

SPC1520

Super Pulse Battery Capacitor

1. Scope

This data sheet describes the mechanical design and performance of EVE (Super Pulse Battery Capacitor) model SPC1520, 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 reliability

3. Mechanical characteristics

Length 21.0 mm. Max
 Diameter 15.1 mm. max
 Weight 7.5 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: 140 A*sec
 (50mA discharge to 3.0V)

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

4.2.2 Maximum discharge current

Continuous: 0.5A

Pulse: 2.0A

4.3 Charge (constant current)

Max. charge voltage: 3.95V

Max. charge current: 50 mA

4.4 Internal impedance

≤150 mOhm (RT @ 1kHz)

4.5 Self discharge in ER+SPC battery

At RT: 1 μA at 80°C: 5 μA

5 Temperature range

Test Item	SPC1520 used Independently	SPC1520 in ER+SPC battery system
Operating Temperature	-40°C to 85°C	-40°C to 85°C
Storage Temperature	-30°C to 60°C	-30°C to 60°C

4.6 Shelf life

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

Temperature	SPC1520
RT	1 year
60°C	2 weeks
80°C	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°C
- Compression
- Impact
- Overcharge
- High temperature exposure
- Shock and Vibration
- Nail penetration
- Forced discharge

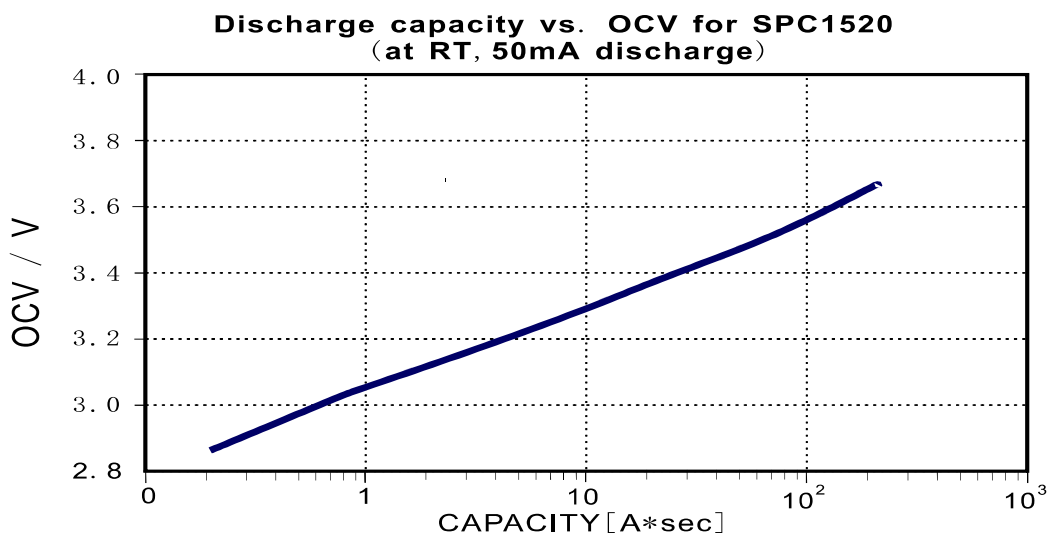
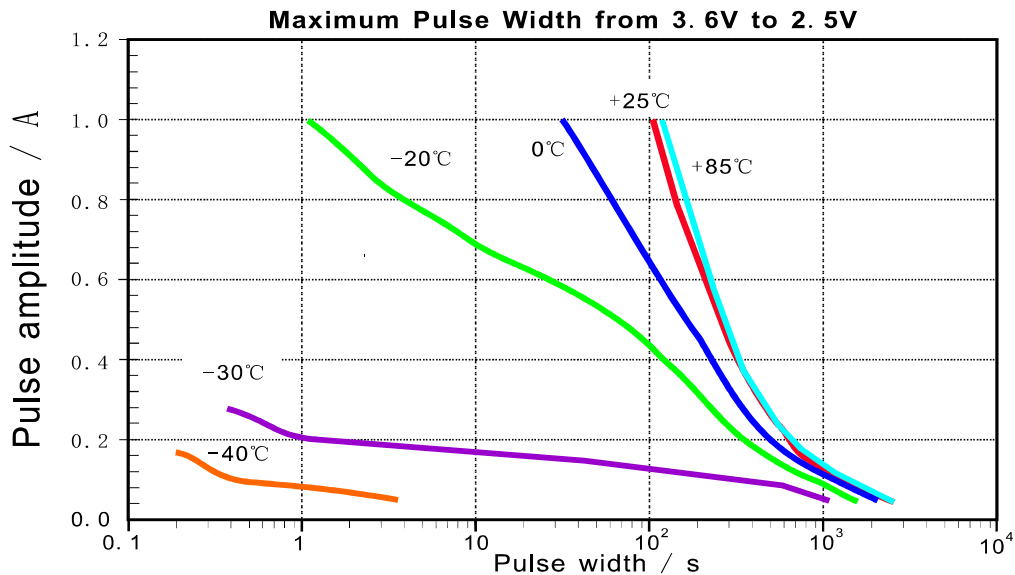
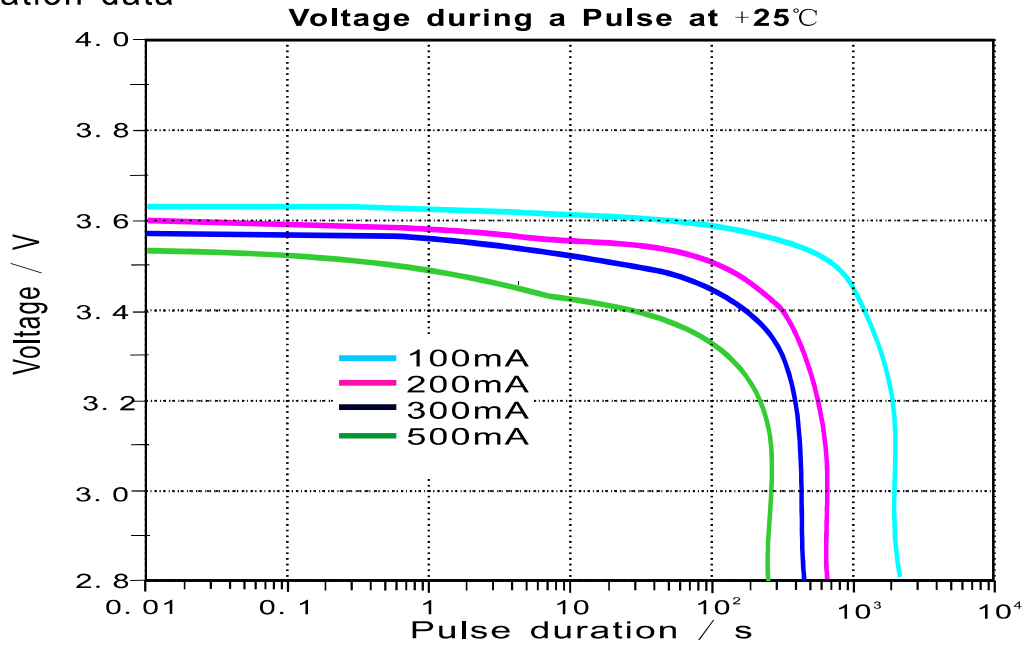
EVE Batteries performed the tests according to UL 1642 specification for lithium batteries.

For the lithium content is less than 0.1 gr., The SPC is not restricted for air transportation.

Warning:

- The SPC1520 is designed for use in a ER+SPC battery system or in low charge current as specified only.
- The SPC1520 may explode or violently vent if over-charge above 4.4V.
- Do not charge the SPC1520 higher than 4.1 V, over discharge, short circuit, heat above 100°C, incinerate or expose content to water.
- Charging the SPC1520 at above 3.95 V may lead to capacity loss and / or internal impedance rise.

6. Performance data



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.