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.

---

**Card**

**Standard type**

Withstands higher force of card insertion.

**Mirror type**

Metal cover extends over the back of the connector.

**Reverse type**

No damage to the card when accidentally pulled-out.

---

Accidental card fall-out prevention

---

In cases where the application will demand a high level of reliability, such as automotive, please contact a company representative for further information.
# 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.</td>
<td>500V DC / one minute</td>
</tr>
<tr>
<td>2. Withstanding voltage</td>
<td>No flashover or insulation breakdown</td>
<td></td>
</tr>
<tr>
<td>3. Contact resistance</td>
<td>100mΩ max.</td>
<td>100mA DC</td>
</tr>
</tbody>
</table>
| 4. Humidity | Contact resistance : 40mΩ max. from initial value  
Insulation resistance : 100MΩ min. | 96 hours at temperature of 40°C ± 2°C and humidity of 90% to 95% |
| 5. Temperature cycle | Contact resistance : 40mΩ max. from initial value  
Insulation resistance : 100MΩ min. | Temperature : -55°C to +5°C to +35°C to +85°C to +5°C to +35°C  
Duration : 30 → 5 → 30 → 5 (Minutes) 5 cycles |
| 6. Durability (mating/un-mating) | Contact resistance : 40mΩ max. from initial value | 10000 cycles at 400 to 600 cycles per hour |
| 7. Resistance to soldering heat | No deformation of components affecting performance. | Reflow : At the recommended temperature profile  
Manual soldering : 350°C for 3 seconds |

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>Color : Black</td>
<td>UL94V-0</td>
</tr>
</tbody>
</table>
| Contacts | Phosphor bronze | Contact area : Gold plating  
Termination area : Tinned copper plating | |
| Cover | Stainless steel | Termination area : Tinned copper plating | |
| Others | Stainless steel Piano wire | Nickel plating | |

## Product Number Structure

Refer to the chart below when determining the product specifications from the product number.

Please select from the product numbers listed in this catalog when placing orders.

<table>
<thead>
<tr>
<th>DM1 AA - SF - PEJ</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Series name DM1</td>
</tr>
</tbody>
</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>

## PCB mounting pattern

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

<table>
<thead>
<tr>
<th>Card detection switch</th>
<th>Write protection switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>When card is No yet inserted</td>
<td>When card is No yet inserted</td>
</tr>
<tr>
<td>OPEN</td>
<td>OPEN</td>
</tr>
<tr>
<td>CLOSE</td>
<td>OPEN</td>
</tr>
<tr>
<td>OPEN</td>
<td>CLOSE</td>
</tr>
</tbody>
</table>

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

- **Card insertion/withdrawal dimensions**

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

- **Weight:** 2.2g
### Reverse type

<table>
<thead>
<tr>
<th>Part No.</th>
<th>HRS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM1B-DSF-PEJ(82)</td>
<td>609-0003-5 82</td>
</tr>
</tbody>
</table>

### PCB mounting pattern

- **CARD DETECT**
  - Common for CD & WP
- **Center of Card dimension**
- **SD Card**

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

<table>
<thead>
<tr>
<th>Part No.</th>
<th>HRS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM1B-DSF-PEJ(82)</td>
<td>609-0003-5 82</td>
</tr>
</tbody>
</table>

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

Weight: 2.1g
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.

---

**HIROSE ELECTRIC CO., LTD.**

2-6-3, Nakagawa Chuoh, Tsuzuki-Ku, Yokohama-Shi 224-8540, JAPAN
TEL: +81-45-620-3526  Fax: +81-45-591-3726
http://www.hirose.com
http://www.hirose-connectors.com

The characteristics and the specifications contained herein are for reference purpose. Please refer to the latest customer drawings prior to use. The contents of this catalog are current as of date of 03/2020. Contents are subject to change without notice for the purpose of improvements.