

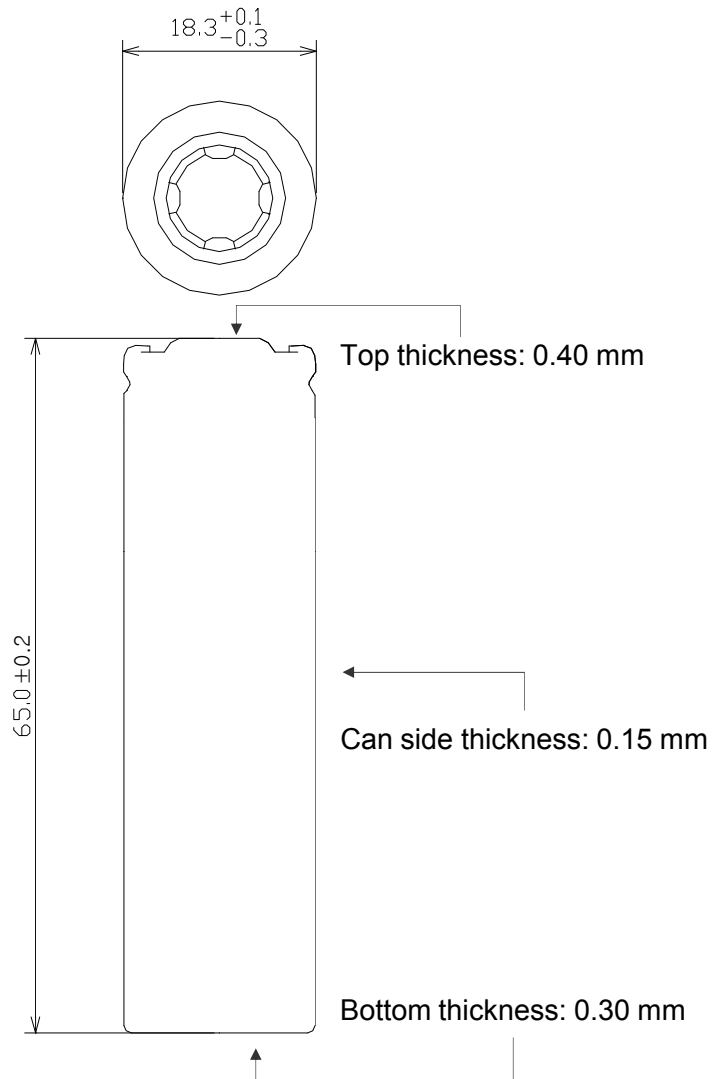
TECHNICAL INFORMATION of 18650 MG1(2900mAh) - TENTATIVE

Contents

- 1. GENERAL INFORMATION**
- 2. DISCHARGE CHARACTERISTICS**
- 3. TEMPERATURE CHARACTERISTICS**
- 4. CHARGE CHARACTERISTICS**
- 5. DC IMPEDANCE**
- 6. CYCLE LIFE**
- 7. SAFETY TEST**

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Can material: Steel (Nickel-plated)
 Tube material: Colored PET (t=80 um)

Model 18650 MG1

0.2C Capacity *	Nominal	2850mAh
	Minimum	2750 mAh
Nominal Energy Density (Wh/kg)		225
Dimensions	Diameter	18.3 + 0.1,-0.3mm
	Height	65.0 ±0.2 mm
Weight		Max. 46.0 grams
Nominal Voltage		3.62V
Internal Impedance		≤ 35mOhm

* **Charge** : 1425mAh, 4.2V, 50mA End-current (CC-CV)
Discharge : 570mAh, 2.5V End-voltage (CC)

