
Senvenking Energy internal forum

Jan 7 2022

R&D Center

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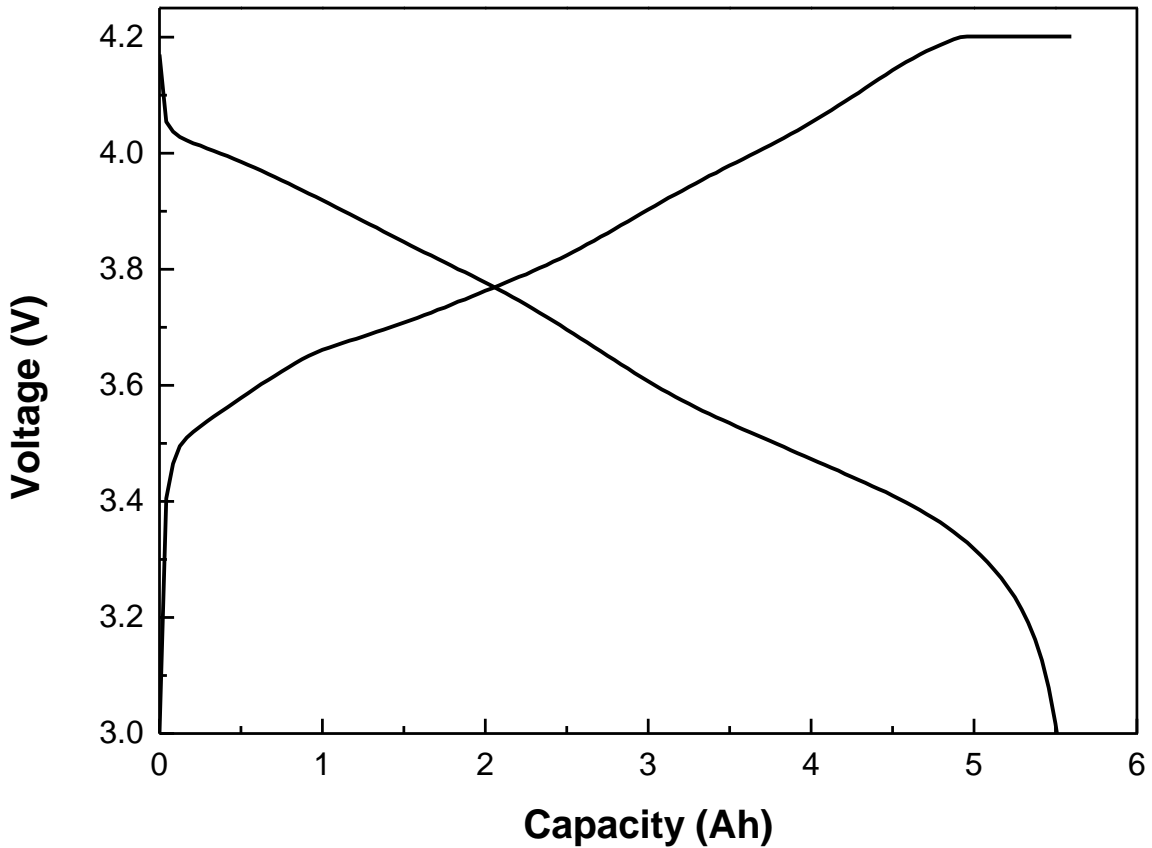
Specification

Items		Specifications
Nominal capacity		5.5Ah (Ah)
Energy density	Gravimetric	205 Wh/kg
	Volumetric	430 Wh/L
Nominal voltage		3.7V
Operating Voltage Range	Max.	4.2V
	Min.	3.0V
Standard Current	Charge	1.1A (0.2C)
	Discharge	1.1A (0.2C)
Maximum Current	Charge	5.5 A (1.0C)
	Discharge	11.0 A (2.0C)
	Pulse discharge	22.0A (pulse < 10sec)
AC impedance (SOC50)		< 10.0mΩ
Operating Temperature		0°C ~ 90°C
Dimension	W x L x T (mm)	62 * 162 * 6.2
Weight		104 g



