

Flexible Water-Activated Smart Sensing Battery - NEPTUNE

Technical Specification V1.0

Company Introduction

FlexCap Energy Ltd. is a Toronto-based Canadian technology company, positioned in the wearables and flexible electronics market. We aim to provide more comfortable wearables by creating fully flexible and customizable energy storage solutions. FLEXCAP developed customizable flexible thin-film water-activated smart sensing batteries NEPTUNE, with capacity ranging up to 5 mAh. This type of disposable, water-activated battery can be easily adapted for biomedical monitoring, water leakage monitoring, water quality testing, maternal and baby products, beauty care, outdoor safety, etc. NEPTUNE products can be stretched or bent without affecting performance. Our engineering team also provides customers with comprehensive support to integrate flexible products into their wearable devices. We work closely with our partners to ensure our products quality and continuous improvements in device performance.

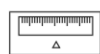
Characteristics of NEPTUNE Water-Activated Thin-Film Batteries

- Stable operating voltage platform (4.0V)
- Wide operational temperature range (0°C~60°C)
- Ultra-thin structure, fully flexible design
- Safe for skin contact
- Eco-friendly: no toxic or harmful substances
- Customizable: voltage, size, shape, and capacity, etc.



Application Domain

- Water leakage monitoring
- Sweat and body fluid sensing
- Low power-consumption transmitters
- Maternal & child products
- Water quality monitoring
- Outdoor safety



Model	Voltage	Standard Capacity	Peak Discharge Current	Thickness	Storage Period	Internal Resistance at 1 kHz	Operating Temperature
Neptune-Q-tf	4.0 V	5 mAh	1-2 mA	<1 mm	24 Months	200 Ω	0°C~+60°C

*Not containing harmful metals: Mercury, Cadmium, or Lead

Product Features

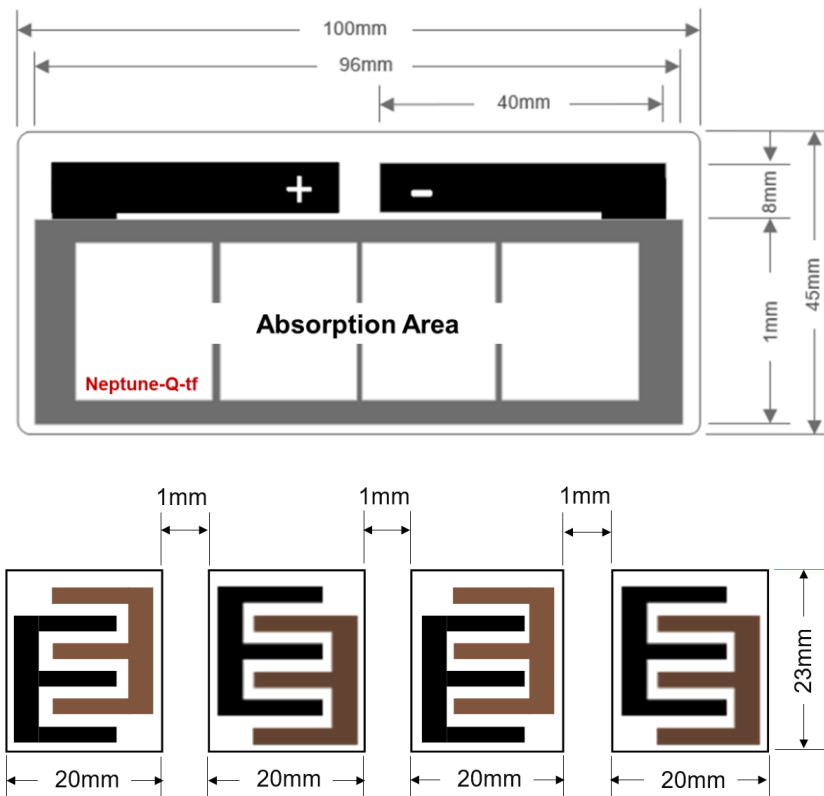
NEPTUNE Series Water-activated Smart Sensing Battery

- Equipped with the world's leading flexibility and ultra-thin design
- Customizable capacity, up to 5mAh
- Optional quick discharge function

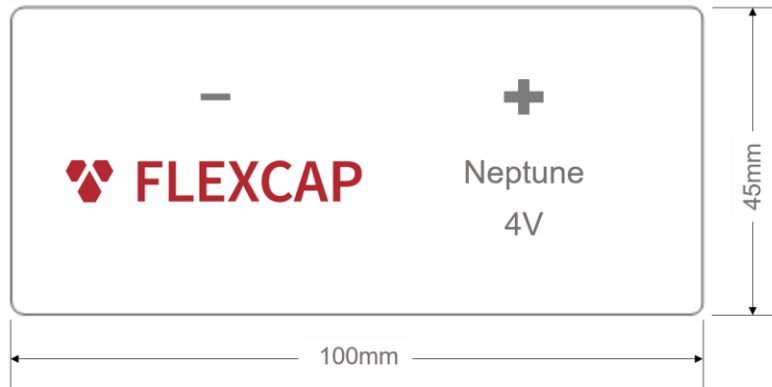
Product Specification

- Packaging Material: White PET flexible substrate
- Material of electrode tabs: Conductive carbon layer
- Storage period: 24 months

Neptune-Q-tf 4.0V Specification

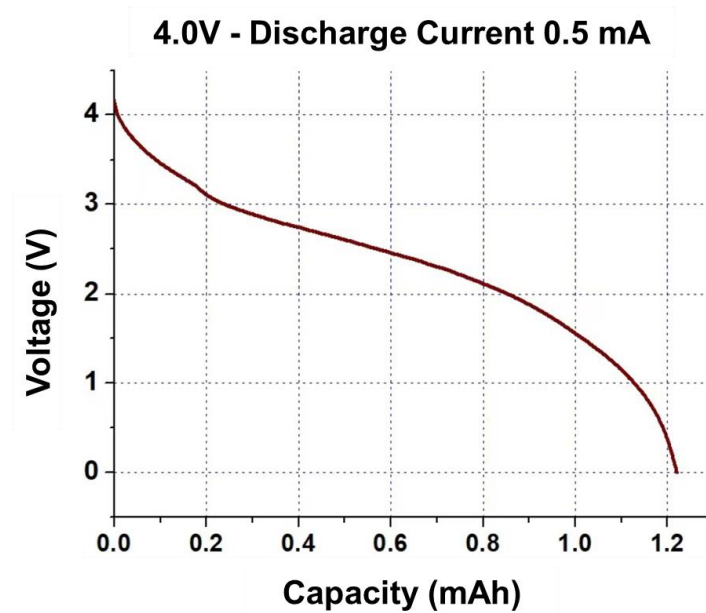


Front View



Neptune-Q-tf 4.0V Discharge Curves

Note: Tests conducted under 25°C environmental temperature and R.H. of 50%
Using 0.9M NaCl solution and 8-channel constant current discharge tester





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