

# 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.

Withstands higher force of card insertion.

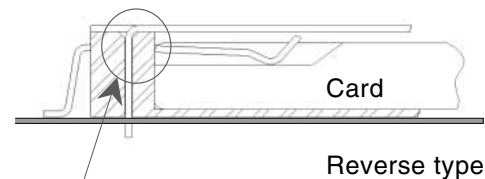
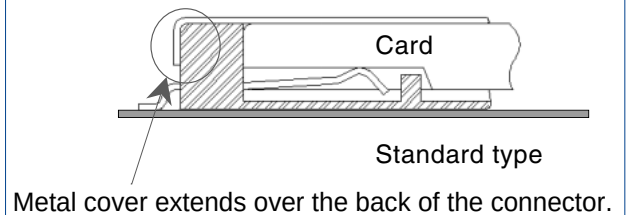


Fig.1

No damage to the card when accidentally pulled-out.

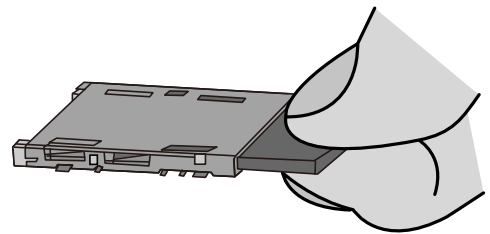


Fig.2

Accidental card fall-out prevention

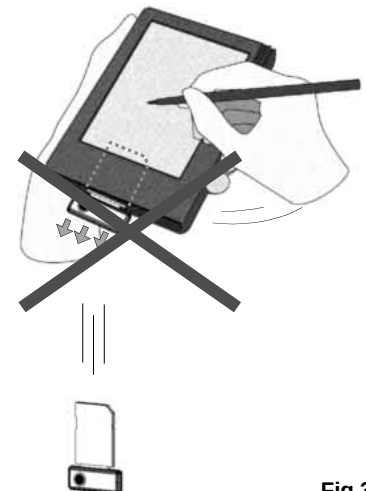


Fig.3

## Product Specifications

|        |                                                  |                                                                                                          |                                                                         |
|--------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| Rating | Current rating 0.5A DC<br>Voltage rating 125V AC | Operating temperature range : -25℃ to +85℃ (Note 1)<br>Storage temperature range : -40℃ to +85℃ (Note 2) | Operating humidity range : Relative humidity 95% max. (No condensation) |
|--------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|

| Item                             | Specification                                                                           | Conditions                                                                                             |
|----------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| 1. Insulation resistance         | 1000MΩ min. (Initial value)                                                             | 500V DC                                                                                                |
| 2. Withstanding voltage          | No flashover or insulation breakdown                                                    | 500V AC / one minute                                                                                   |
| 3. Contact resistance            | 100mΩ max. (Initial value)                                                              | 100mA DC                                                                                               |
| 4. Vibration                     | No electrical discontinuity of 100ns or more                                            | Frequency : 10 to 55Hz, single amplitude of 0.75mm, 2 hours / 3 axis                                   |
| 5. Humidity                      | Contact resistance : 40mΩ max. from initial value<br>Insulation resistance : 100MΩ min. | 96 hours at temperature of 40℃ ± 2℃ and humidity of 90% to 95%                                         |
| 6. Temperature cycle             | Contact resistance : 40mΩ max. from initial value<br>Insulation resistance : 100MΩ min. | Temperature : -55℃ → +5℃ to +35℃ → +85℃ → +5℃ to +35℃<br>Duration : 30 → 5 → 30 → 5 (Minutes) 5 cycles |
| 7. Durability (mating/un-mating) | Contact resistance : 40mΩ max. from initial value                                       | 10000 cycles at 400 to 600 cycles per hour                                                             |
| 8. Resistance to soldering heat  | No deformation of components affecting performance.                                     | Reflow : At the recommended temperature profile<br>Manual soldering : 350℃ 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

| Component | Material                              | Finish                                                                  | Remarks |
|-----------|---------------------------------------|-------------------------------------------------------------------------|---------|
| Insulator | Heat resistant thermoplastic compound | Color : Black                                                           | UL94V-0 |
| Contacts  | Phosphor bronze                       | Contact area : Gold plating<br>Termination area : Tinned copper plating | _____   |
| Cover     | Stainless steel                       | Termination area : Tinned copper plating                                | _____   |
| Others    | Stainless steel<br>Piano wire         | _____<br>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.