Basic Performance

1. Charge & discharge capacity



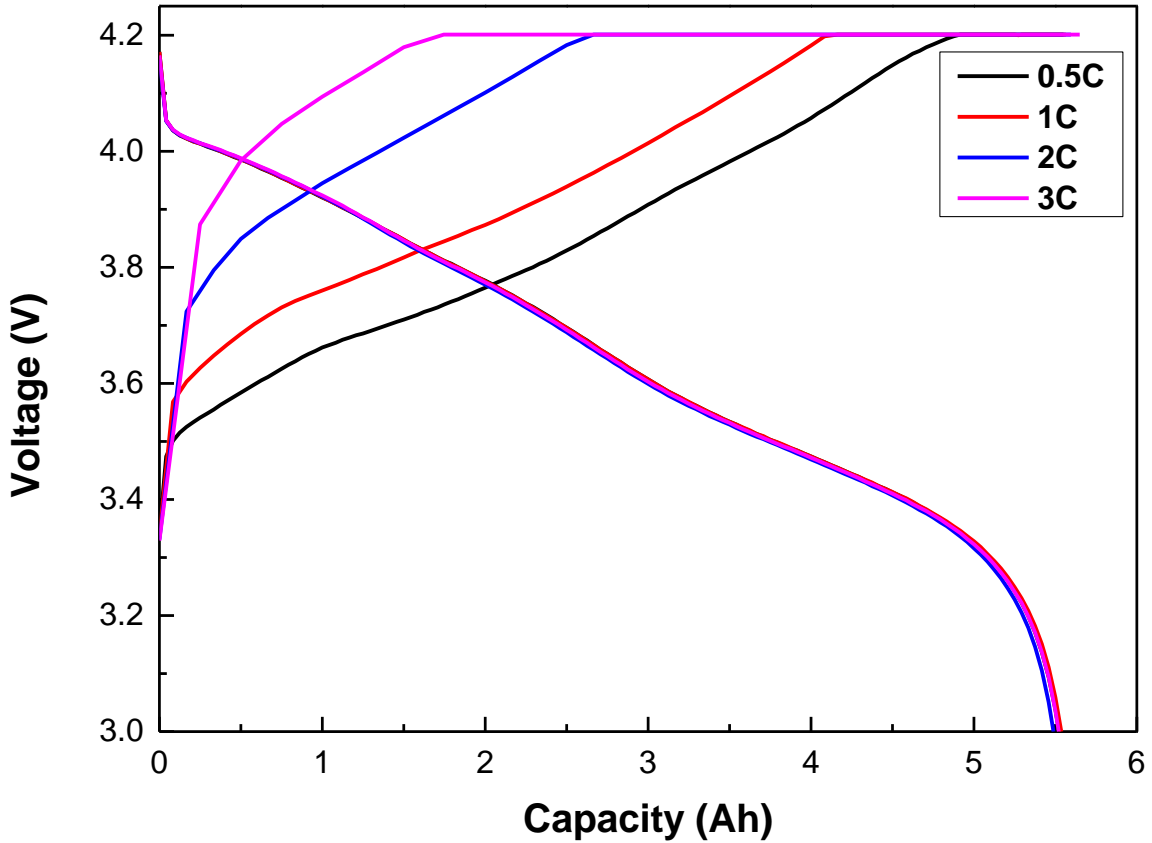
Items	Charge (Ah)	Discharge (Ah)	Efficiency (%)
SVKSCGR002	5.60	5.50	98.2

