ITEN
POWERING
A NEW DIMENSION

PRELIMINARY PRODUCT BRIEF

POWENCY - PWY0150S

HIGH-POWER SMD RECHARGEABLE MICRO-ENERGY STORAGE DEVICE

- 150 µAh capacity in an SMD QFN package
- High Power
- Fast Charge
- 1000 cycles at 100 % DoD
- -20°C to 70 °C
- QFN package
- Low temperature (165°C) Solder & Reflow compliant
- Easy interface with common charging architectures
- Green
  ROHS & REACH compliant
- Safe and reliable

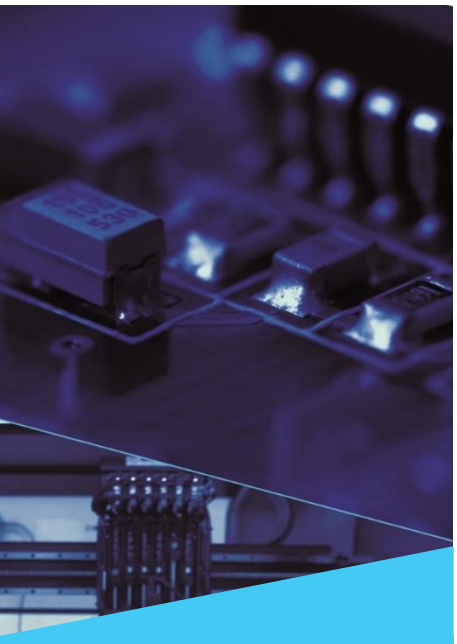
The PWY0150S is a versatile, highly-integrated, high-power density, micro-energy storage device delivering up to 20mA to power up PAN/LAN wireless sensors (BLE, 802.15.4, NFC, …).

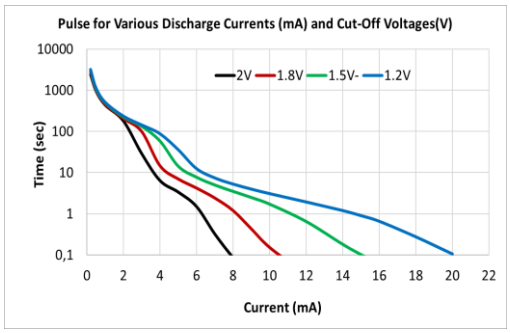
APPLICATIONS

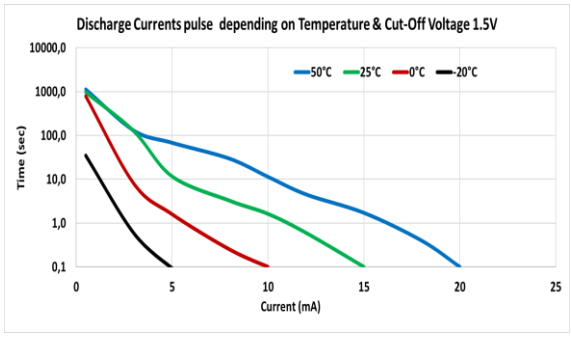
- Low-Power PAN/LAN Wireless Sensors
- Energy Harvesting
- Data Loggers
- Healthcare Devices
- RTC & MCU Power Backup

SPECIFICATIONS

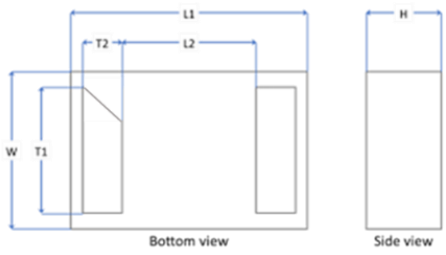
Parameter	Unit	Value
Minimum Capacity	µAh	150
Nominal Voltage	V	2.3
Charge –Discharge Voltage Range	V	2.7 - 1.5
Weight	g	0.073







DIMENSIONS



Dimensions (mm)

W	L1	H	T1	T2	L2
3.5	5.1	1.6	2.6	0.8	3.0
±0.3	±0.3	±0.3	±0.2	±0.2	±0.2

The polarity of the battery is indicated using a marking located on one side of the battery and pointing out to the positive terminal of the battery.

