

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 35.00mm or greater

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

Reduced distance between anode and cathode

Vertically stacked construction provides the following advantages compared to single-layered construction:

- Reduced internal resistance
- Increased peak current
- Increased usable capacity
- Reduced footprint

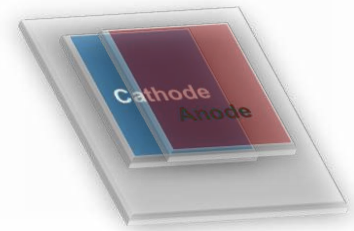
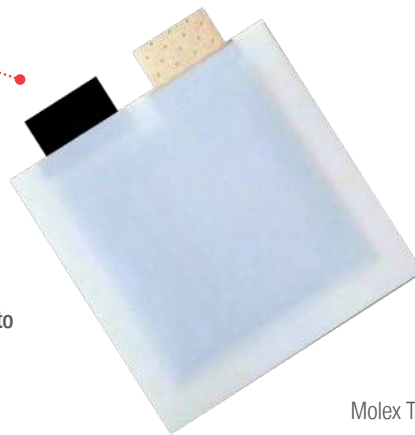


Illustration of Thin-Film Battery With Vertically Stacked Construction



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

Available in 1.5 and 3V configurations

Delivers power suitable for low-power disposable application

Applications

Consumer

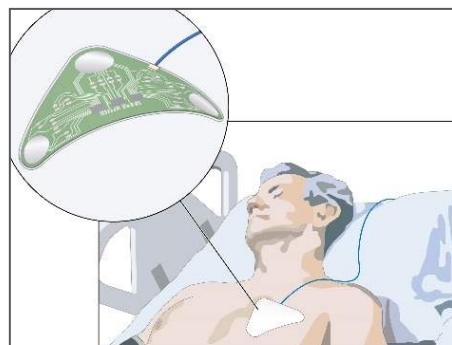
- Wearable Electronics
- Biometric Monitoring Devices
- Sports Monitoring Devices

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



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 (min.): 35.00mm
 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

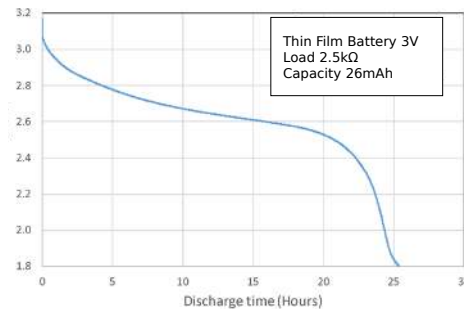
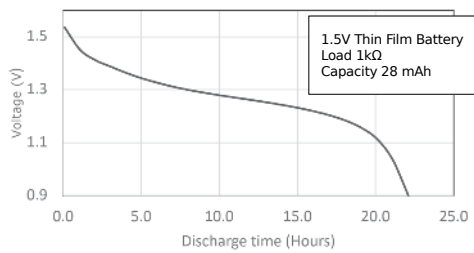
[‡]In original battery package at 23°C

[§]Only limited exposure to elevated temperatures is recommended.

Reduced performance at temperatures below 0°C.

^{**}Only limited exposure to extreme humidity conditions is recommended.

Attribute	1.5V Thin-Film Battery	3V Thin-Film Battery
Nominal Voltage	1.5	3
Size (mm)	35.00 x 35.00	36.00 x 54.00
Weight (g)	1.0	2.0 (max.)
Min. Initial Capacity*	20mAh at 1mA	24mAh @ 1mA
Initial Internal Resistance (Ohms)	55	90
Maximum Peak Current (mA)	10	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
13331-0002	Thin-Film Battery, 1.5V, Flexible, Disposable

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