevent possible deterioration of electrical
       characteristics.

6. Please mount this product at the position so that stress
   by wrap and/or bend of the PCB may not apply to it.

7. Please dry out this product immediately after soldering
   and cleaning.
1. Usage Condition
(1) Do not apply electrical voltage greater than specified in the drawing. It might cause degradation or destruction of the product. Even if it endures during a short time, long time qualification is not guaranteed.
(2) Confirm product’s performance is not influenced by contact of other components.
(3) Please contact the manufacturer beforehand, if the product is to be used in frequently bent position.

2. Handling
(1) Avoid excessive stress when handling and transporting printed circuit board after connector and/or assembly has been secured to PCB.
(2) Do not try to pull the cable, when a connector with a coaxial cable is handled.
(3) Disregarding the following notes could cause mechanical damage and/or poor electrical performance.

3. Handling Instructions
(1) Cable is designed to fit only with MM7329-2700 and MM7329-2702 receptacles. Any other receptacle can not be used with this cable.
(2) Disengagement:
Use tool P/N M19000 (for MM7329-2700) or M19004 (for MM7329-2702) to insert or remove cable in a vertical direction from receptacle. Avoid pulling only the cable to prevent cable damage.
(3) Avoid twisting probe or cable when inserting or removing from receptacle.
(4) Mechanical stress:
The stress to the connector should be limited as shown in Figure 1.
(a) Stress to the housing.
   Stress A and B: 4.9N max.
(b) Stress to the outer sleeve.
   Stress C: 2.94N max.
   Stress D: 1.96N max.
(c) Cable pull strength.
   Stress E: 7.84N max. (for MM7329-2700)
   4.9N max. (for MM7329-2702)

Figure 1. Mechanical Stress after Engagement

---
# Dimensions of Taping

![Diagram of Dimensions of Taping](image)

### Minimum Quantity

- **MM7329-2700RA1**: dia.180 mm reel/1000 pcs.
- **MM7329-2700RB4**: dia.330 mm reel/4000 pcs.
- **MM7329-2700B**: Bulk/free
- **MM7329-2702RA1B**: dia.180 mm reel/500 pcs.
- **MM7329-2702RB2**: dia.330 mm reel/2000 pcs.
- **MM7329-2702B**: Bulk/free
<table>
<thead>
<tr>
<th>Murata cable code</th>
<th>FEP cable</th>
<th>FEP cable</th>
<th>PFA cable</th>
<th>PFA cable</th>
<th>PFA cable</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inner conductor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>-</td>
<td>Silver coated copper covered steel wire</td>
<td>Silver coated copper wire</td>
<td>Silver coated copper covered steel wire</td>
<td>Silver coated copper wire</td>
</tr>
<tr>
<td>No. and Dia. (No./mm)</td>
<td>1/0.26</td>
<td>7/0.05</td>
<td>1/0.15</td>
<td>7/0.05</td>
<td>7/0.05</td>
</tr>
<tr>
<td>Total Dia. (mm)</td>
<td>0.26</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td><strong>Insulator</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>-</td>
<td>FEP</td>
<td>FEP</td>
<td>PFA</td>
<td>PFA</td>
</tr>
<tr>
<td>Melting point (Reference only)</td>
<td>Degree C</td>
<td>285</td>
<td>250</td>
<td>302-310</td>
<td>302-310</td>
</tr>
<tr>
<td>Total Dia. (mm)</td>
<td>0.8</td>
<td>0.4</td>
<td>0.43</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Outer conductor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>-</td>
<td>Tin plated copper wire</td>
<td>Tin plated copper wire</td>
<td>Tin plated copper wire</td>
<td>Silver plated copper</td>
</tr>
<tr>
<td>Dia. of wire (mm)</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
<td>0.05</td>
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<tr>
<td>Total Dia. (mm)</td>
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<td>0.65</td>
<td>0.68</td>
<td>0.65</td>
<td>0.65</td>
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<tr>
<td><strong>Sheath</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>-</td>
<td>FEP</td>
<td>FEP</td>
<td>PFA</td>
<td>PFA</td>
</tr>
<tr>
<td>Nominal thickness (mm)</td>
<td>0.1</td>
<td>0.05</td>
<td>0.075</td>
<td>0.075</td>
<td>0.075</td>
</tr>
<tr>
<td>Color</td>
<td>Gray</td>
<td>White</td>
<td>White</td>
<td>White</td>
<td>White</td>
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<tr>
<td>Overall Dia. (mm)</td>
<td>1.24</td>
<td>0.8</td>
<td>0.83</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td>Minimum bending radius (mm)</td>
<td>6</td>
<td>4.8</td>
<td>3.3</td>
<td>3.3</td>
<td>3.3</td>
</tr>
<tr>
<td>Nominal impedance (Ohm)</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Continuous operating voltage</td>
<td>300 Vrms max.</td>
<td>300 Vrms max.</td>
<td>300 Vrms max.</td>
<td>300 Vrms max.</td>
<td>300 Vrms max.</td>
</tr>
<tr>
<td>Nominal static capacitance (pF/m)</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Nominal Insertion loss</td>
<td>dB/m at 1GHz</td>
<td>1.56</td>
<td>3.0</td>
<td>2.89</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>dB/m at 2GHz</td>
<td>2.3</td>
<td>4.26</td>
<td>4.28</td>
<td>4.26</td>
</tr>
<tr>
<td></td>
<td>dB/m at 3GHz</td>
<td>2.9</td>
<td>5.24</td>
<td>5.39</td>
<td>5.24</td>
</tr>
<tr>
<td></td>
<td>dB/m at 4GHz</td>
<td>3.5</td>
<td>6.18</td>
<td>6.44</td>
<td>6.18</td>
</tr>
<tr>
<td></td>
<td>dB/m at 6GHz</td>
<td>8.4</td>
<td>9.17</td>
<td>9.17</td>
<td>9.17</td>
</tr>
<tr>
<td>Assembly to FSC</td>
<td>Suitable</td>
<td>Suitable</td>
<td>Not Suitable</td>
<td>Not Suitable</td>
<td>Not Suitable</td>
</tr>
<tr>
<td>Assembly to GSC</td>
<td>Not Suitable</td>
<td>Not Suitable</td>
<td>Suitable</td>
<td>Suitable</td>
<td>Not Suitable</td>
</tr>
<tr>
<td>Assembly to HSC</td>
<td>Not Suitable</td>
<td>Not Suitable</td>
<td>Not Suitable</td>
<td>Not Suitable</td>
<td>Suitable</td>
</tr>
</tbody>
</table>
Note:

