# Capacitive Touch Sensor

## 4 Main Features

1. **Space-Saving**
   A sensor as thin as a film. Capable of using in a small gap. Save space.

2. **Flexibility**
   All we use is soft polymer-based material. Applicable to a bended application or for setting on a curved surface.

3. **Permeability**
   The transparent electrode is made by conductive polymer. So it is suitable for a backlight use with the transparency.

4. **Expandability**
   The function or design is expandable with adding a screen print process.

## Benefits of Adoption

- **Various Input Operations**
  Touching, sliding, wheeling, approaching

- **Flexibility of The Applied Position**
  Available for a curved surface, thin/small space

- **Excellent Flexibility for Custom Design**
  Best for flat and seamless designs

- **Durability**
  No deterioration by key stroking

- **Help Reduce The Quantity of The Parts**

## Track Record

- Car air-conditioner
- Car navigation
- The household appliance for cooking
- Telephone
- Karaoke
- Room lamps

## Basic Structure

![Basic Structure Diagram](diagram.png)
**Touch Sensor Specification**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Temperature Range</strong></td>
<td>-30°C ~ +80°C</td>
</tr>
<tr>
<td><strong>Storage Temperature Range</strong></td>
<td>-40°C ~ +90°C</td>
</tr>
<tr>
<td><strong>Static Electrical Characteristics</strong></td>
<td>DIF value: Standard value ±15%</td>
</tr>
<tr>
<td><strong>Insulation Resistance Value</strong></td>
<td>DC30V applied: 30MΩ or higher</td>
</tr>
<tr>
<td><strong>Permeability</strong></td>
<td>80±5%</td>
</tr>
</tbody>
</table>

**Touch Sensor Reliability**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Low-Temperature Storage</strong></td>
<td>No abnormalities in appearance or operation after being left at -40°C × 1000h</td>
</tr>
<tr>
<td><strong>High-Temperature Storage</strong></td>
<td>No abnormalities in appearance or operation after being left at 90°C × 1000h</td>
</tr>
<tr>
<td><strong>High-Temperature, High-humidity Storage</strong></td>
<td>No abnormalities in appearance or operation after being left at 50°C, 98%RH × 1000h</td>
</tr>
<tr>
<td><strong>Shock Resistance</strong></td>
<td>No abnormalities in appearance or operation after implementation of 1000 cycles (1h/1 cycle) with -30°C ⇄ 80°C as 1 cycle</td>
</tr>
<tr>
<td><strong>Light Resistance</strong></td>
<td>No abnormalities in appearance or operation after being left in a sunshine carbon arc at 63°C × 300h</td>
</tr>
</tbody>
</table>

**Reference**

- **Curved Label Sensor**
  - The sensor can be mounted on a 3-dimensional shaped panel.

- **Sensor Integration in A Rubber Band**
  - The sensor can be inserted into rubber.

- **Texture Sensor**
  - Realizing higher designability by integrating with textures.

- **Curved Mold Sensor**
  - Capable of insert molding.