**0.4 mm Pitch, Space-saving Interface Connectors**

GX Series

**Overview**
Developed as input/output connectors for use in portable devices requiring reliable high durability connection.

**Features**

1. **Small size**
   With a width of 5 mm and 2.4 mm height above the mounting surface the connectors may be used in applications where board and volume space is restricted. (Fig.1)

2. **Strong construction**
   Single piece shell increases the board retention and resists rotational forces encountered in demanding consumer environment

3. **High durability**
   Unique lock latches will maintain high retention force (plug with corresponding receptacle) up to 10,000 cycles, confirming fully mated condition with a distinctive tactile “click” sensation. (Fig.2)

4. **ESD protection**
   Increased distance from the edge of the metal shell to the front of the contacts offers circuit protection from electrostatic discharge. (Fig.3)

5. **RoHS compliant**
   All materials and substances used to produce this product comply with RoHS standards.

**Applications**
DSC, PDA, notebook computers, mobile phones and other portable devices requiring high durability interface connectors.

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**Small size**

(Fig.1)

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### Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Contact resistance</td>
<td>60 mΩ max.</td>
<td>100 mA DC</td>
</tr>
<tr>
<td>2. Insulation resistance</td>
<td>100 MΩ min.</td>
<td>100 V DC</td>
</tr>
<tr>
<td>3. Withstanding voltage</td>
<td>No flashover or insulation breakdown</td>
<td>100 V AC / 1 minute</td>
</tr>
<tr>
<td>4. Durability</td>
<td>Contact resistance: 100 mΩ max. No damage cracks or parts dislocation.</td>
<td>10,000 cycles</td>
</tr>
<tr>
<td>5. Shock</td>
<td>No electrical discontinuity of 1 µs or longer. No damage, cracks or parts dislocation.</td>
<td>Acceleration of 490m/s², 11 ms duration, sine half-wave, 3 cycles, 3 axis</td>
</tr>
<tr>
<td>6. Vibration</td>
<td>No electrical discontinuity of 1 µs or longer. No damage, cracks or parts dislocation.</td>
<td>Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 3 directions for 2 hours</td>
</tr>
<tr>
<td>7. Temperature cycle</td>
<td>Contact resistance: 100 mΩ max. No damage, cracks or parts dislocation.</td>
<td>Temperature: -55°C to +12°C to +85°C to +15°C to 35°C Time: 30min. → 2min. to 3min. → 30min. → 2min. to 3 min. 5 cycles</td>
</tr>
<tr>
<td>8. Humidity</td>
<td>Insulation resistance: 100 mΩ min. Insulation resistance: 10 MΩ min.</td>
<td>96 hours at a 40 ±3°C, RH of 90 to 95%, then leave for 1 to 2 hours at normal temperature and humidity</td>
</tr>
<tr>
<td>9. Heat resistance</td>
<td>Contact resistance: 100 mΩ max.</td>
<td>96 ±4 hours at +85 ±2°C</td>
</tr>
<tr>
<td>10. Cold resistance</td>
<td>Contact resistance: 100 mΩ max.</td>
<td>96 ±4 hours at -40 ±3°C</td>
</tr>
<tr>
<td>11. Salt spray test</td>
<td>Contact resistance: 100 mΩ max.</td>
<td>48 hours at a concentration of 5% ±1%, and humidity of 85 ±3°C</td>
</tr>
</tbody>
</table>

### Materials

#### Receptacle

<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>Copper alloy</td>
<td>Gold plated</td>
<td>--------</td>
</tr>
<tr>
<td>Shell</td>
<td>Stainless steel</td>
<td>Selective gold plated</td>
<td>--------</td>
</tr>
</tbody>
</table>

#### Plug

<table>
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<tr>
<td>Shells</td>
<td>Stainless steel</td>
<td>Nickel plated</td>
<td>--------</td>
</tr>
<tr>
<td>Lock</td>
<td>Stainless steel</td>
<td></td>
<td>--------</td>
</tr>
</tbody>
</table>

### Ordering information

#### Receptacle

GX60 - 18 P

1. Series name: GX60 (Receptacles)
2. Number of contacts: 18
3. Contacts type: P: Male

#### Plug

GX40 - 18 S

1. Series name: GX40 (Plugs)
2. Number of contacts: 18
3. Contacts type: S: Female
Receptacle

<table>
<thead>
<tr>
<th>Part No.</th>
<th>HRS No.</th>
<th>Packaging</th>
<th>RoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GX60-18P</td>
<td>247-0001-3</td>
<td>1,500 pcs/reel</td>
<td></td>
</tr>
</tbody>
</table>

Note: Order by number of reels.

All dimensions: mm

Recommended PCB mounting pattern

All dimensions: mm
Plug

Assembled components - Supplied non-terminated, without overmold

Assembly (insulator/ contact/lock)

Recommended PCB mounting pattern (Thickness=0.6mm)

PCB installed

Contact Number Identification

<table>
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<th>Packaging</th>
<th>RoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GX40-18S</td>
<td>247-0002-6</td>
<td>1</td>
<td>□</td>
</tr>
</tbody>
</table>

All dimensions: mm
Packaging Specifications

● Embossed carrier tape dimensions

Reel Dimensions

Recommended Solder Reflow Profile

The temperature profiles 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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GX Series ● 0.4 mm Pitch, Space-saving Interface Connectors

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