1. Export Control
   (For customers outside Japan)
   No muRata products should be used or sold, through any channels, for use in the design, development, production, utilization, maintenance or operation of, or otherwise contribution to (1) any weapons (Weapons of Mass Destruction (nuclear, chemical or biological weapons or missiles) or conventional weapons) or (2) goods or systems specially designed or intended for military end-use or utilization by military end-users.
   (For customers in Japan)
   For products which are controlled items subject to the “Foreign Exchange and Foreign Trade Law” of Japan, the export license specified by the law is required for export.

2. Please contact our sales representatives or product engineers before using the products in this catalog for the applications listed below, which require especially high reliability for the prevention of defects which might directly damage a third party’s life, body or property, or when one of our products is intended for applications other than those specified in this catalog.

   ① Aircraft equipment
   ② Aerospace equipment
   ③ Undersea equipment
   ④ Power plant equipment
   ⑤ Medical equipment
   ⑥ Transportation equipment (vehicles, trains, ships, etc.)
   ⑦ Traffic signal equipment
   ⑧ Disaster prevention / crime prevention equipment
   ⑨ Data-processing equipment
   ⑩ Application of similar complexity and/or reliability requirements to the applications listed above

3. Product specifications in this catalog are as of July 2007. They are subject to change or our products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering. If there are any questions, please contact our sales representatives or engineers.

4. Please read rating and CAUTION (for storage, operating rating, soldering, mounting and handling) in this catalog to prevent smoking and/or burning.

5. This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.

6. Please note that unless otherwise specified, we shall assume no responsibility whatsoever for any conflict or dispute that may occur in connection with the use of our products, or a third party’s intellectual property rights and other related rights in consideration of your use of our products and/or information described contained in our catalogs. In this connection, no representation shall be made to the effect that any third parties are authorized to use the rights mentioned above under licenses without our consent.

7. No ozone depleting substances (ODS) under the Montreal Protocol are used in our manufacturing process.