

## LONG SING Hybrid Pulse Capacitor

Model: HPC-1550

### 1. Scope:

This specification describes the performance of LONGSING HPC-1550 as an independent power supply.

### 2. Characteristics:

#### 2.1 Physical

2.1.1 Length:  $50.0 \pm 0.3$ mm

2.1.2 Diameter:  $14.5 \pm 0.1$ mm

2.1.3 Weight:  $20.0 \pm 0.2$ g

#### 2.2 Electrical

##### 2.2.1 Charge

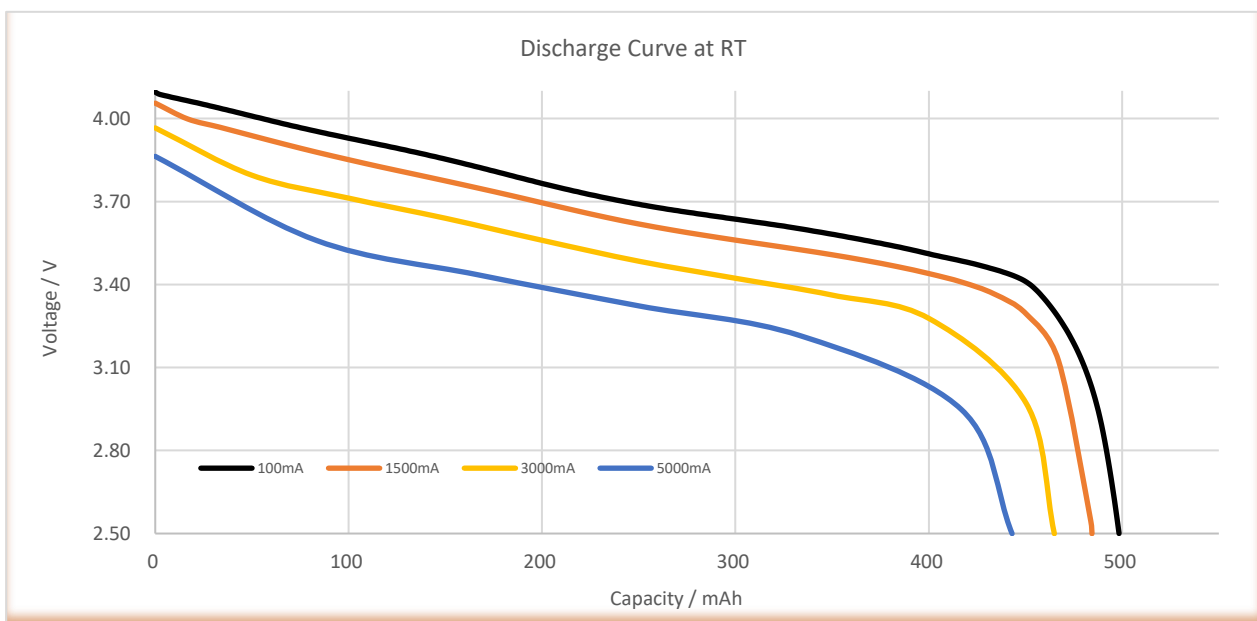
- Charge Voltage: 4.1V
- Standard Charge Current: 100mA
- Charge Method: Constant Current Constant Voltage(End of Charge 20mA)
- Charge Temp. Range:  $-20 \sim +50^{\circ}\text{C}$ (Charge temperature can be extended to  $-40^{\circ}\text{C} \sim -20^{\circ}\text{C}$  and  $50 \sim 85^{\circ}\text{C}$  provided that the max charge current is limited to 20mA)

