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

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

**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

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

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

**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

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Illustration of Thin-Film Battery With Vertically Stacked Construction

Molex Thin-Film Batteries: 1.5V (left) and 3V (right)
Specifications (Typical 1.5V and 3V Configurations)

**REFERENCE INFORMATION**
- Packaging: Sealed Bag
- Designed In: Millimeters
- RoHS: Yes
- Halogen Free: Yes
- Anode Contact Pad: 1.5V: Zinc Carbon Blend
  - 3V: Carbon Ink
- 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

<table>
<thead>
<tr>
<th>Attribute</th>
<th>1.5V Thin-Film Battery</th>
<th>3V Thin-Film Battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Voltage</td>
<td>1.5</td>
<td>3</td>
</tr>
<tr>
<td>Size (mm)</td>
<td>60.00 x 72.00</td>
<td>36.00 x 54.00</td>
</tr>
<tr>
<td>Weight (g)</td>
<td>2.9</td>
<td>2.0 (max.)</td>
</tr>
<tr>
<td>Min. Initial Capacity*</td>
<td>90mAh at 1.2mA</td>
<td>24mAh @ 1mA</td>
</tr>
<tr>
<td>Initial Internal Resistance (Ohms)</td>
<td>25</td>
<td>90</td>
</tr>
<tr>
<td>Maximum Peak Current (mA)</td>
<td>18-20</td>
<td>8-10</td>
</tr>
<tr>
<td>Shelf Life†</td>
<td>2 Years in original packaging at 23°C</td>
<td></td>
</tr>
</tbody>
</table>

*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.

Ordering Information

<table>
<thead>
<tr>
<th>Order Number</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>13299-0002</td>
<td>Thin-Film Battery, 3V, Flexible, Disposable</td>
</tr>
<tr>
<td>13331-0001</td>
<td>Thin-Film Battery, 1.5V, Flexible, Disposable</td>
</tr>
</tbody>
</table>

www.molex.com/link/thin-filmbattery.html

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