

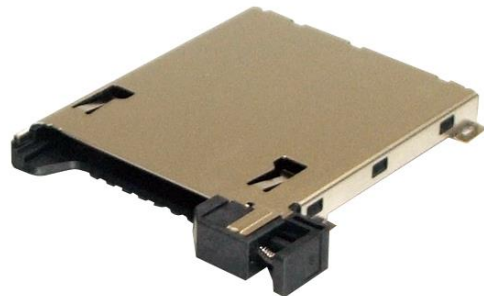
# FPS009-4200 Series

## SD Card Connector One Action Eject Type

### ◇Feature

- Ejection method: One-action type.
  - Card ejection by operating card holding button at connector slot
- Card holding mechanism with reaction force by coil springs.
- To ensure firm holding not to cause card movement in a connector.
- 2-beam contact installation on all contact-terminals .
  - To ensure die-electric discontinuity prevention which may be caused by vibration and impact.
- Metal shell cover with 4 GNDs (Solder tubs)
  - To ensure EMI/ESD prevention performance
- Insertion/extraction duration : 100cycs  
 (\*Yamaichi proposal as for NON-user interface use.)

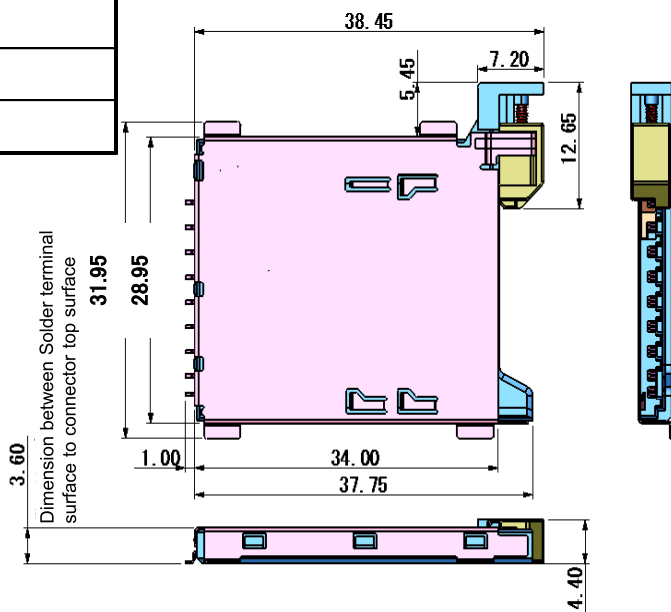
Patented



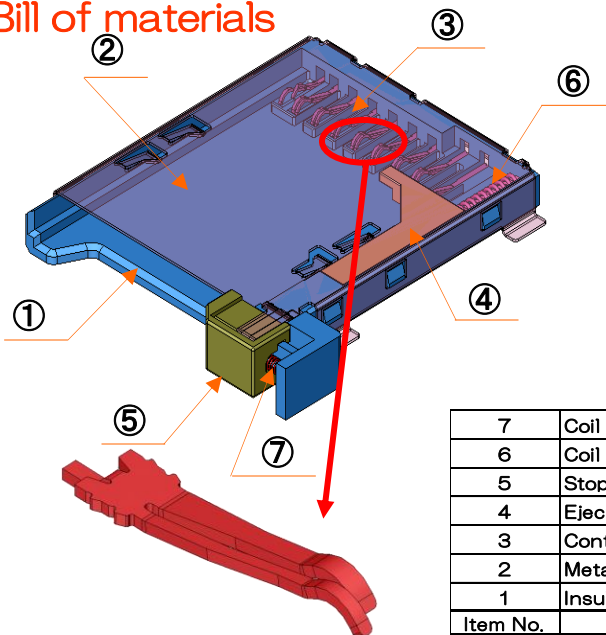
### ◇Specification

|   |  |
|---|--|
| Current Rating                            | 0.5A   |
| Voltage Rating                            | DC 5V rms.   |
| Insulation Resistance                     | At 500V DC.<br>Initial value : 1000MΩ After test : 100MΩ max |
| Withstanding Voltage                      | 500V AC rms. 1 min.  |
| Contact Resistance                        | At 1mA/20mV<br>Initial value : 100mΩ After test : 40mΩ max.  |
| Operating Temperature /Operating Humidity | -30°C to +85°C / 95%RH MAX.                                  |
| Storage Temperature /Storage Humidity     | -40°C~+90°C / 95%RH MAX.                                     |
| Insertion /Extraction Wear Life           | 100cycles<br>(Cycle Rate : 400~600cycles/hours)              |

