

## SPECIFICATIONS

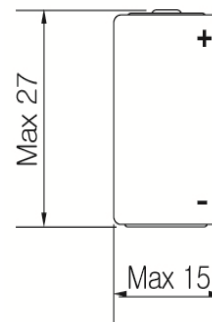
### 1.Scope

This data sheet describes the mechanical design and performance of Xeno (Hybrid Pulse Capacitor) model HPC-1530 optimized for extreme temperatures used in an Hybrid battery system.

### 2.Mechanical characteristics

Physical:

Length: 27.0 mm. max  
 Diameter: 15.0 mm. max  
 Weight: 10.1 gr. max



### 3.Electrical characteristics

#### 3.1. Discharge

Discharge capacity (at RT):

When charged to 3.67V: 250 A\*sec  
 When charged to 3.90V: 380 A\*sec  
 Discharge end Voltage: 2.5V (discharge below 2.5V at RT and discharge below 2.0V at -40 °C may increase the HPC internal impedance)

Maximum discharge current: Continuous: 750mA  
 Pulse: 3,000mA

#### 3.2. Charge (constant current)

Max charge voltage: 3.95V  
 Max charging current: 50 mA

#### 3.3. Cell impedance: Less than 100 mΩ (at RT @ 1kHz)

#### 3.4. Shelf life

Shelf life at different storage temperature to 80%of initial capacity. used in a Hybrid battery system.

Temperature	HPC	HPC in Hybrid battery system
RT	3 years	>10 years
60 °C	4 weeks	7 years
80 °C	1 week	1 year

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### 3.5 Self discharge in Hybrid battery.

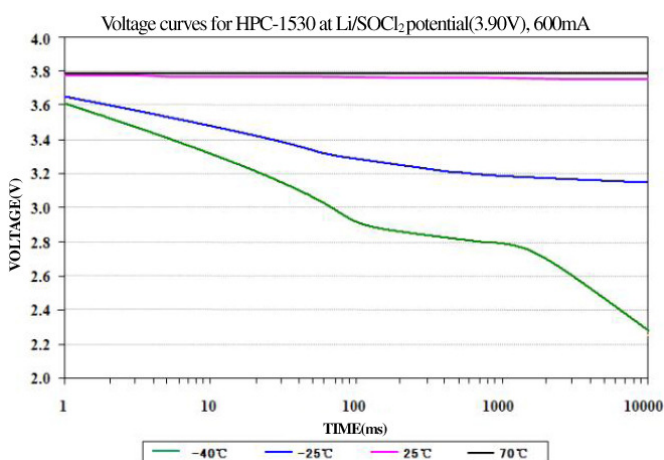
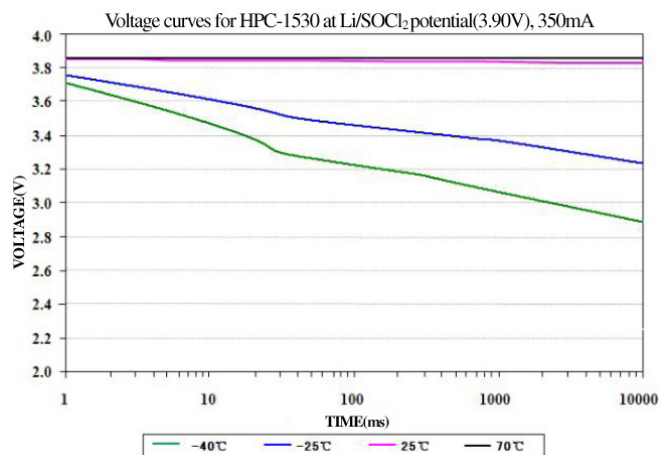
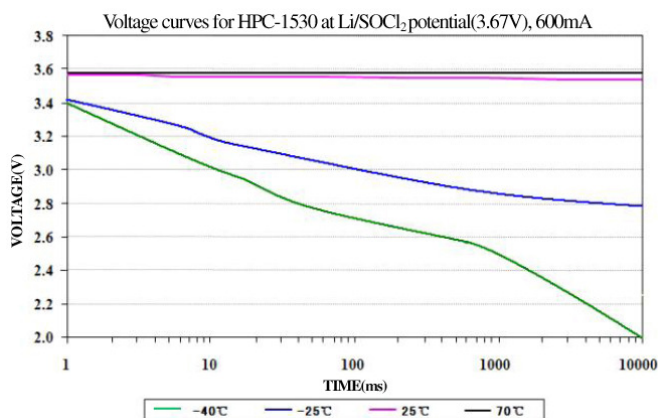
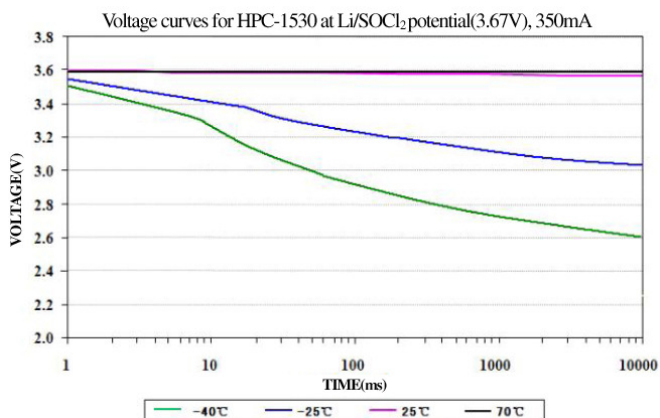
at RT: 1.8  $\mu$ A  
 at 80 °C: 8  $\mu$ A