Charge : CC 2.5A, CV 4.2V, 0.25A cut-off or CV time of 1hour at 25°C

Discharge : CC 2.5A 3.0V cut-off at 25°C

Basic Performance

2. Rated charge capacity



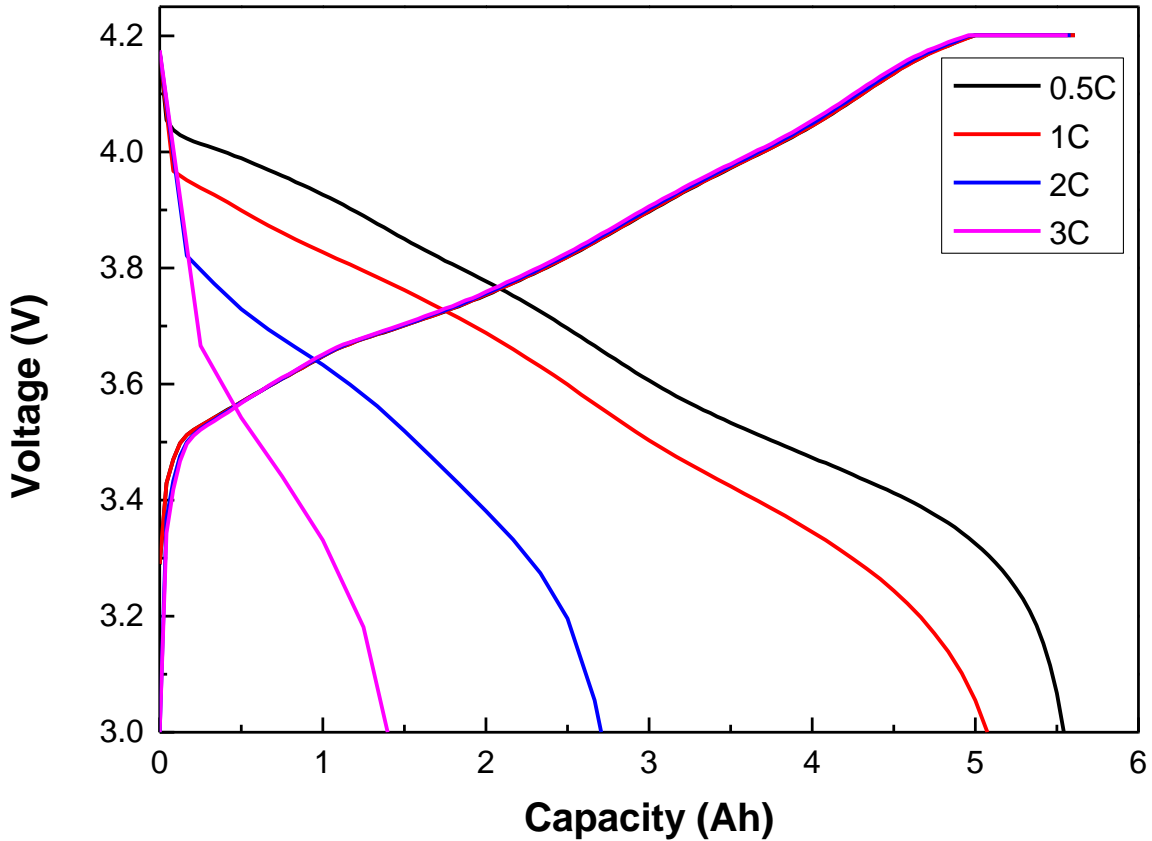
C-rate (C)	Charge (Ah)	Discharge (Ah)	Retention (%)
0.5	5.55	5.52	99.5
1	5.55	5.54	99.8
2	5.55	5.48	98.6
3	5.55	5.52	97.7