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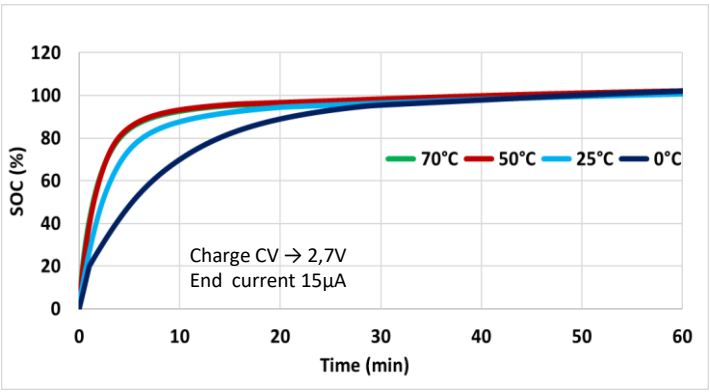
USE-CASES

The versatility of the PWY0150S widens the range of micro-energy storage applications. The PWY0150S is the ultimate solution to assist a battery or an Energy Harvesting module as an energy buffer delivering high peak currents. The PWY0150S also supports Power Backup / Always-On applications, when a steady current is delivered to the system between 2 charges.

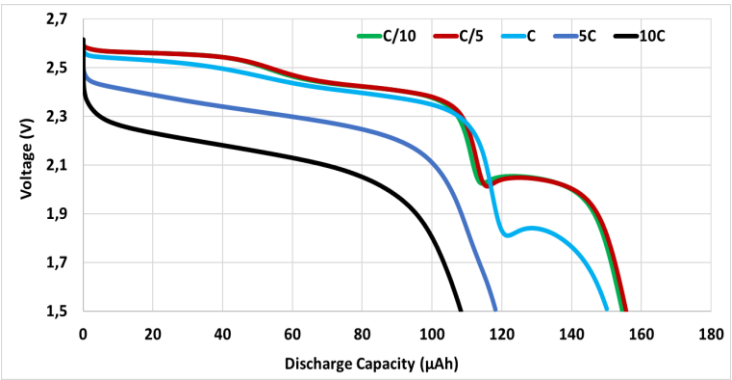
Unlike conventional batteries, off-the-shelf DC/DC converters are sufficient to properly charge the storage device e.g., LDO, Buck, Boost or PMIC. Please contact the ITEN Customer Support team for advice.

PERFORMANCES

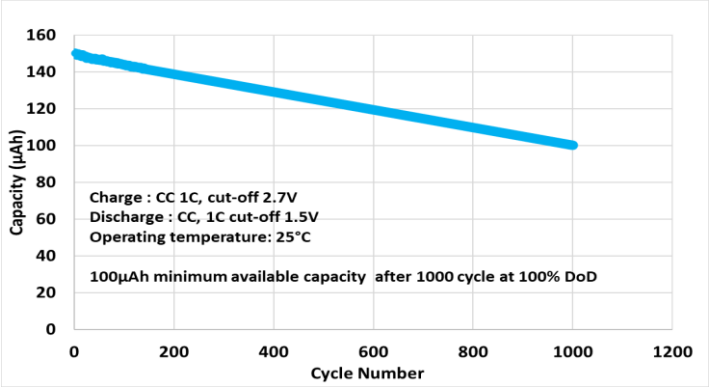
CHARGE



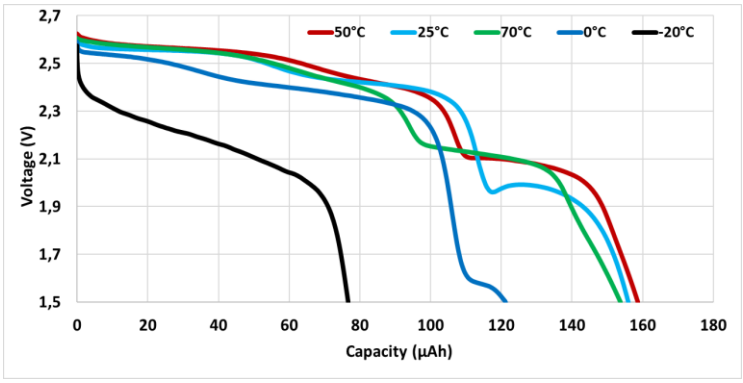
DISCHARGE (25°C)