##### 2.2.2 Discharge

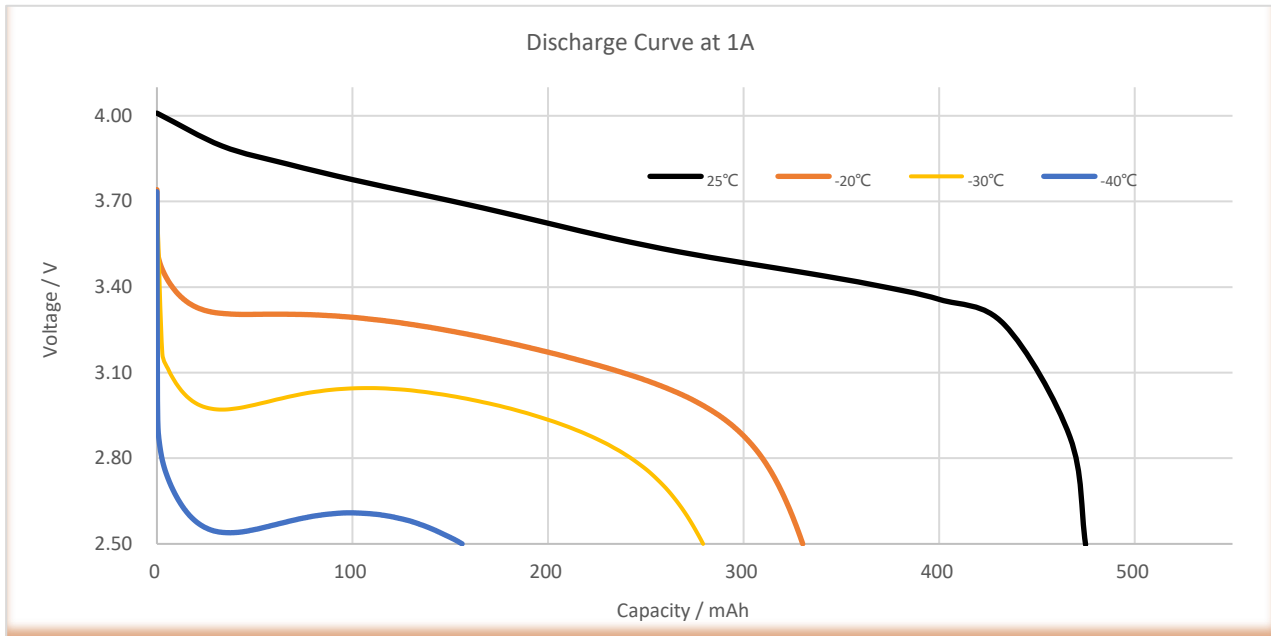
- Standard discharge current: 250mA
- End of Discharge: 2.5V @RT (Cut-off voltage can reach 2.0V at  $-40^{\circ}\text{C} \sim -20^{\circ}\text{C}$ )
- Discharge Temp. Range:  $-40 \sim +85^{\circ}\text{C}$
- Performance Characteristics:

Item	Performance	Conditions
Battery Capacity	> 450[mAh]	Discharge at 250mA
	> 410[mAh]	Discharge at 2500mA
Charge-Discharge Cycles	> 370[mAh]	After 5000 cycles
Temperature	> 280[mAh]	Discharge @-40°C @250mA
	> 360[mAh]	Discharge @-30°C @250mA
	> 390[mAh]	Discharge @-20°C @250mA
	> 430[mAh]	Discharge @0°C @250mA
	> 450[mAh]	Discharge @60°C @250mA
Charge Retention (reversible)	430[mAh]	After 1 year @RT @250mA
Impedance	≤60mΩ	Impedance at 1KHz

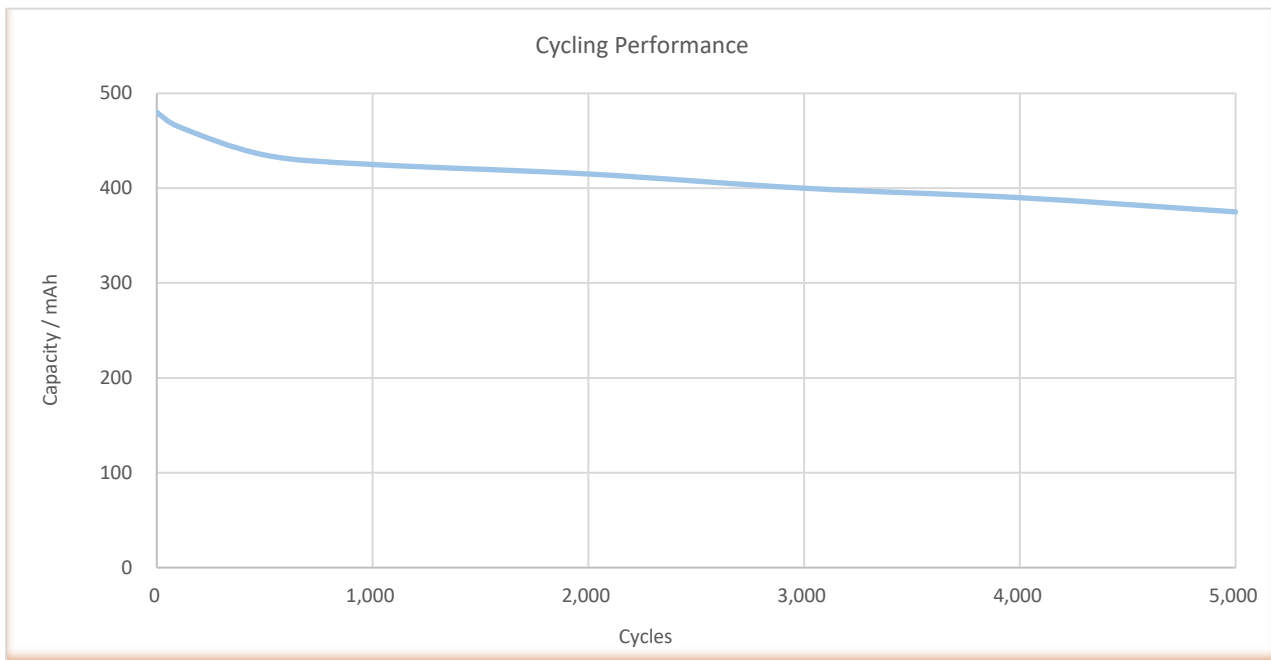
### Discharge curves at Room Temperature



