

# HLC – 1530A



## Hybrid Layer Capacitor (HLC) For *PulsesPlus™* batteries

### Electrical characteristics (For batteries stored at RT for 1 year or less)

Capacity when charge to 3.67 V	250 As
Capacity when charge to 3.90 V	380 As
Discharge end voltage	2.5 V (discharge below 2.5 V at RT may increase the HLC internal impedance). For other temperatures and discharge condition please contact Tadiran for these end voltage conditions.

### Mechanical characteristics

Length	27.4 mm. max
Diameter	15.1 mm. max
Weight	9.9 gr. max

### Operating conditions

Maximum discharge current:	
Continuous	0.75 A
Pulse, 1 sec	3.0 A
Charge (constant current)	
Max. charge voltage	3.95 V
Max. charge current	50 mA
Operating temperature range	
HLC in PulsesPlus™ battery	-40 °C ÷ +85 °C
Storage temperature range of HLC	-40 °C ÷ +60 °C
Cell impedance at RT	< 140 mΩ at 1 kHz
Self discharge of PulsesPlus™ battery at RT	1.8 μA
Self discharge of PulsesPlus™ battery at 80 °C	8 μA

Shelf life at different storage temperature to 80% of initial capacity

Temperature	HLC	HLC in <i>Pulses Plus™</i> battery
RT	3 years	10 years
60 °C	4 weeks	7 years
80 °C	1 week	At least 1 year

### Safety

### Tested according to:

Short circuit at RT and at +55 °C	UL, UN, IEC
Oven at +150 °C	UL, IEC
Over-charge & over-discharge (200 % at currents up to 1 A)	UL, UN, IEC
Impact	UL, UN, IEC
Compression	UL, IEC
Shock and vibration	UL, IEC

UN Manual of Tests and Criteria, UL 1642, IEC 60086

UL Approved under file MH12193 issued December 7<sup>th</sup>, 2000



### Technology

- Anode: Carbon based
- Cathode: Multi metal oxides
- Electrolyte: Organic
- Shut down separator

### Key Features

- Hermetically sealed (glass-to-metal)
- Wide operating temperature range
- Low self discharge
- End of life indication capability
- High reliability
- Lightweight
- Safe design

### Main Applications

- Utility Meters (AMR)
- Asset, Container & Cargo Tracking
- RFID Devices
- Sonar Buoys
- Communication Equipment
- Emergency & Medical Devices

### Ordering Part No.

■ HLC -1530A/S	61153122000
■ HLC -1530A/T	61153122150
■ HLC -1530A/TP	61153132000
■ HLC -1530A/PT2	61153135000

### Tadiran Batteries Ltd.

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[www.tadiranbatteries.com](http://www.tadiranbatteries.com)

**WARNING:**  
Fire, Explosion, And Severe Burn Hazard.  
Do Not Recharge, Crush, Disassemble, Heat  
Above 100°C, Incinerate Or Short Circuit.

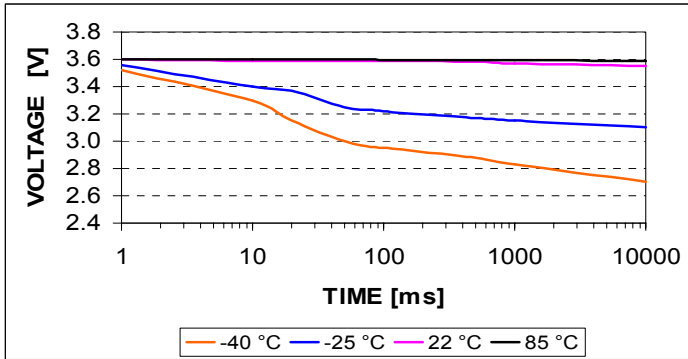
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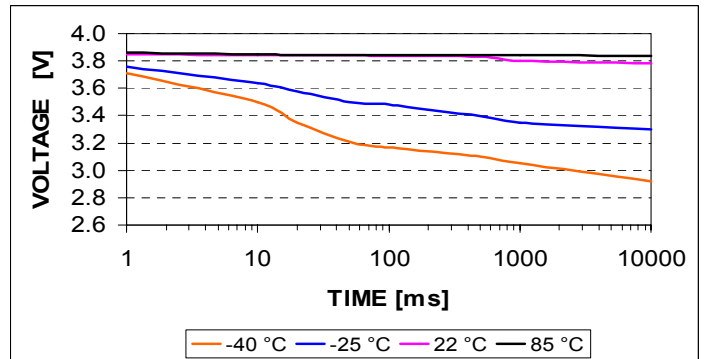