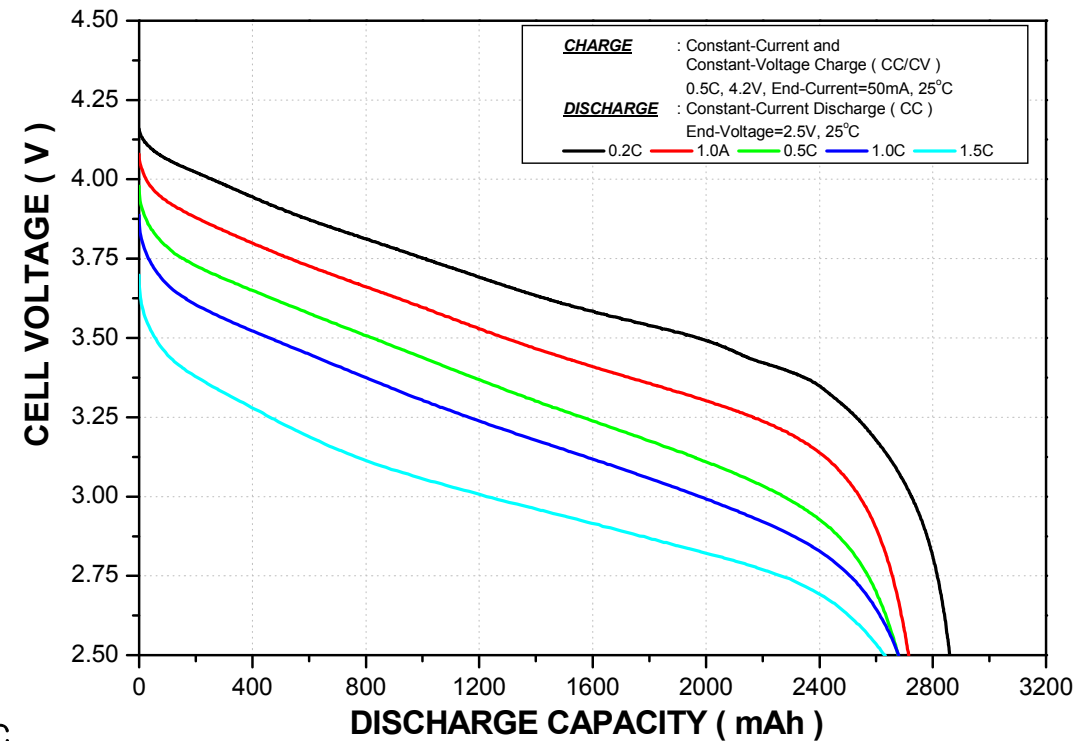
Test Condition

Charge : CC-CV, 0.5C, 4.2V, end-current 50mA, 25±2°C

Discharge : CC, 0.2~5.0C, 2.5V cut-off, 25±2°C

Discharge rate		0.2 C	1.0 C	2.0C	3.0C	5.0C
Capacity	mAh	2858	2715	2679	2680	2632
	%	100	95	93.7	93.7	92
Energy	Wh	10.32	9.43	8.88	8.57	7.9
	%	100.0	91.4	86	83	76.6
Max cell Skin Temp.	°C	25.6	31.3	39	48.7	68.9

* All ratio's are calculated vs. 0.2C discharge capacity at 25±2°C .