Charge : CC 2.5A/5A/10A/15A, CV 4.2V, 0.25A cut-off or CV time of 1hour at 25°C

Discharge : CC 2.5A 3.0V cut-off at 25°C

Basic Performance

3. Rated discharge capacity



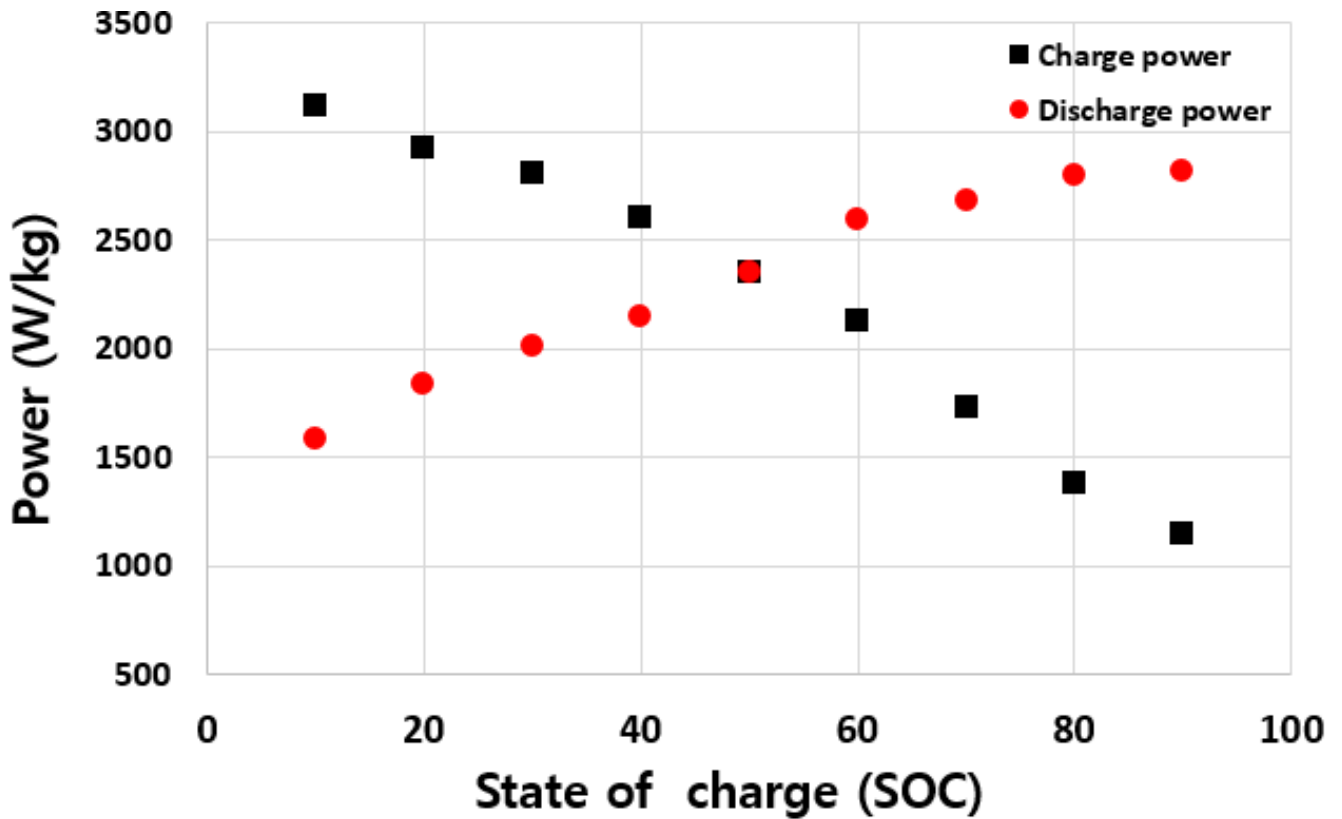
C-rate (C)	Charge (Ah)	Discharge (Ah)	Retention (%)
0.5	5.61	5.54	98.8
1	5.61	5.07	90.3
2	5.58	2.70	48.3
3	5.56	1.39	25.0

Charge : CC 2.5A, CV 4.2V, 0.25A cut-off or CV time of 1hour at 25°C

Discharge : CC 2.5A/5A/10A/15A 3.0V cut-off at 25°C

Basic Performance

4. HPPC (W/Kg)



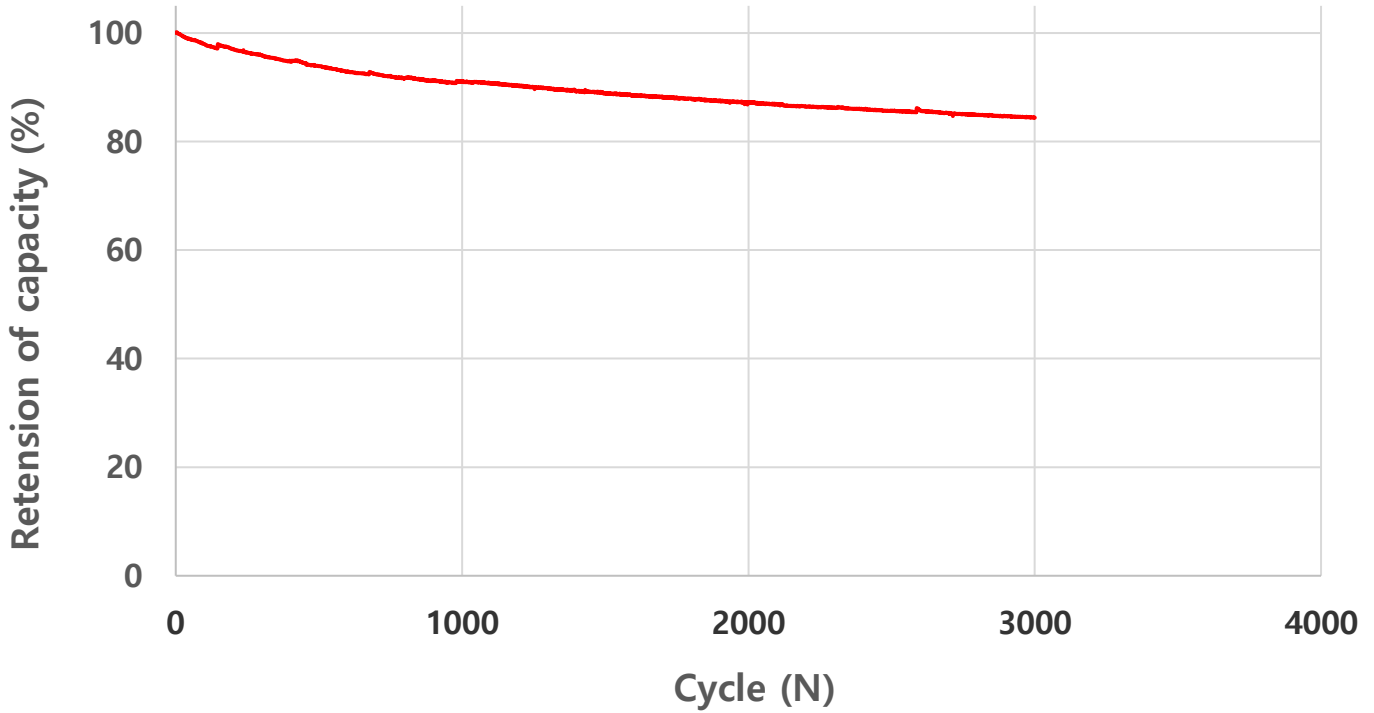
SOC	Charge (W/kg)	Discharge (W/kg)	SOC	Charge (W/kg)	Discharge (W/kg)
90	1148	2820	40	2599	2151
80	1385	2795	30	2806	2009
70	1732	2682	20	2924	1835
60	2130	2589	10	3113	1586
50	2353	2355			

