MC-Card
Microminiature RF Connectors

MC-Card series are microminiature, 50-ohm connectors that feature snap-on mating and a frequency range of DC–6 GHz. MC-Card connectors are an alternative to MMCX connectors in many wireless and telecom applications. They are similar to MMCX in performance, feature quick snap-on mating and unmating, and are designed to withstand a minimum of 5,000 mating cycles. Delta MC-Card connectors are available for several sizes of flexible cable, and as PCB receptacles. The edge-card switching receptacles on page 4 automatically switch from an internal circuit and an external circuit when mated. They are ideal for use in applications such as portable computers operating in wireless networks, allowing for automatic switching between the internal antenna and a higher-gain external antenna.
Specifications*

**Electrical:**
- Nominal Impedance: 50 ohms.
- Voltage Rating: 100 VRMS max.
- Dielectric Withstanding Voltage: 250 VRMS min.
- Contact Resistance: Center contact, 5 milliohms max; Outer contact, 3 milliohms max.
- Insulation Resistance: 500 megohms min.

**Environmental:**
- Temperature Range: -25–125˚ C.
- Temperature / Humidity Cycling: IEC 68-2-38; -20–80˚ C, 93% humidity, 3 hours, 5 cycles.
- Thermal Shock: -65–125˚ C, 30 minutes, 5 cycles.
- Salt Spray: 35˚ C, 48 hours, 85% RH, 5% concentration.

**Mechanical:**
- Mating Force: 7.0 N max.
- Unmating Force: 9.0 N min.
- Durability: 5,000 cycles.

**Materials/Finishes:**
- Insulators: Teflon.
- Inner Contacts: Beryllium Copper (female) or brass (male).
- Springs: Stainless Steel.
- Other Metal Parts: Brass.
- Finish: Cable Connector bodies, nickel plated; All other metal parts, gold plated.

*These specifications are typical and may not apply to all connectors. Detailed specifications for individual connectors are available on request.
### Cable Plugs—Crimp Type for Flexible Cable

#### Figure 1 (Straight plug)

![Diagram of a straight plug with dimensions: .657 (16.7), .134 (3.4) dia., .087 (2.2) dia.]

#### Figure 2 (Right angle plug)

![Diagram of a right angle plug with dimensions: .142 (3.6), .161 (4.1), .350 (8.9), .087 (2.2) dia.]

Dimensions in inches (mm).

<table>
<thead>
<tr>
<th>Cable Group</th>
<th>Figure</th>
<th>Body</th>
<th>Contact</th>
<th>Delta P/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>1</td>
<td>Nickel</td>
<td>Gold</td>
<td>8203-037-N000-500</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>Nickel</td>
<td>Gold</td>
<td>8203-038-N000-500</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>Nickel</td>
<td>Gold (C)</td>
<td>8207-037-N001-500</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>Nickel</td>
<td>Gold (C)</td>
<td>8207-038-N001-500</td>
</tr>
<tr>
<td>33</td>
<td>2</td>
<td>Nickel</td>
<td>Gold (C)</td>
<td>8207-405-N001-500</td>
</tr>
</tbody>
</table>

(C) in contact plating column indicates captive contact.

### Cable Groups

- **9**: RG-174, 179, 188, 187, 316; M17/94, 136, 172
- **11**: RG-178, 196; M17/93
- **33**: 1.13 mm miniature

### Cable Assembly Procedure

#### Straight Plugs

1) Trim cable per chart. Slide crimp sleeve back onto cable.

2) Solder or crimp contact onto center conductor, back of contact flush with trimmed end of cable dielectric. Flare cut end of braid slightly by rotating dielectric.

3) Insert cable/contact into rear of body, with all braid wires on outside of crimp tail. Push cable in until cable dielectric bottoms in connector. Slide crimp sleeve forward until flush with body.

#### Right Angle Plugs

1) Trim cable per chart. Slide crimp sleeve back onto cable.

2) Flare cut end of braid slightly by rotating dielectric. Push cable into body assembly until trimmed end of cable dielectric is flush with cavity inside body assembly as shown. Slide crimp sleeve forward until flush with body and crimp.

Solder center conductor into notch in back of contact. Assemble insulator and cap, and press cap flush with body.
**MC-Card Jack Switch—Edge-Card for SMT**

Dimensions in inches (mm).

<table>
<thead>
<tr>
<th>Packaging</th>
<th>Delta P/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual</td>
<td>8271-000-G911-501</td>
</tr>
<tr>
<td>Tape &amp; Reel*</td>
<td>8271-000-G911-500</td>
</tr>
</tbody>
</table>

**Circuit Diagram**

Automatically switches signal from internal circuit to external circuit when mated.

**Right Angle PCB Jack Receptacle**

Dimensions in inches (mm).

**MC-Card Plug to SMA Jack Adapter**

Dimensions in inches (mm).

*Reel quantities available (500 to 1000 per reel) available. See next page for mounting and tape / reel information.
**MC-Card Switching Receptacles**

**Electrical Performance—MC-Card Switching Connectors**

- **VSWR Loss**
  - **1 GHz**
  - **1.1 GHz**
- **Loss**
  - **Internal**
  - **External**

**P.C.B. Mounting**

**Switching Receptacle**
- **Solder Paste**
- **P.C. Board**
- Dimensions in inches (mm).

**P.C. Board Receptacle**
- Dimensions in inches (mm).

**Tape and Reel Packaging**
- **Unreel direction**
- **Dimensions in inches (mm).**