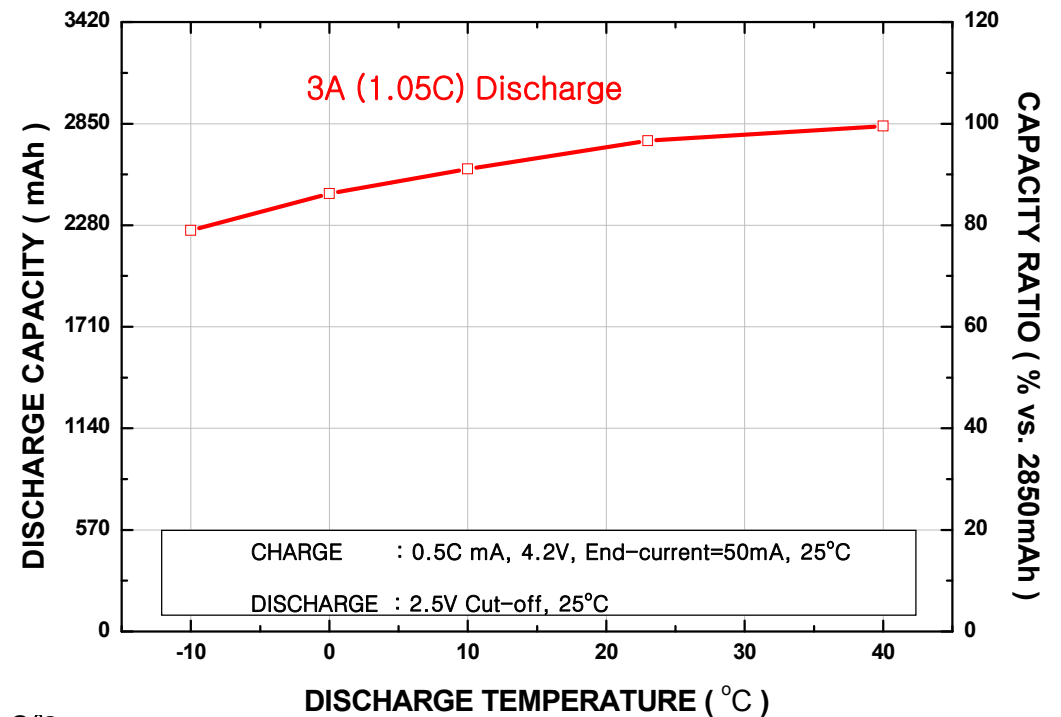
Discharge Profile

Test Condition

Charge : CC-CV, 0.5C, 4.2V, end-current 50mA, 25±2 °C

Discharge : CC, 1.05C(3A), 2.5V cut-off, -10~40 °C

	Discharge Capacity	
	3A (1.05C)	
	mAh	%
-10 °C	2252	78.8
0 °C	2457	86.0
10 °C	2595	90.8
25 °C	2754	96.4
40 °C	2837	99.2