**DM1   AA   -   SF   -   PEJ**

①   ②   ③   ④

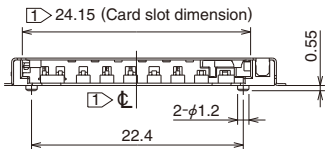
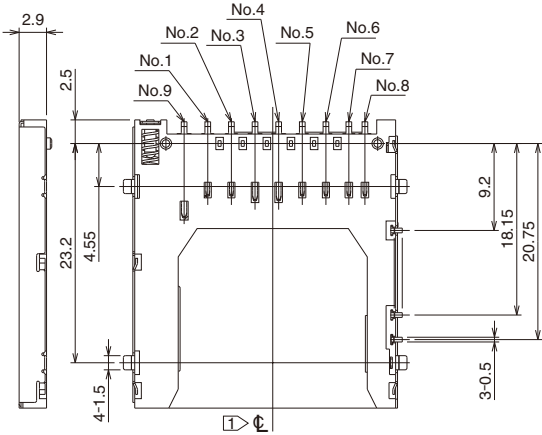
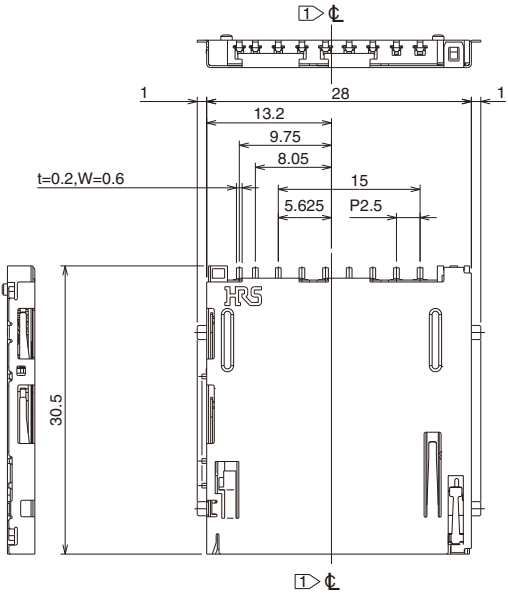
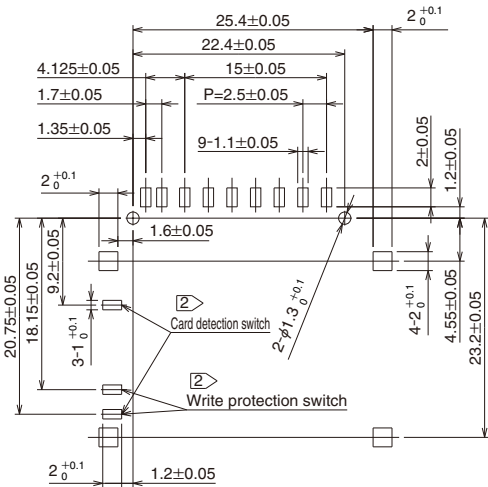
|                  |                                                    |                         |                                                                           |
|------------------|----------------------------------------------------|-------------------------|---------------------------------------------------------------------------|
| ① Series name    | DM1                                                | ③ Terminal type         | SF : Right angle surface mount<br>DSF : Reverse right angle surface mount |
| ② Connector type | AA : Standard receptacle<br>B : Reverse receptacle | ④ Eject mechanism codes | PEJ : Card Push insert/Push withdraw                                      |

■Standard type



| Part No.         | HRS No.       |
|------------------|---------------|
| DM1AA-SF-PEJ(82) | 609-0004-8 82 |

