SD Memory Card Connectors
DM1 Series

Features
1. Withstands higher force of card insertion
   Metal cover extends over the back of the connector allowing it to withstand force of up to 400 N (static load) when dropped or accidentally hit.

2. No damage to the card when accidentally pulled-out
   The connectors will release the card when a moderate pull-out force of about 4 N is applied. There will be no damage to the lock components and all connector functions will not be affected.

3. Accidental card fall-out prevention
   Built-in lock feature holds the card securely in place.

4. Reliable Card Insertion and Withdrawal
   Built-in Push-in / Push-out ejection mechanism assures simple and reliable card insertion and withdrawal.

5. Designed to accept Secure Digital I/O card (Built-in Ground Contact)
   The connector allows use of various expansion modules, including the Bluetooth communication modules.

Applications
Notebook PC’s, digital cameras, PDA’s, audio/video equipment and other devices utilizing SD I/O cards.
## Product Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Insulation resistance</td>
<td>1000 MΩ min. (Initial value)</td>
<td>500 V DC</td>
</tr>
<tr>
<td>2. Withstanding voltage</td>
<td>No flashover or insulation breakdown</td>
<td>500 V AC / one minute</td>
</tr>
<tr>
<td>3. Contact resistance</td>
<td>100 mΩ max. (Initial value)</td>
<td>100mA DC</td>
</tr>
<tr>
<td>4. Vibration</td>
<td>No electrical discontinuity of 100 ns or more</td>
<td>Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours / 3 axis</td>
</tr>
<tr>
<td>5. Humidity</td>
<td>Contact resistance: 40 mΩ max. from initial value</td>
<td>96 hours at temperature of 40°C ± 2°C and humidity of 90% to 95%</td>
</tr>
<tr>
<td>6. Temperature cycle</td>
<td>Contact resistance: 40 mΩ max. from initial value</td>
<td>Temperature: -55°C→ +5°C to +35°C→ +85°C→ +5°C to +35°C</td>
</tr>
<tr>
<td>7. Durability (mating/un-mating)</td>
<td>Contact resistance: 40mΩ max. from initial value</td>
<td>10000 cycles at 400 to 600 cycles per hour</td>
</tr>
<tr>
<td>8. Resistance to soldering heat</td>
<td>No deformation of components affecting performance.</td>
<td>Reflow: At the recommended temperature profile Manual soldering: 300°C for 3 seconds</td>
</tr>
</tbody>
</table>

Note1: Includes temperature rise caused by current flow.

Note2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers non-conducting condition of installed connectors in storage, shipment or during transportation.

### Materials

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
<th>Finish</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulator</td>
<td>Heat resistant thermoplastic compound</td>
<td>Color: Black</td>
<td>UL94V-0</td>
</tr>
<tr>
<td>Contacts</td>
<td>Phosphor bronze</td>
<td>Contact area: Gold plating</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Termination area: Tinned copper plating</td>
<td></td>
</tr>
<tr>
<td>Cover</td>
<td>Stainless steel</td>
<td>Termination area: Tinned copper plating</td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>Stainless steel Piano wire</td>
<td>Nickel plating</td>
<td></td>
</tr>
</tbody>
</table>

### Ordering information

**DM1 AA - SF - PEJ**

1. **Series name**: DM1
2. **Connector type**: AA : Standard receptacle  
   B : Reverse receptacle
3. **Terminal type**: SF : Right angle surface mount  
   DSF : Reverse right angle surface mount
4. **Eject mechanism codes**: PEJ : Card Push insert/Push withdraw
The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information.

All non-RoHS products have been discontinued, or will be discontinued soon. Please check the products status on the Hirose website RoHS search at www.hirose-connectors.com, or contact your Hirose sales representative.

### Standard type

<table>
<thead>
<tr>
<th>Part number</th>
<th>HRS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM1AA-SF-PEJ(21)</td>
<td>609-0004-8-21</td>
</tr>
</tbody>
</table>

![Image of the standard type](image)

### PCB mounting pattern

![Image of the PCB mounting pattern](image)

- **Card detection switch**: OPEN → CLOSE
- **Write protection switch**: OPEN → CLOSE

- **Card insertion/withdrawal dimensions**

![Image of card insertion/withdrawal dimensions](image)
### Reverse type

![Image of reverse type](image)

<table>
<thead>
<tr>
<th>Part number</th>
<th>HRS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM1B-DSF-PEJ</td>
<td>609-0003-5</td>
</tr>
</tbody>
</table>

### PCB mounting pattern

![Image of PCB mounting pattern](image)

- **A(5:1)**
  - 17.8 ± 0.1 (Land)
  - 13.5 ± 0.1 (Through hole)
- **B(5:1)**
  - 12.9 ± 0.1 (Land)
  - 8.6 ± 0.1 (Through hole)
- **C(5:1)**
  - 15.0 ± 0.1 (Land)
  - 9.0 ± 0.1 (Through hole)

#### SD Card
- Indicates the center line of the card slot.
- Indicates the dimension of DIP terminals.

#### Card detection switch
- **When card is ejected**
- **When card is inserted**

<table>
<thead>
<tr>
<th>Card detection switch</th>
<th>Write protection switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPEN</td>
<td>CLOSE</td>
</tr>
<tr>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>OPEN</td>
<td>CLOSE</td>
</tr>
</tbody>
</table>

#### Weight
- 2.1g
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Packaging specifications

- **Embossed Carrier Tape Dimensions (Standard type)** 450 pieces per reel

- **Embossed Carrier Tape Dimensions (Reverse type)** 450 pieces per reel

- **Reel dimensions**
Recommended Temperature Profile

Recommended Conditions

Reflow system : IR reflow
Solder : Paste type 63 Sn/37 Pb (Flux content 9 wt%)
Test board : Glass epoxy 60mm x 100mm x 1.6 mm thick

Metal mask thickness: 0.15 mm

Recommended temperature profile.

The temperature may be slightly changed according to the solder paste type and thickness.