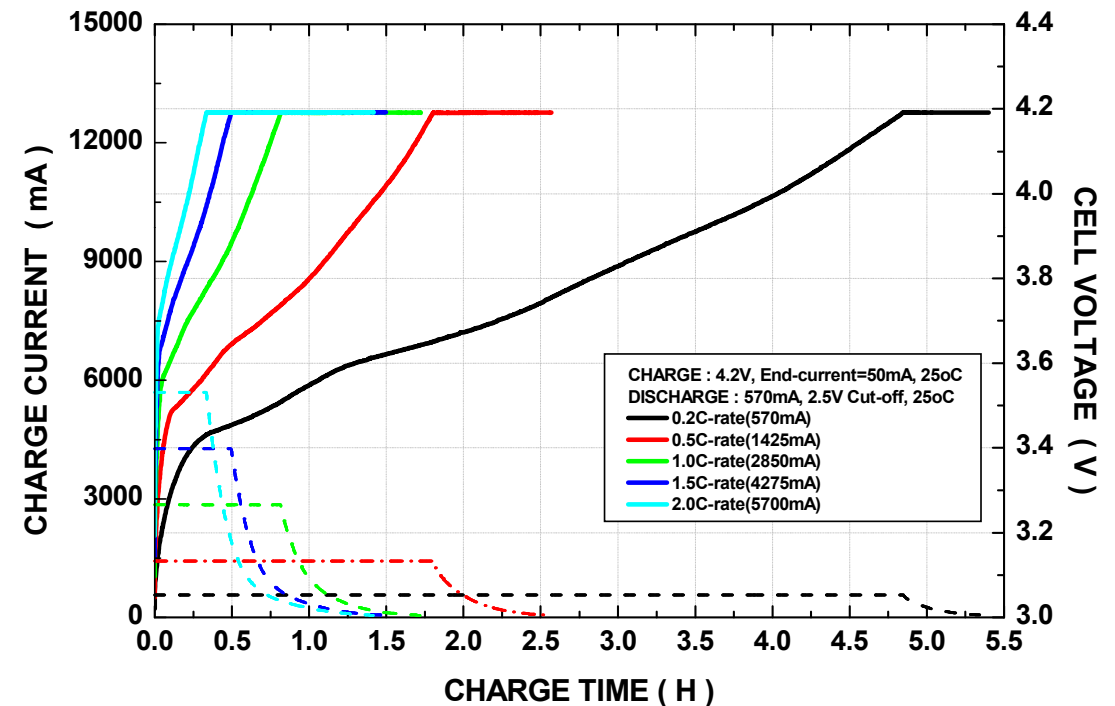


* All ratio's are calculated vs. 0.2C discharge capacity at 25±2 °C.

Test Condition

Charge : CC-CV, 0.2~2.0C, 4.2V, end-current 0.05C, 25±2°C

Discharge rate		0.2C	0.5C	1.0C	1.5C	2.0C
CC-CV	Time (Hr)	5.34	2.57	1.72	1.50	1.42
	Capacity (mAh)	2865	2857	2860	2865	2862
	%	100	99.7	99.8	100	99.9
CC	Time (Hr)	4.85	1.80	0.82	0.50	0.34
	Capacity (mAh)	2760	2567	2324	2123	1913
	%	100	93	84.2	76.9	69.3
CV	Time (Hr)	0.55	0.76	0.91	0.99	1.08



* All ratio's are calculated vs. 0.2C discharge capacity at 25±2°C .

Test Temperature : 25±2℃

Charge : CC-CV, 0.5C, 4.2V, end-current 100mA

Discharge : discharge the cell as a current curve as shown.