◆PCB mounting pattern

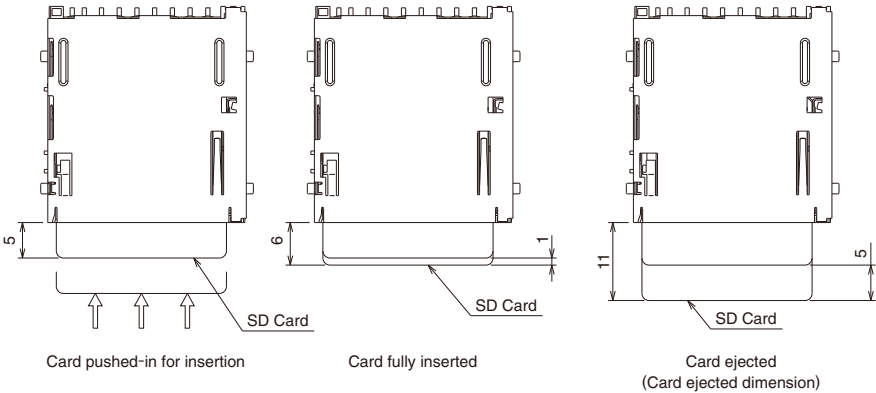


① indicates the center line of card slot.

| Card detection switch           |                          | Write protection switch         |                       |
|---------------------------------|--------------------------|---------------------------------|-----------------------|
| When card is<br>No yet inserted | When card is<br>inserted | When card is<br>No yet inserted | When card is inserted |
| OPEN                            | CLOSE                    | OPEN                            | WRITE PROTECT         |
|                                 |                          |                                 | WRITE ENABLE          |
|                                 |                          |                                 |                       |

Weight:2.2g

◆Card insertion/withdrawal dimensions

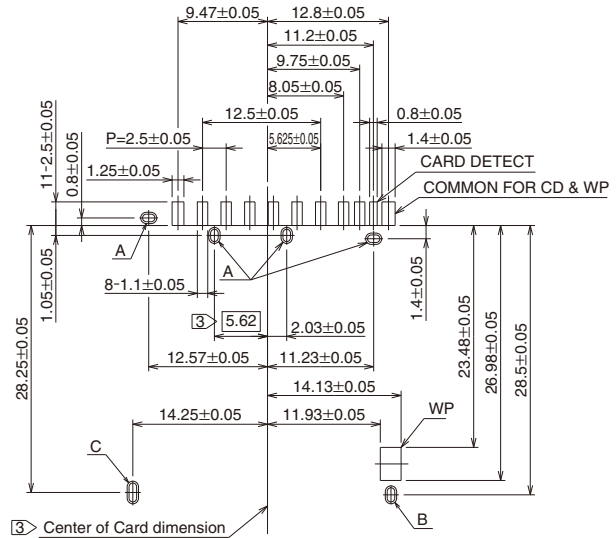


## Reverse type

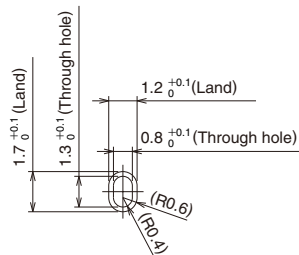


| Part No.         | HRS No.       |
|------------------|---------------|
| DM1B-DSF-PEJ(92) | 609-0003-5 92 |