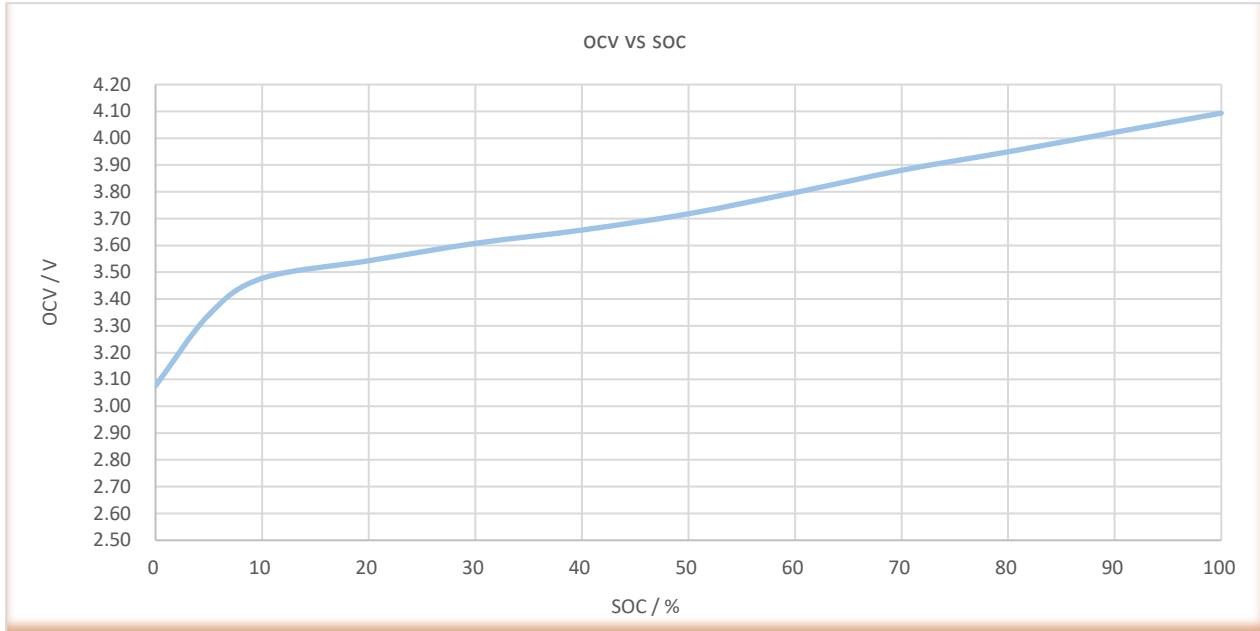
## Discharge Curves at Different Temperature@1A



## Charge/ Discharge Cycling Performance



## Static Voltage at different SOC



### 2.3 HPC1550 application protection (to be applied by the user)

Item	Specifications
Over Charge Protection	HPC1550 voltage should not be higher than 4.2 V
Over Discharge Protection	HPC1550 voltage should not be lower than 2.4 V

### 2.4 Safety Characteristics

- ◆ UL1642 certificate approved, UL File NO.: MH61580
- ◆ IEC62133 , UN38.3

## 2.5 Battery pack assembly and usage considerations

- ◆ Two or more series and parallel should be matched by the manufacturer according to the internal resistance and voltage.
- ◆ For more than 2 cells in parallel, maximum charge current shall be limited to 200 mA for the whole pack.