

Thin-Film Battery

molex

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

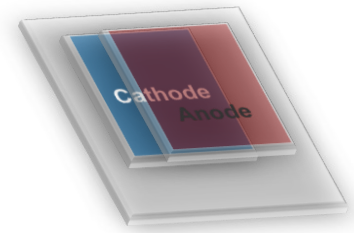


Illustration of Thin-Film Battery With Vertically Stacked Construction



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

Applications

Consumer

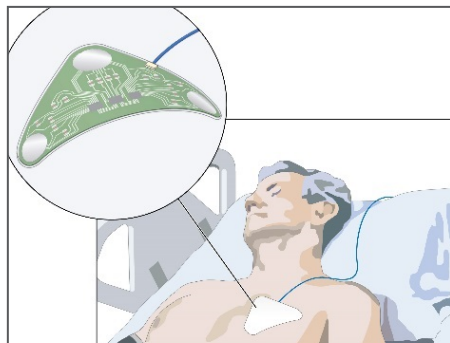
- Wearable Electronics
- Biometric Monitoring Devices
- Sports Monitoring Devices

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



Disposable Patient Monitoring Device



Smart Labels

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^S
 Operating Humidity: 20 to 90% RH**
 Compliant with the European battery directive 2006/66/EC

^SCutoff voltage 0.9V and 1.8V respectively

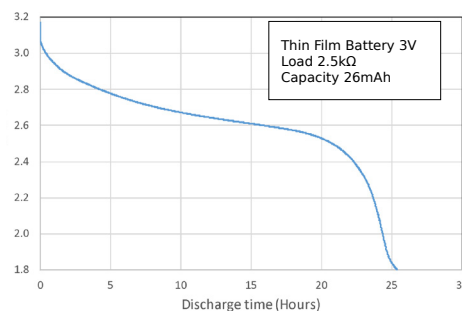
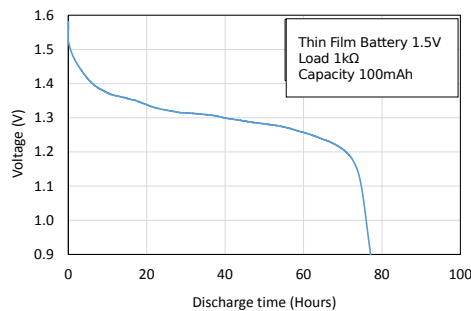
^IIn original battery package at 23°C

^ROnly limited exposure to elevated temperatures is recommended.

Reduced performance at temperatures below 0°C.

^HOnly limited exposure to extreme humidity conditions is recommended.

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



Ordering Information

Order Number	Description
13299-0002	Thin-Film Battery, 3V, Flexible, Disposable
13331-0001	Thin-Film Battery, 1.5V, Flexible, Disposable

Technology, Innovation and Solutions

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