



### AA Size Hybrid Layer Capacitor (HLC)

**Notice: Use as part of PulsesPlus™ battery only.**  
 Consult with Tadiran to confirm applicability for specific application requirements.

#### Physical Characteristics

Length	51.5 mm. max.
Diameter	15.1 mm. max.
Weight	18.8 g. max.

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

Capacity when charged to 3.67V	560 As
Capacity when charged to 3.90V	850 As
Maximum Discharge Current	
Continuous (without PTC)	2 A
1 second pulse (without PTC)	5 A
Operating temperature range	-40 to +85 °C
Storage temperature range	-55 to +85 °C
Self discharge in PulsesPlus™ battery at RT	3 µA
Self discharge in PulsesPlus™ battery at 80°C	15 µA
Impedance at RT	< 100 mΩ at 1 kHz

#### Shelf life at different storage temperatures to 80% of initial capacity

Temperature	HLC when not connected to a primary cell	HLC in PulsesPlus™ battery
RT	3 years	10 years
60°C	4 weeks	7 years
80°C	1 week	At least 1 year

#### Safety Warnings (if HLC is not connected to primary cell)

The HLC is designed for use in a PulsesPlus™ battery or in low charge current as specified only.

The open-circuit voltage during storage shall not fall below 2.8V.

Discharging below 2.5V at RT may increase the HLC's internal impedance.

The maximum charge current, when HLC is not charged by primary cell, is 100 mA.

Maximum Charging Voltage is 3.95 V. Charging the HLC at above 3.95 V may lead to capacity loss and / or internal impedance rise.

Do not charge the HLC above 4.1V. Charging above 4.4V may cause the HLC to explode or vent violently.

#### Safety Compliance

The cells successfully passed the following tests:

- Altitude simulation
- Shock & Vibration
- Short Circuit at RT and 57 °C
- Heating at 130 °C
- Forced Discharge
- Crush
- Impact
- Temperature Cycling
- Overcharge

THE INFORMATION PROVIDED HERE IS NECESSARILY OF A GENERAL NATURE. SINCE SPECIFIC PERFORMANCE DEPENDS ON ACTUAL OPERATING AND STORAGE CONDITIONS, OUR ENGINEERS WILL PROVIDE PARTICULAR APPLICATION INSTRUCTIONS UPON REQUEST. DATA SUBJECT TO REVISION WITHOUT NOTICE. ANY REPRESENTATION IN THIS BROCHURE CONCERNING PERFORMANCE ARE FOR INFORMATION PURPOSES ONLY AND NOT WARRANTIES, EITHER EXPRESSED OR IMPLIED, OF FUTURE PERFORMANCE. TADIRAN'S STANDARD LIMITED WARRANTY, STATED IN ITS SALES CONTRACT OR ORDER CONFIRMATION FORM IS THE ONLY WARRANTY OFFERED BY TADIRAN.

### PulsesPlus™



#### Key Features

- Up to 25 years lifetime and more
- Hermetically sealed (glass-to-metal)
- Wide operating temperature range
- Low self discharge
- Large number of cycles
- High output current
- High reliability
- Safe design
- Lightweight

#### Main Applications

- Utility Meters
- Asset, Container & Cargo Tracking
- RFID Devices
- Communication Equipment
- Internet of Things (IoT)
- Emergency and Medical devices
- Sonar Buoys

#### Ordering P/N:

HLC-1550A/S	61-1551-22000
HLC-1550A/T	61-1551-22150
HLC-1550A/TP	61-1551-32000

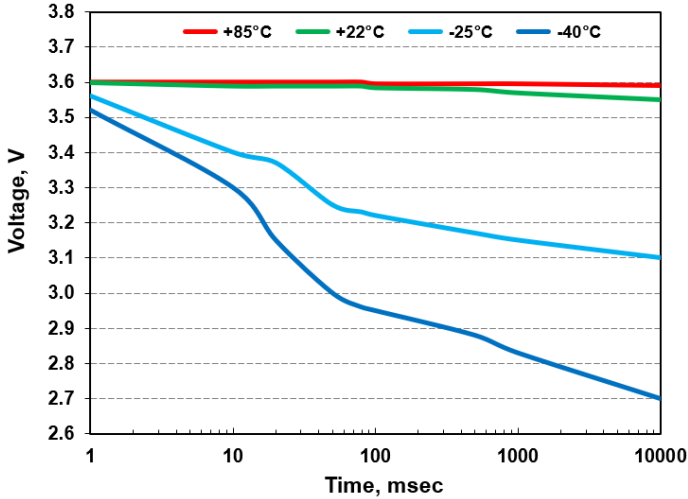
**WARNING:**

Fire, Explosion, And Severe Burn hazards.  
 Do Not Crush, Disassemble, Heat Above 100°C, Short Circuit, Incinerate Or Expose Contents to water.