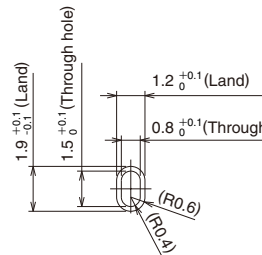
## PCB mounting pattern



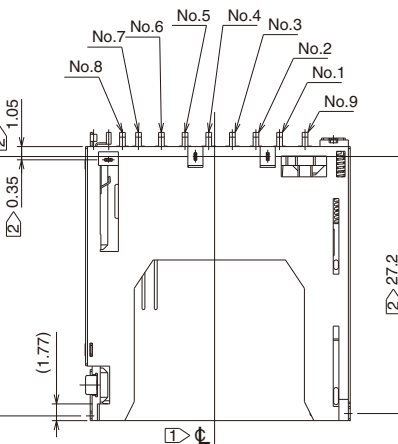
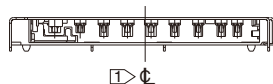
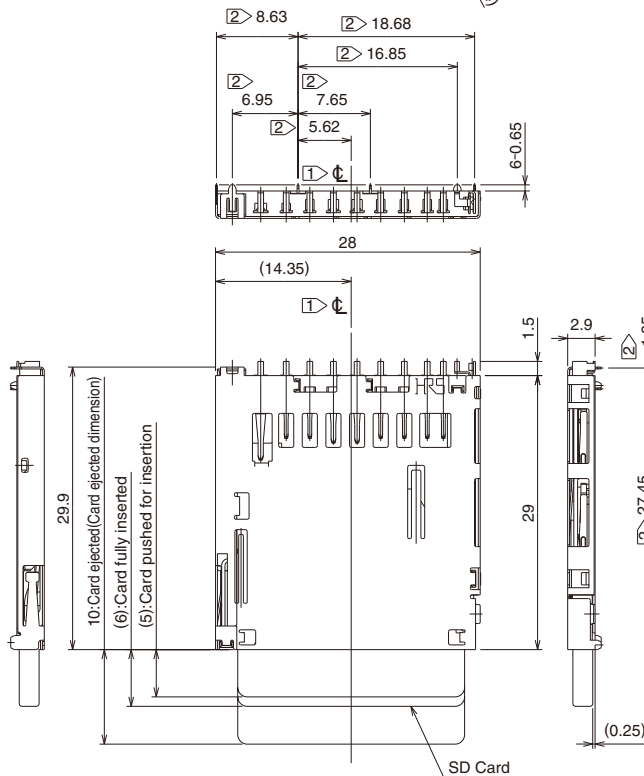
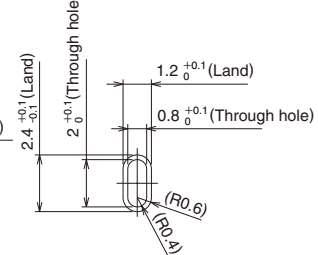
A(5:1)



B(5:1)



C(5:1)



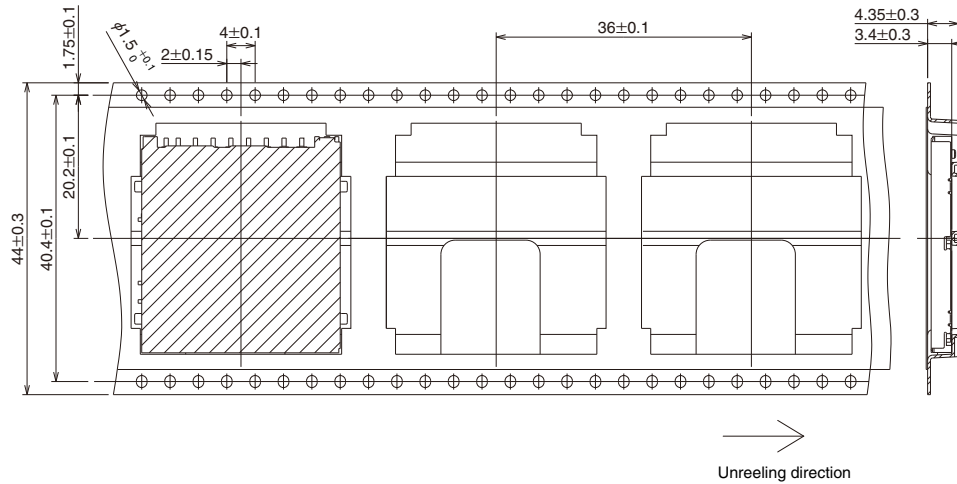
- ① indicates the center line of the card slot.  
② indicates the dimension of DIP terminals.

| Card detection switch         |                       | Write protection switch       |                       |              |
|-------------------------------|-----------------------|-------------------------------|-----------------------|--------------|
| When card is not yet inserted | When card is inserted | When card is not yet inserted | When card is inserted |              |
|                               |                       |                               | WRITE PROTECT         | WRITE ENABLE |
| OPEN                          | CLOSE                 | OPEN                          | OPEN                  | CLOSE        |
|                               |                       |                               |                       |              |

