**Thin-Film Battery**

Molex’s Thin-Film Battery is a low-profile, flexible, disposable battery with a small footprint designed for low-power single-use applications.

### Features and Advantages

- **Flexible and low-profile**
  - Can be applied on a curved surface with a bend radius of 25mm or greater.

- **Reduced distance between anode and cathode**
  - Vertically stacked construction provides the following compared to single-layered construction:
    - Reduced internal resistance
    - Increased peak current
    - Increased usable capacity
    - Reduced footprint

- **No heavy metals**
  - Offers an economical, environmentally safe alternative to lithium.

- **Thin, flexible form factor**
  - Supports design flexibility appropriate for a wide variety of products.

- **Available in 1.5 and 3V configurations**
  - Delivers power suitable for low-power disposable application.

### Applications

**Consumer**
- Wearable Electronics
- Biometric Monitoring Devices
- Sports Monitoring Devices

**Medical**
- Patient monitoring devices
- Biosensors
- Diagnostic and therapeutic devices
- Blood-glucose monitoring
- Respiratory monitoring
- Drug delivery

**Industrial and IoT**
- Smart labels and tags
- Perishable Goods Monitoring
- Environmental Sensors
**Thin-Film Battery**

**SPECIFICATIONS (Typical CC 1.5 and CC 3.0 Configurations)**

**REFERENCE INFORMATION**
Packaging: Sealed Bag  
Designed In: Millimeters  
RoHS: Yes  
Halogen Free: Yes  
Anode Contact Pad: Zinc-Carbon Blend  
Cathode Contact Pad: Carbon Ink

**CHEMICAL**
Chemistry: Zinc – Manganese dioxide – Zinc chloride

**PHYSICAL**
Thickness: 0.7mm  
Bending Radius: > 25.00mm  
Operating Temperature: -35 to +50°C  
Operating Humidity: 20 to 90% RH  
Compliant with the European battery directive 2006/66/EC

*Cutoff voltage 0.9V and 1.8V respectively  
†In original battery package at 23°C  
‡Only limited exposure to elevated temperatures is recommended. Reduced performance at temperatures below 0°C.  
**Only limited exposure to extreme humidity conditions is recommended.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>CC 1.5</th>
<th>CC 3.0</th>
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</thead>
<tbody>
<tr>
<td>Voltage (V)</td>
<td>1.5</td>
<td>3</td>
</tr>
<tr>
<td>Size (mm)</td>
<td>60 x 72</td>
<td>60 x 42</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>2.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Min. Initial Capacity (mAh)*</td>
<td>90mAh at 1.2mA</td>
<td>10mAh at 0.4mA</td>
</tr>
<tr>
<td>Initial Internal Resistance (Ω)</td>
<td>25</td>
<td>150</td>
</tr>
<tr>
<td>Maximum Peak Current (mA)</td>
<td>18-20mA</td>
<td>6-8mA</td>
</tr>
<tr>
<td>Shelf Life (years)‡</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

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**Ordering Information**

<table>
<thead>
<tr>
<th>Order Number</th>
<th>Description</th>
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<tbody>
<tr>
<td>13299-0001</td>
<td>Thin-Film Battery, 3.0V Plus, Flexible, Disposable</td>
</tr>
<tr>
<td>13331-0001</td>
<td>Thin-Film Battery, 1.5V Plus, Flexible, Disposable</td>
</tr>
</tbody>
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USA/04/GF/2018.04  
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www.molex.com/link/thin-filmbattery.html