SIM Card Sockets
ID1 Series

Features

1. Suited for Plug-in SIM Cards of the GSM Standard (11.11)
   In Europe, SIM card Subscriber Identity Modules are used for subscriber identification with portable telephone terminals of the GSM system for which standards have been unified. The ID1A Series of sockets are suited for use with GSM standard (11.11) plug-in SIM cards.

2. Miniature and Thin
   These sockets are miniature and thin with a height of 2.45 mm, length of 30.6 mm, and width of 17.4 mm. The weight has been reduced by 30% compared with our existing products. (See Photograph (1).)

3. Suited to Automatic Mounting
   The board mounting method is of the surface mount type. In addition to the standard tray packaging specification, an embossed tape specification suited to automatic mounting is also available.

4. Prevention of Incorrect Insertion to the Board
   A board-positioning boss prevents incorrect insertion to the board by means of boss position and boss diameter.

5. Slide Lock System
   An original lock structure securely holds the SIM card and easy opening and closing of the card holder is another feature. (See Photograph (2).)

Applications

Portable terminals and equipment that use GSM Standard (11.11) plug-in SIM cards.
# Product Specifications

<table>
<thead>
<tr>
<th>Rating</th>
<th>Operating temperature</th>
<th>Storage temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current rating</td>
<td>-30°C to +80°C (NOTE 1)</td>
<td>-10°C to +60°C (NOTE 2)</td>
</tr>
<tr>
<td>Voltage rating</td>
<td>100 V AC</td>
<td></td>
</tr>
<tr>
<td>Operating</td>
<td></td>
<td>Storage humidity 40 to 70% (NOTE 2)</td>
</tr>
<tr>
<td>humidity range</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<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>100 V DC</td>
</tr>
<tr>
<td>2. Withstanding voltage</td>
<td>No flashover or insulation breakdown.</td>
<td>500 V AC / 1 minute</td>
</tr>
<tr>
<td>3. Contact resistance</td>
<td>40 mΩ max.</td>
<td>100 mA</td>
</tr>
<tr>
<td>4. Vibration</td>
<td>No electrical discontinuity of 10 μs or more</td>
<td>Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions.</td>
</tr>
<tr>
<td>5. Humidity (Steady state)</td>
<td>Contact resistance 60 mΩ max.</td>
<td>96 hours at temperature of 40°C and humidity of 90% to 95%</td>
</tr>
<tr>
<td>6. Temperature cycle</td>
<td>Contact resistance 60 mΩ max.</td>
<td>Temperature: -55°C: 30 min. --&gt; 15 to 35°C: 5 min. MAX --&gt; 85°C: 30 min --&gt; 15 to 35°C: 5 min. MAX / 5 cycles</td>
</tr>
<tr>
<td>7. Durability (Insertion/withdrawal)</td>
<td>Contact resistance of 60 mΩ max.</td>
<td>5000 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: 300°C for 3 seconds</td>
</tr>
</tbody>
</table>

**Note 1:** Includes temperature rise caused by current flow.

**Note 2:** 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.

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## Materials

<table>
<thead>
<tr>
<th>Part</th>
<th>Material</th>
<th>Finish</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulator</td>
<td>Synthetic resin</td>
<td>Color : Black</td>
<td>UL94V-0</td>
</tr>
<tr>
<td>Contacts</td>
<td>Phosphor bronze</td>
<td>Contact portion: Gold plating Lead portion: Solder plating</td>
<td></td>
</tr>
<tr>
<td>Card holder</td>
<td>Synthetic resin</td>
<td>Color : Black</td>
<td>UL94V-0</td>
</tr>
<tr>
<td>Slider</td>
<td>Synthetic resin</td>
<td>Color : Beige</td>
<td>UL94V-0</td>
</tr>
</tbody>
</table>

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### Ordering Information

**ID1A - 6 S - 2.54 SF (21)**

1. Series Name: ID1A
2. Number of contacts: 6
3. Contact type
   - S: Socket
4. Contact pitch: 2.54 mm
5. Terminal type
   - SF: SMT type
6. Packaging type
   - Blank: Tray packaging (21): Embossed tape packaging
When locking, slide the protruding portion of the slider after the card holder has been closed.

2 The co-planarity at the SMT lead tip portion is 0.1 maximum.

3 \( \bar{C} \) indicates a 7.62 ±0.2 center line.

### Table of Specifications

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CL No.</th>
<th>Number of Contacts</th>
<th>Packaging type</th>
<th>Number of Pieces</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID1A-6S-2.54SF</td>
<td>645-0003-9</td>
<td>6</td>
<td>Tray</td>
<td></td>
</tr>
<tr>
<td>ID1A-6S-2.54SF(21)</td>
<td>645-0003-9-21</td>
<td>6</td>
<td>Embossed tape (NOTE 1)</td>
<td>500 pieces per reel</td>
</tr>
</tbody>
</table>

NOTE 1: Embossed tape packaged items are sold by the reel with 500 pieces per reel.
Applicable Conditions
Reflow system: IR reflow
Solder type: Cream type 63 Sn/37 Pb
(Flux component 9 wt%)
Test board: Glass epoxy 85 x 60 x 1 mm
Metal mask thickness: 0.15 mm

Conditions may change and are dependent on type and thickness of solder.

PCB mounting pattern

Temperature Profile

Shaded portions [/] indicate pattern prohibited areas.

Applicable Conditions
Reflow system: IR reflow
Solder type: Cream type 63 Sn/37 Pb
(Flux component 9 wt%)
Test board: Glass epoxy 85 x 60 x 1 mm
Metal mask thickness: 0.15 mm

Conditions may change and are dependent on type and thickness of solder.
Embossed Carrier Tape Dimensions

Unreeling direction

Reel Dimensions
Method of Using the Sockets

1. Part Structure and Names
   Please see Photograph (3) on C39 page.

2. Opening the Holder Cover
   Press the slider and at the same time move it in the direction marked "OPEN". This action will release the lock and free the card holder.
   Remove the SIM card (as shown) so that it comes out from the card holder.

3. Closing the Holder Cover
   Align the slit of the SIM card with the polarity position.
   Insert the SIM card to the card holder.
   Close the card holder, press the slider, and at the same time move it in the direction marked "LOCK" on the card holder. A click sound will indicate that the lock has been engaged.
**Precautions for Use**

1) When opening the card holder with a SIM card inserted, avoid the action of directly lifting the SIM card and releasing the lock. Doing so will cause damage to the lock structure.

2) The card holder is based on a structure that moves only in the turning direction. Avoid pulling or applying unreasonable force in other directions.

3) Do not close the card holder when the slider is protruding from the card holder. Doing so will cause damage to the lock structure. (Please refer to the photographs below.)

4) A lock that is not fully engaged will cause poor contact.

5) Do not perform hot-line insertions. (NOTE 1)
   
   **NOTE 1:** The term hot-line insertion means performing an insertion while the electricity is supplied.

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**Washing Conditions**

1) **Organic Solvent Washing**

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Normal temperature washing</th>
<th>Heated washing</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPA (Isopropyl alcohol)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HCFC (Hydrochlorofluorocarbon)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

2) **Water Type Washing**

When using water type cleaning agents (e.g., terpene, and alkali saponifiers), select the cleaning agent based on the documentation issued by the various manufacturers of cleaning agents which describes the effects on metals and resins.

3) **Washing Precautions**

Residual flux or cleaning agent on the sockets when washing with organic solvents or water type cleaners can give rise to the deterioration of electrical performance. In this regard it is important to check whether a thorough washing has been performed.