EVE
ENERGY VERY ENDURE

SPC1550
Super Pulse Battery Capacitor

1. Scope

This data sheet describes the mechanical design and performance of EVE (Super Pulse Battery Capacitor) model SPC1550, optimized for extreme temperatures, used in an ER+SPC battery system.

2. Key features

- ◆High power capacity
- ◆Delivering high current pulses
- ◆Long operating life
- ◆Wide operating temperature range
- ◆Extremely low self-discharge
- ◆High security and reliability

3. Mechanical characteristics

Length 50.5 mm. Max
Diameter 15.1 mm. max
Weight 20.2 gr. max

4. Electrical characteristics

4.1 Nominal voltage: 3.6V (3.9V Max)

4.2 Discharge

4.2.1 Nominal capacity (RT)

When charged to 3.67V: 640 A*sec
(100mA discharge to 3.0V)

Discharge below 2.5V at RT and discharge below 2.0V at -40℃ may increase the SPC internal impedance.

4.2.2 Maximum discharge current

Continuous: 2.0A

Pulse: 5.0A

4.3 Charge (constant current)

Max. charge voltage: 3.95 V

Max. charge current: 100mA

4.4 Internal impedance

≤80 mOhm (RT @ 1kHz)

4.5 Self discharge in ER+SPC battery

at RT: 3 μA at 80℃: 15 μA

4.6 Shelf life

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

Temperature	SPC1550
RT	1 year
60℃	2 weeks
80℃	1 week

4.7 Number of charge-discharge cycles to 80% of initial capacity

	100% DOD	10% DOD	1% DOD
Charge to 3.67V	2000	20000	200000
Charge to 3.90V	1000	8000	80000

DOD: Depth of Discharge

4.8 Safety tests

The SPC successfully passed the following tests:

- ■ Short circuit at RT and 55℃
- ■ Compression
- ■ Impact
- ■ Overcharge
- ■ High temperature exposure
- ■ Shock and Vibration
- ■ Nail penetration
- ■ Forced discharge

EVE Capacitors performed the tests according to UL 1642 specification for lithium batteries.
Lithium content of SPC1550 is less than 0.1 gr.,
It is not restricted for air transportation.

Warning:

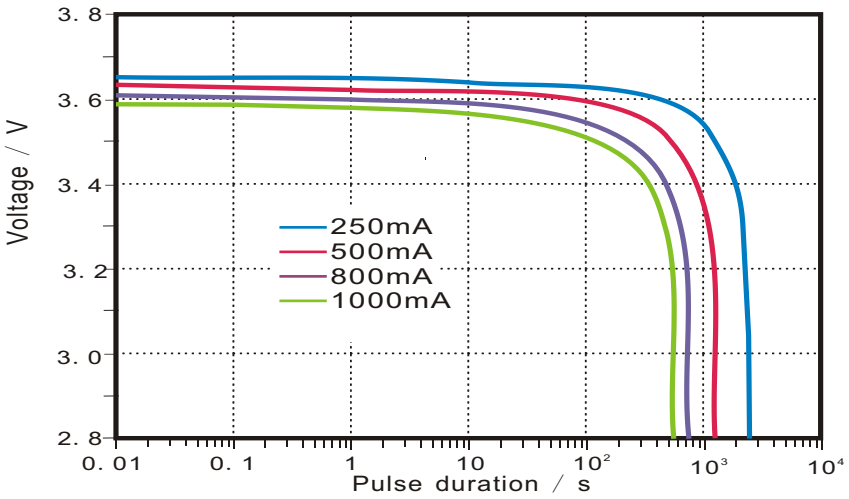
- ● The SPC1550 is designed for use in a ER+SPC battery system or in low charge current as specified only.
- ● The SPC1550 may explode or violently vent if over-charge above 4.4V.
- ● Do not charge the SPC1550 higher than 4.1 V, over discharge, short circuit, heat above 100℃, incinerate or expose content to water.
- ● Charging the SPC1550 at above 3.95 V may lead to capacity loss and / or internal impedance rise.

5 Temperature range

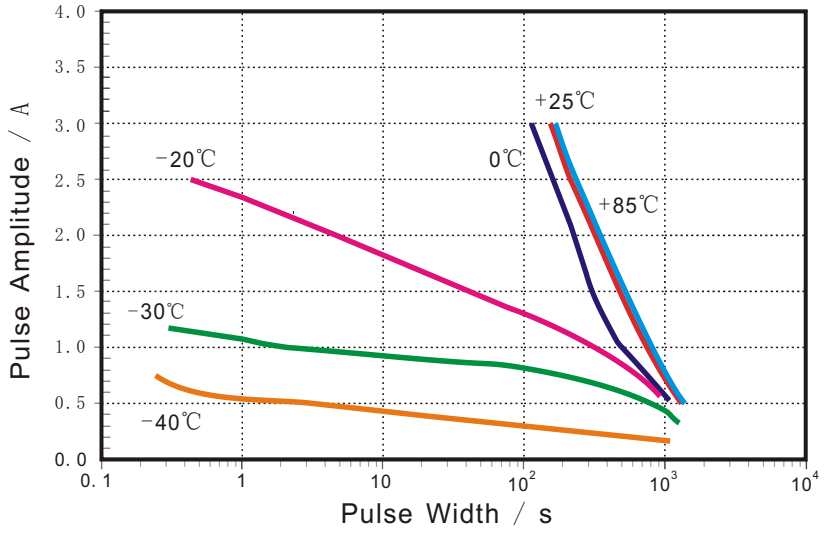
Test Item	SPC1550 used independently	In ER+SPC battery system
Operating Temperature	-40℃ to 85℃	-40℃ to 85℃
Storage Temperature	-30℃ to 60℃	-30℃ to 60℃

6. Performance data

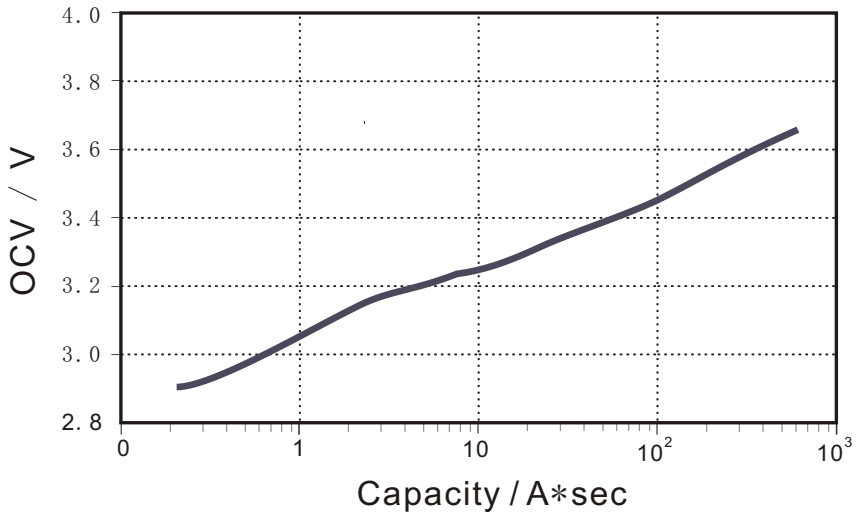
Voltage during a Pulse at +25℃



Maximum Pulse Width from 3.6V to 2.5V



Discharge capacity vs. OCV for SPC1550 (at RT, 200mA discharge)



Note

All datas in this datasheet are laboratory test results. It is for reference only and not intended as a technical or quality assurance voucher.