Charge : CC 2.5A, CV 4.2V, SOC 10~90% at 25°C → 3.75C current charge for 10secs

Discharge : CC 2.5A 3.0V SOC 90~10% at 25°C → 5C current discharge for 10secs

Reliability

1. Cycle life



Cycle	Retention (%)
3,000	84.4

Charge : CC 5A, CV 4.2V 0.25A cut-off at 25°C

Discharge : CC 5A , 3.0V cut-off 25°C

1. Hot box test (130°C) by UL1642

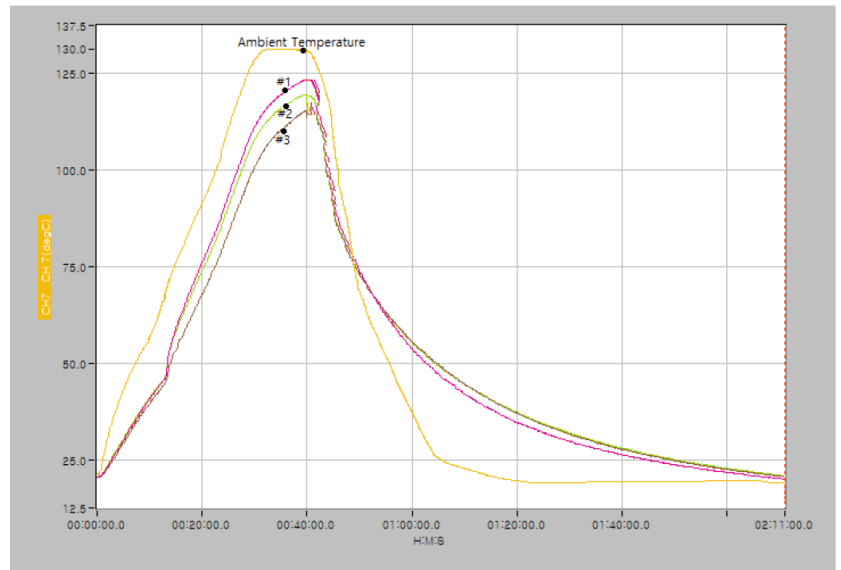
Before



After



Result



Test device number	Voltage before test (V)	Maximum rising temperature (°C)	Results
Upper limit temperature charging sample : 65°C			
#1	4.187	123.6	No fire and explosion
#2	4.175	115.5	No fire and explosion
Lower limit temperature charging sample : 10°C			
#3	4.168	119.8	No fire and explosion

Charge : CC 0.5A, CV 4.2V, 0.25A current cut-off

Store the cell and then increase temperature with $5 \pm 2^\circ\text{C}/\text{min}$ of rising speed to 130°C