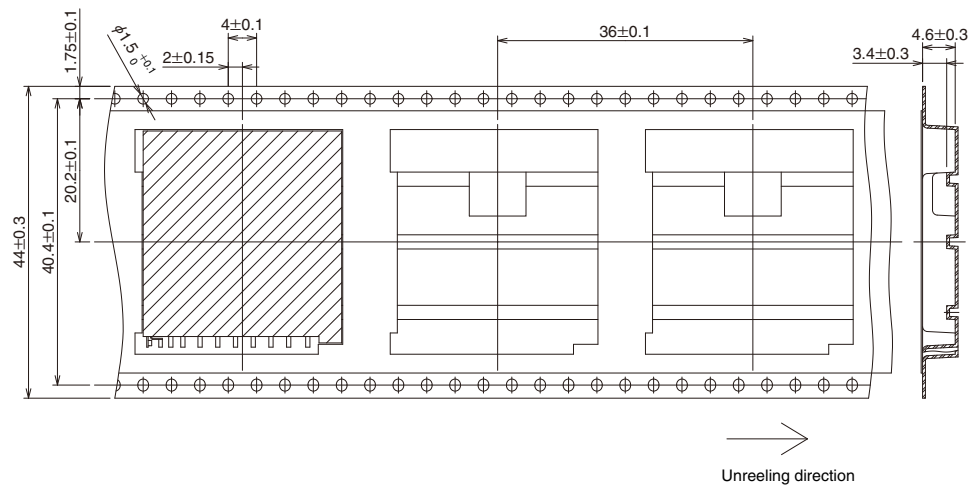
Weight: 2.1g

## ◆ Packaging specifications

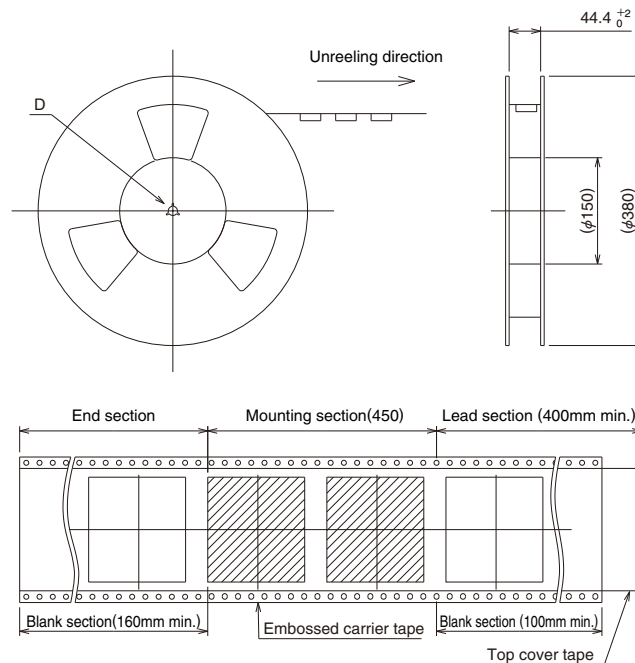
### ● Embossed Carrier Tape Dimensions (Standard type) 450 pcs/reel



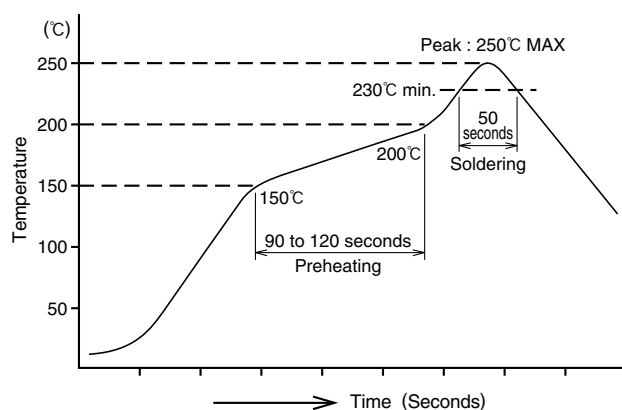
### ● Embossed Carrier Tape Dimensions (Reverse type) 450 pcs/reel



### ● 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.



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