## Performance data

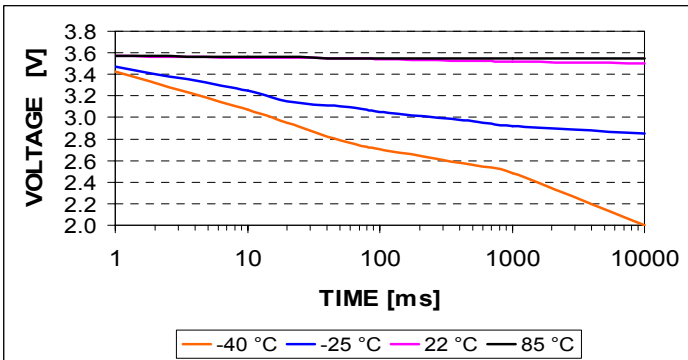
Voltage curves for HLC1530A at Li/SOCl<sub>2</sub> potential (3.67 V), 350 mA



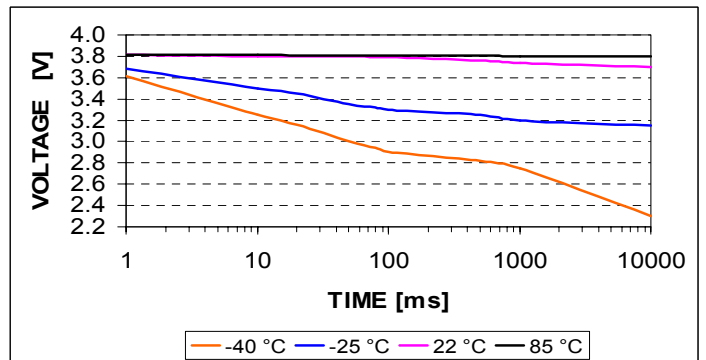
Voltage curves for HLC1530A at Li/SO<sub>2</sub>Cl<sub>2</sub> potential (3.90 V), 350 mA



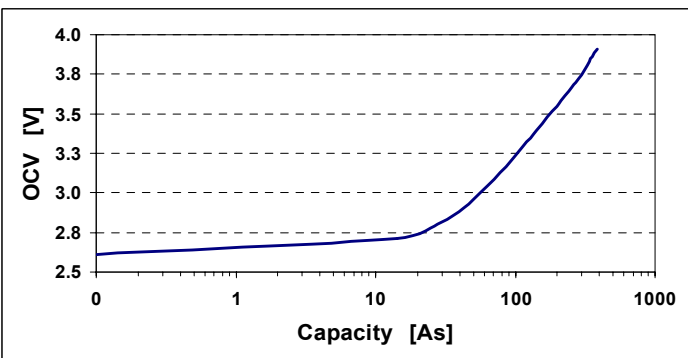
Voltage curves for HLC1530A at Li/SOCl<sub>2</sub> potential (3.67 V), 600 mA



Voltage curves for HLC1530A at Li/SO<sub>2</sub>Cl<sub>2</sub> potential (3.90 V), 600 mA



Available capacity vs. OCV for HLC1530A (at RT, 90 mA discharge)



### Warning:

- The HLC is designed for use in a PulsesPlus™ battery or in low charge current as specified only. The HLC may explode or violently vent if over-charge above 4.4V.
- Do not charge the HLC higher than 4.1 V, over discharge, short circuit, heat above 100 °C, incinerate or expose content to water.
- Charging the HLC at above 3.95 V may lead to capacity loss and / or internal impedance rise.

