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 400N (static load) when dropped or accidentally hit. (Fig.1)

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

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

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.

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Withstands higher force of card insertion.

Card

Reverse type

Accidental card fall-out prevention
### Product Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Insulation resistance</td>
<td>1000MΩ min. (Initial value)</td>
<td>500V DC</td>
</tr>
<tr>
<td>2. Withstanding voltage</td>
<td>No flashover or insulation breakdown</td>
<td>500V AC / one minute</td>
</tr>
<tr>
<td>3. Contact resistance</td>
<td>100mΩ max. (Initial value)</td>
<td>100mA DC</td>
</tr>
<tr>
<td>4. Vibration</td>
<td>No electrical discontinuity of 100ns or more</td>
<td>Frequency: 10 to 55Hz, single amplitude of 0.75mm, 2 hours / 3 axis</td>
</tr>
<tr>
<td>5. Humidity</td>
<td>Contact resistance: 40mΩ 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: 40mΩ 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>Duration: 30 → 5 → 30 → 5 (Minutes) 5 cycles</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: 350°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 / Finish

<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>Contact area: Gold plating Termination area: Tinned copper plating</td>
<td>UL94V-0</td>
</tr>
<tr>
<td>Contacts</td>
<td>Phosphor bronze</td>
<td>Contact area: Gold plating 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</td>
<td>Nickel plating</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Piano wire</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Product Number Structure

**DM1 AA - SF - PEJ**

<table>
<thead>
<tr>
<th>1 Series name</th>
<th>DM1</th>
</tr>
</thead>
</table>
| 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 |
### Standard type

<table>
<thead>
<tr>
<th>Part No.</th>
<th>HRS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM1AA-SF-PEJ(82)</td>
<td>609-0004-8 82</td>
</tr>
</tbody>
</table>

- **Card detection switch**
- **Write protection switch**

- **Card insertion/withdrawal dimensions**

- **PCB mounting pattern**

- **Weight**: 2.2g

- **Card slot dimension**: 24.15 (Card slot dimension)

- **Indicates the center line of card slot.**

- **Card pushed-in for insertion**
- **Card fully inserted**
- **Card ejected** (Card ejected dimension)

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### Reverse type

**Part No.**
- DM1B-DSF-PEJ(82)

**HRS No.**
- 609-0003-5 82

### PCB mounting pattern

- **A(5:1)**
  - 1.2 ±0.1 (Land)
  - 0.8 ±0.1 (Through hole)

- **B(5:1)**
  - 1.2 ±0.1 (Land)
  - 0.8 ±0.1 (Through hole)

- **C(5:1)**
  - 1.2 ±0.1 (Land)
  - 0.8 ±0.1 (Through hole)

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**Card detection switch**

- OPEN

**Write protection switch**

- OPEN

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

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**SD Card**

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**Weight:** 2.1g

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**Packaging specifications**

- **Embossed Carrier Tape Dimensions (Standard type)** 450 pcs/reel

- **Embossed Carrier Tape Dimensions (Reverse type)** 450 pcs/reel

- **Reel dimensions**
Recommended Temperature Profile

HRS test condition
Solder method : Reflow, IR/hot air
Environment : Room air
Solder composition : Paste, 96.5%Sn/3.0%Ag/0.5%Cu
                  (Senju Metal Industry, Co., Ltd.’s
                   Part Number:M705-GRN360-K2-V)
Test board : Glass epoxy 60mm×100mm×1.0mm thick
Metal mask : 0.15mm thick
Number of reflow cycles : 2cycles max.

The temperature profiles shown are based on the above conditions.
In individual applications the actual temperature may vary, depending on solder paste type, volume / thickness and board size / thickness. Consult your solder paste and equipment manufacturer for specific recommendations.