CYCLING (25°C)



TEMPERATURE (C/5 DISCHARGE)

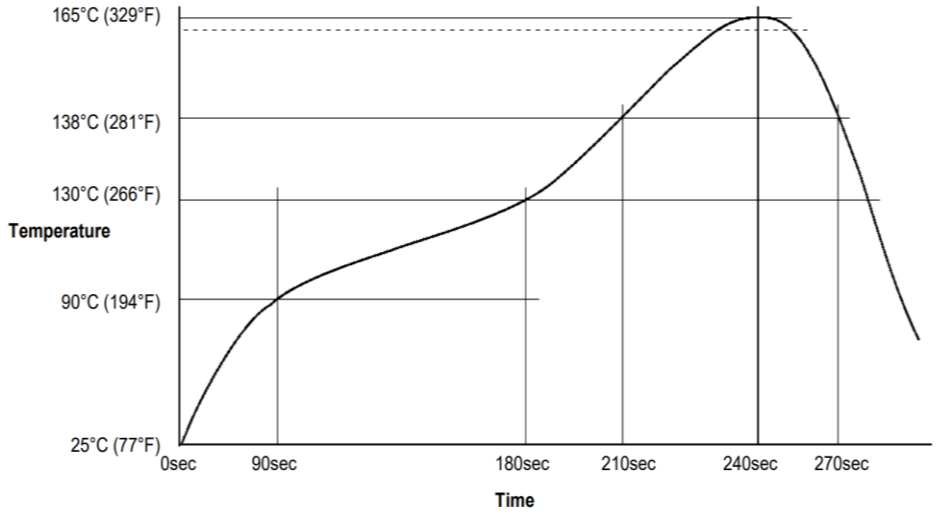


The data in this document is for descriptive purposes only and is not intended to make or imply any guarantee or warranty. Design and specifications are subject to change without notice.

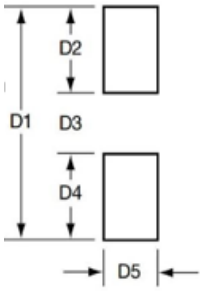
SOLDERING CONDITIONS

Conditions recommended for air convection and IR reflow soldering:

- **Before soldering, be sure to preheat the components in order to limit thermal stress**
- **Use air for natural cooling. Using forced cooled air may lead to thermal shock cracks**
- **Recommended profile for Sn42Bi57.6Ag0.4 solder paste;**
- **Temperature tested by using this solder paste: 165°C**
- **Reference: https://www.chipquik.com/datasheets/SMDLTLFP.pdf**



FOOTPRINT RECOMMENDATIONS (according to IPC standards)



Packaging type	D1 (mm)	D2 (mm)	D3 (mm)	D4 (mm)	D5 (mm)
QFN	5.75	1.95	1.85	1.95	2.90

HANDLING & STORAGE

The microbattery should not be disassembled, crushed or exposed to high temperatures (> 120 °C or > 250 °F). If the microbattery is kept for a long time (3 months or more), it is strongly recommended that the cell is preserved at dry and low-temperature.

It is preferable not to store the microbattery in an environment exposed to direct sunlight and/or containing corrosive elements, dust or moisture. Indeed, these conditions may cause the degradation of the packing performance and the oxidation of the electrodes which can deteriorate the solderability of the product.

The microbattery is recommended to be used within a time-frame of 1 year after shipment in order to optimize the solderability process. After that period, check the solderability before use.