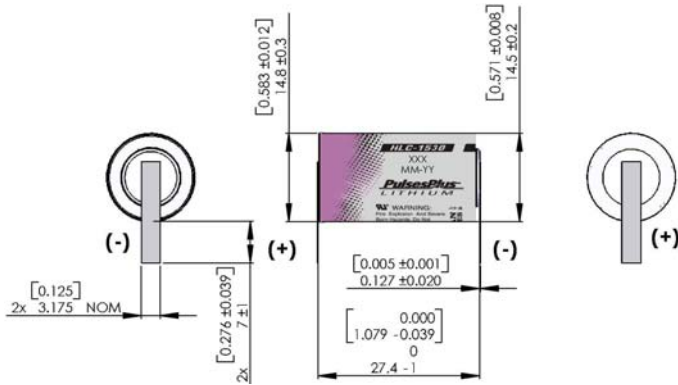
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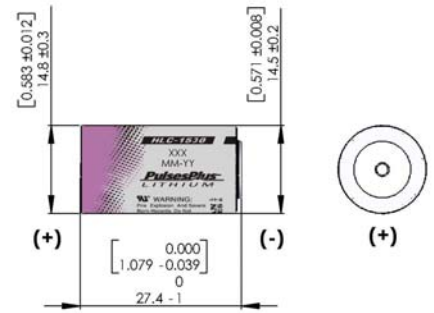


## Lead terminations

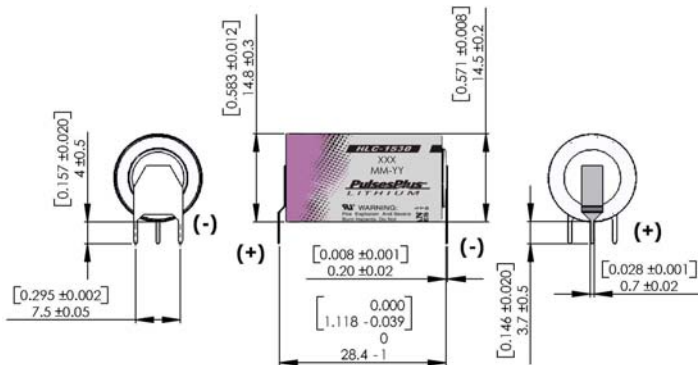
**HLC-1530A/T (Soldering Tabs)**  
Cat. # 61153122150



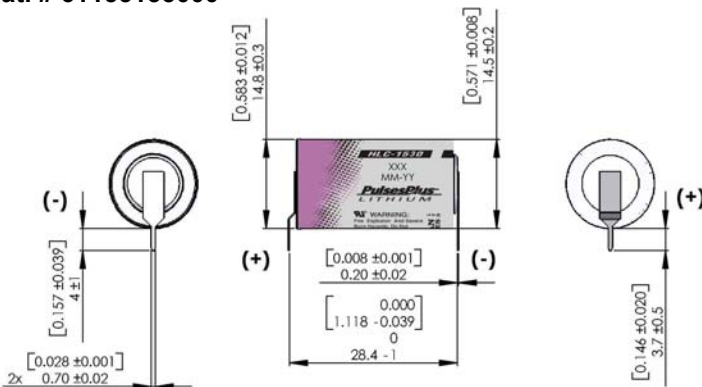
**HLC-1530A/S (Standard)**  
Cat. # 61153122000



**HLC-1530A/TP (PCB Mountable - Polarized)**  
Cat. # 61153132000



**HLC-1530A/PT2 (PCB Mountable)**  
Cat. # 61153135000



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