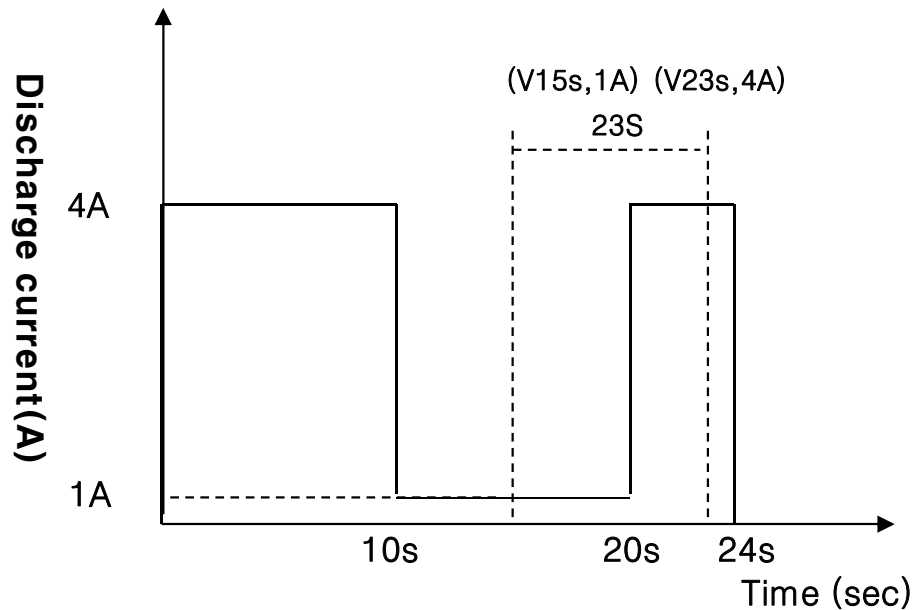
Criteria : R_{dc} < 40 mΩ

Result : DC impedance = 37.3~39.7 mΩ

Discharge current curve

Test Result

$$: R_{DC} = [V(15s) - V(23s)] / 3A$$



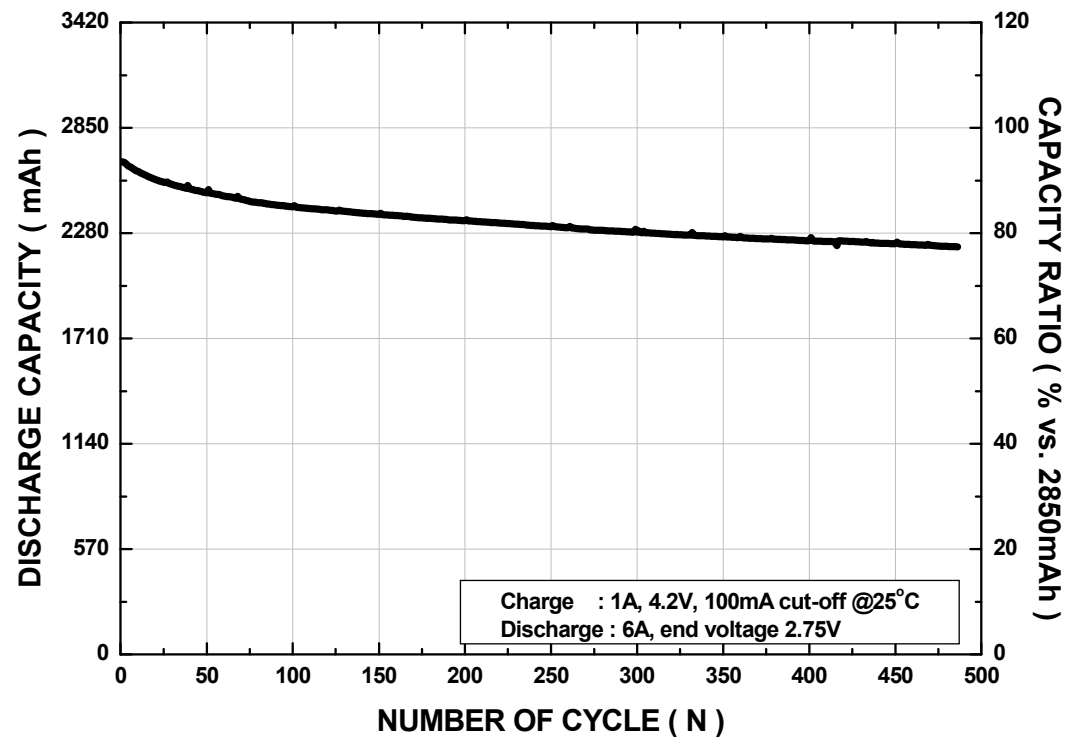
Cell No.	R _{dc} [mΩ]	Cell No.	R _{dc} [mΩ]
1	37.3	1	38.3
2	39.7	2	39.3
3	37.3	3	38.7
4	38.0	4	39.3

✓ 6A Discharge Cycle Life test is on going and It is expected over 70 % vs. 2.8Ah @ 500th cycle.

Test Condition :

Charge : CC-CV, 1A, 4.2V, 100mA cut off, $25 \pm 2^\circ\text{C}$

Discharge : CC, 6A, end voltage 2.75V, $25 \pm 2^\circ\text{C}$



No	Item	Test Method		Criteria	Result
		Condition	SOC		
1	Drop	Height 1.2m, metal board, 1cycle (3 direction)	100%	No Leakage	Meet
2	Vibration	Vibration along axial and radial direction of 8g for 3h	100%	No Leakage	Meet
3	Overcharge	Over charge with 1C, for 3h	50%	No Fire, Explosion	Meet
4	External short	External short with $R < 0.1\Omega$ –wire	100%	No Fire, Explosion	Meet
5	Hot Oven	Heating rate : 5°C/ min , holding :140°C, 1h	100%	No Fire, Explosion	Meet
6	Crush	Applied force 13kN (flat surface)	100%	No Fire, Explosion	Meet
7	Impact	15.8 mm Diameter ,9.1 kg Weight bar Height : 610±25 mm	100%	No Fire, Explosion	Meet