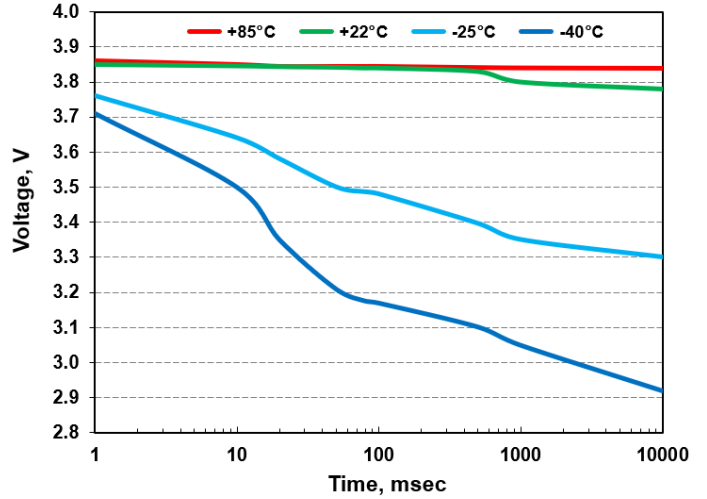
[www.tadiranbatteries.com](http://www.tadiranbatteries.com)

## Performance Data

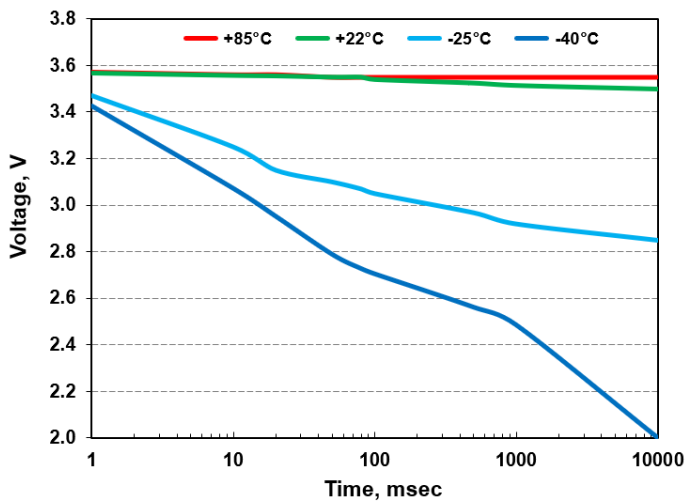
Voltage curves for HLC-1550A at Li/SOCl<sub>2</sub> potential (3.67V), 750 mA



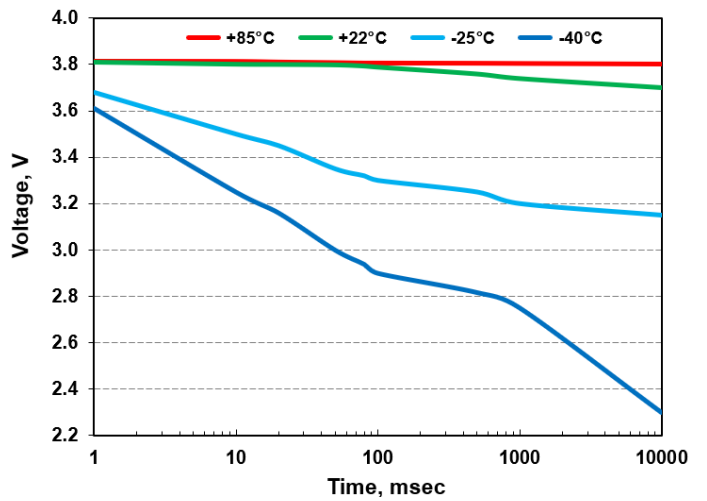
Voltage curves for HLC-1550A at Li/SO<sub>2</sub>Cl<sub>2</sub> potential (3.90V), 750 mA



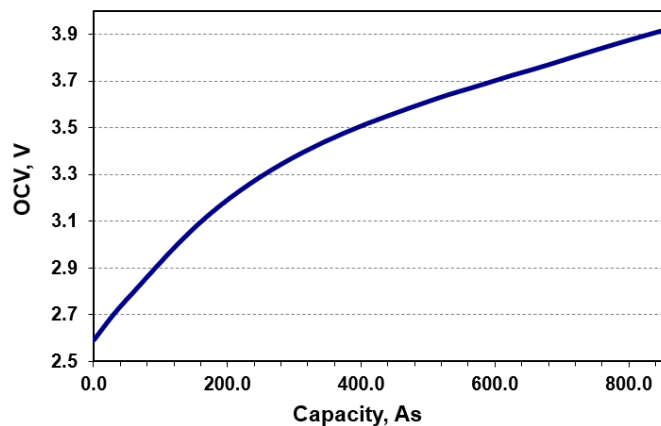
Voltage curves for HLC-1550A at Li/SOCl<sub>2</sub> potential (3.67V), 1200 mA



Voltage curves for HLC-1550A at Li/SO<sub>2</sub>Cl<sub>2</sub> potential (3.90V), 1200 mA



Discharge capacity vs. OCV for HLC-1550A (at RT, 200 mA discharge)



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