### 3.6 Number of charge-discharge cycles to 80% of initial capacity.

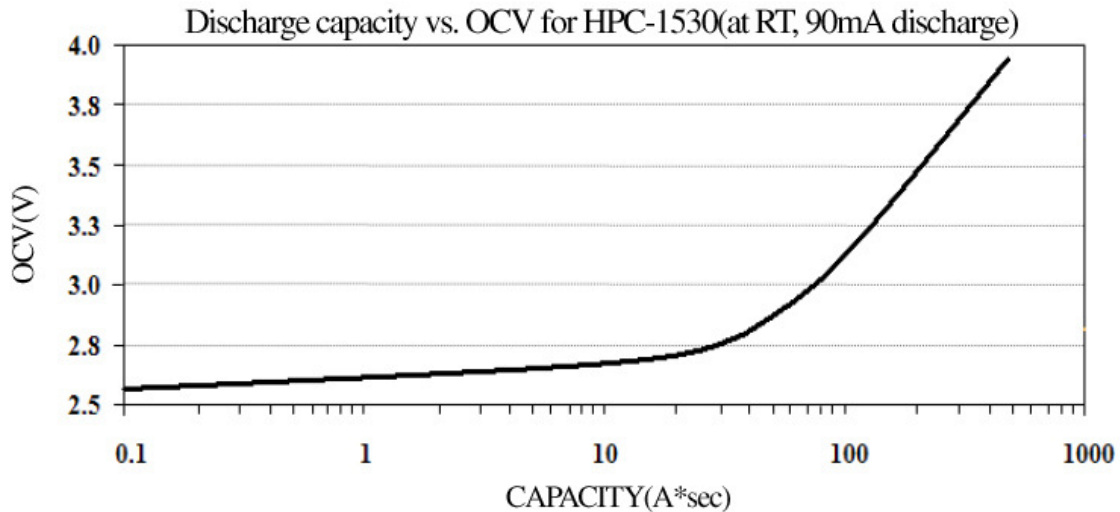
	100% DOD	10% DOD	1% DOD
Charge to 3.67V	1,000	10,000	100,000
Charge to 3.90V	800	8,000	80,000

※ DOD (Depth of Discharge)

### 3.7 Performance Data



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### 3.8 Safety test

The HPC successfully passed the following safety tests:

- Short circuit at RT and 55 °C
- Compression
- Impact
- Overcharge
- High temperature exposure
- Shock and vibration
- Nail penetration
- Forced discharge

Xeno Batteries performed the tests according to UL 1642 specification for Lithium batteries.

The HPC is not restricted for air transportation

### 3.9 Operating / Storage Temperature range

Test Item	HPC-1530 used independently	HPC-1530 in Hybrid battery system
Operating Temperature	-30 °C to 60 °C	-40 °C to 85 °C
Storage Temperature	-30 °C to 60 °C	-30 °C to 60 °C

#### Warning:

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