Ultra Low-profile Interface Connectors with 2.0mm Mounting Height

LX Series

- **Features**

1. **Low profile on the PCB**
   When mounted on the PCB surface the receptacle height is 2.0mm. (Fig.1)

2. **Strong Construction**
   Use of metal shell guarantees that fully mated connectors will withstand 30N max. force applied on the plug in any direction. (Fig.2)

3. **High contact reliability**
   Bellows contact with long mating stroke provides highly reliable mating as well as soft insertion feeling.
   Mating durability is up to 5,000 times long.

4. **Sequenced contact mating**
   The protection of the circuit is assured by having the 2 contact at each end of the receptacle are longer by 0.5mm, with electrical wipe of 1.45mm.
   Location of the circuit protection contacts can be changed as required.
   Remaining contacts electrical wipe is 0.95mm.

5. **Incorrect Insertion Prevention**
   Connectors will not be damaged when angled or reverse plug insertion is attempted. (Fig.3)

6. **Safety plug release**
   Plug will release when an excessive pull force is applied to the cable.

7. **RoHS Compliant**
   All materials and substances used to produce this product comply with RoHS standards.

- **Applications**

DSC, Tablet device, thin electronic equipment, mobile phones and other portable devices requiring high durability interface connectors.

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**Fig.1**

*Overview*

LX Series is a super low profile interface connector with sequential mating design and friction lock, which has been developed for low profile mobile terminals.

This connector features ESD problem prevention in 0.5mm terminal pitch and 2.0mm small and low profile design, which makes it suitable to small mobile devices.

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**Fig.2**

*Strong Construction*

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**Fig.3**

*Incorrect insertion prevention*
## LX Series

Ultra Low-profile Interface Connectors with 2.0mm Mounting Height

### Product specifications

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Specification</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current rating</td>
<td>0.5A (1A max. can be carried via 2 random contacts)</td>
<td>Operating temperature range : –40°C to +70°C</td>
</tr>
<tr>
<td>Voltage rating</td>
<td>50V AC</td>
<td>Storage temperature range : –55°C to +85°C</td>
</tr>
</tbody>
</table>

### Materials / Finish

#### Receptacles

<table>
<thead>
<tr>
<th>Component</th>
<th>Material</th>
<th>Finish/Color</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulator</td>
<td>Synthetic resin</td>
<td>Black</td>
<td>UL94V-0</td>
</tr>
<tr>
<td>Contacts</td>
<td>Copper alloy</td>
<td>Contact area : Gold plated</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mounting area : Gold flash plated</td>
<td></td>
</tr>
<tr>
<td>Shell</td>
<td>Stainless steel</td>
<td>Soldering area : Gold flash plated</td>
<td></td>
</tr>
</tbody>
</table>

#### Plugs

<table>
<thead>
<tr>
<th>Component</th>
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<td>Contact area : Gold plated</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Termination area : Gold flash plated</td>
<td></td>
</tr>
<tr>
<td>Metal shield</td>
<td>Stainless steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covers</td>
<td>Synthetic resin</td>
<td>Black</td>
<td>UL94V-0</td>
</tr>
<tr>
<td>Strain relief clamp</td>
<td>Copper alloy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self tapping screws</td>
<td>Steel</td>
<td>Trivalent black chromate</td>
<td>Screw size: M2</td>
</tr>
</tbody>
</table>

### 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.

#### Receptacles

**LX 60 - 16 S**

- Series number : LX
- Termination type
  - 40 : Solder type
  - 60 : Right angle SMT
- Number of contacts : 12, 16, 20
- Contact type
  - P : Male contact (Plug)
  - S : Female contact (Receptacle)

#### Plugs

**LX 40 - 16 P**

- Series number : LX
- Termination type
  - 40 : Solder type
  - 60 : Right angle SMT
- Number of contacts : 12, 16, 20
- Contact type
  - P : Male contact (Plug)
  - S : Female contact (Receptacle)

#### Bushing

**LX 40 - 16 BS(4.5)**

- Series number : LX
- Termination type
  - 40 : Solder type
  - 60 : Right angle SMT
- Number of contacts : 12, 16, 20
- Contact type
  - P : Male contact (Plug)
  - S : Female contact (Receptacle)
- Bushing
  - BS(4.0) : Dia. 4.0mm cable
  - BS(4.5) : Dia. 4.5mm cable
  - BS(5.0) : Dia. 5.0mm cable
LX Series Ultra Low-profile Interface Connectors with 2.0mm Mounting Height

**Receptacles**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>HRS No.</th>
<th>Packaging</th>
<th>RoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LX60-12S</td>
<td>245-0018-3</td>
<td>2,000 pcs/reel</td>
<td>✓</td>
</tr>
<tr>
<td>LX60-16S</td>
<td>245-0001-0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LX60-20S</td>
<td>245-0016-8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Recommended PCB mounting pattern**

- **12 pos.**
- **16 pos.**
- **20 pos.**

No conductive traces in this area

Land area

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## Plugs

<table>
<thead>
<tr>
<th>Part No.</th>
<th>HRS No.</th>
<th>Packaging</th>
<th>RoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LX40-12P</td>
<td>245-0019-6</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LX40-16P</td>
<td>245-0002-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LX40-20P</td>
<td>245-0017-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Bushing

<table>
<thead>
<tr>
<th>Part No.</th>
<th>HRS No.</th>
<th>Packaging</th>
<th>RoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LX40-12BS(4.0)</td>
<td>245-0020-5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LX40-16BS(4.5)</td>
<td>245-0021-8</td>
<td>100 pcs/pack</td>
<td></td>
</tr>
<tr>
<td>LX40-20BS(5.0)</td>
<td>245-0022-9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Receptacle Packaging Specifications**

- Embossed carrier tape dimensions
- Reel dimensions

<table>
<thead>
<tr>
<th>Part No.</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>LX60-12S</td>
<td>24</td>
<td>11.5</td>
<td>12</td>
</tr>
<tr>
<td>LX60-16S</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LX60-20S</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part No.</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>LX60-12S</td>
<td>25.5</td>
<td>29.5</td>
</tr>
<tr>
<td>LX60-16S</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LX60-20S</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Receptacles Recommended Temperature Profile**

This measurement is performed on the contact lead section. The temperature profile may vary due to external conditions such as the type of cream solder, manufacturer, and board size. Please contact the solder manufacturer for their specifications.

**Applicable Plug Cable**

<table>
<thead>
<tr>
<th>Part No.</th>
<th>Cable diameter</th>
<th>Wire size</th>
</tr>
</thead>
<tbody>
<tr>
<td>LX40-12P</td>
<td>Ø4 max.</td>
<td>Ø0.6 mm max. (AWG#30 to 32 or equivalent)</td>
</tr>
<tr>
<td>LX40-16P</td>
<td>Ø4.5 max.</td>
<td></td>
</tr>
<tr>
<td>LX40-20P</td>
<td>Ø5 max.</td>
<td></td>
</tr>
</tbody>
</table>

Note 1: Applicable cable sizes are guidelines. (There may be slight differences depending on the cable outer insulation)

Note 2: Cables must be attached using single piece overmolded bushings on the cable.

Note 3: Please refer to applicable Cable Termination Procedures Manual for correct plug assembly and cable termination.

**Mated Condition Dimensions**

This measurement is performed on the contact lead section.
LX Series●Ultra Low-profile Interface Connectors with 2.0mm Mounting Height

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The characteristics and the specifications contained herein are for reference purpose. Please refer to the latest customer drawings prior to use.

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