### ◇Out line dimensions



### Contact structure and Bill of materials

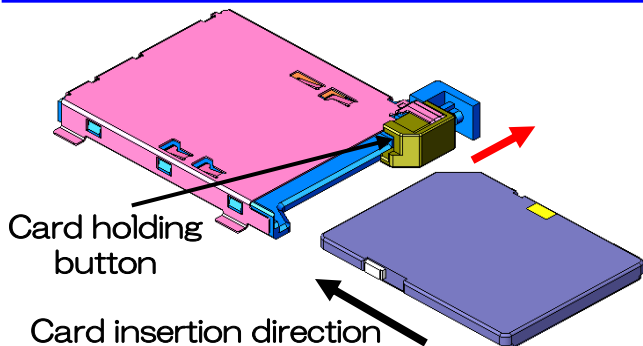


2-beam Contact Structure

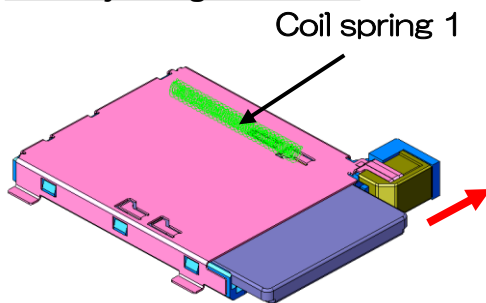
| Item No. | Description   | Q'ty | Material | Content          |
|----------|---------------|------|----------|------------------|
| 7        | Coil Spring 2 | 1    | SUS      | ---              |
| 6        | Coil Spring 1 | 1    | SUS      | ---              |
| 5        | Stopper       | 1    | LCP      | Black (UL94V-0)  |
| 4        | Ejector       | 1    | LCP      | Black (UL94V-0)  |
| 3        | Contact       | 9    | PB       | Ni-Au/Sn plating |
| 2        | Metal Shell   | 1    | SUS      | Ni-Sn Plating    |
| 1        | Insulator     | 1    | LCP      | Black (UL94V-0)  |

◇ Connector operation method

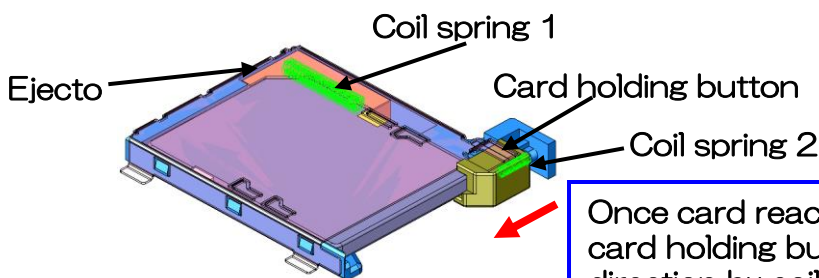
During card insertion, chamfered corner of card touches and slides chamfered corner of card holding button to Red arrow direction for card insertion.



**Card ejecting condition**



With sliding card holding button to the Red arrow direction, card is pushed out by reaction force of coil spring 1.



**Card locked condition**

Once card reaches to connector depth, card holding button slides to Red arrow direction by coil spring 2 reaction force and retains card.

Card retention mechanism to hold card by both “coil spring reaction force” and “card holding button” in addition to contact force.

◇ Result of Impact test and Vibration Test

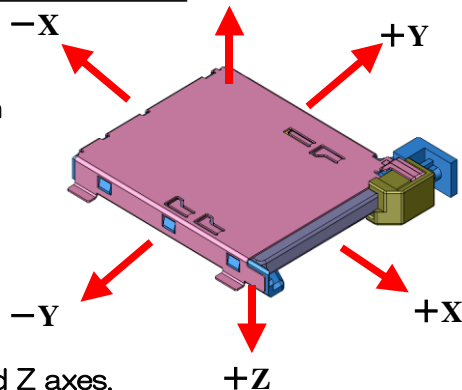
Test Conditions

After reflow mounting the connector to the PCB, And with SD card Attached.

Test Contents

1. Impact Test 『 100G 』  
 【 Test Condition 』  
 • Acceleration : 100G  
 • Impact duration : 9 total impacts delivered 6 each along X,Y and Z axes.
2. Vibration Test 『 10Hz - 2000Hz 』  
 【 Test Conditions 』  
 • Frequency : 10 - 2000 Hz  
 • Acceleration : 20 m/s<sup>2</sup>  
 • Sweep rate : 10 - 2000 - 10 Hz 5min  
 • Duration : 10 cycles  
 Specimen to be excited along X,Y, and Z axes.  
 (total 30 cycles)

Test direction -Z



→ Test results : No electrical discontinuity longer than 0.1 μ sec