

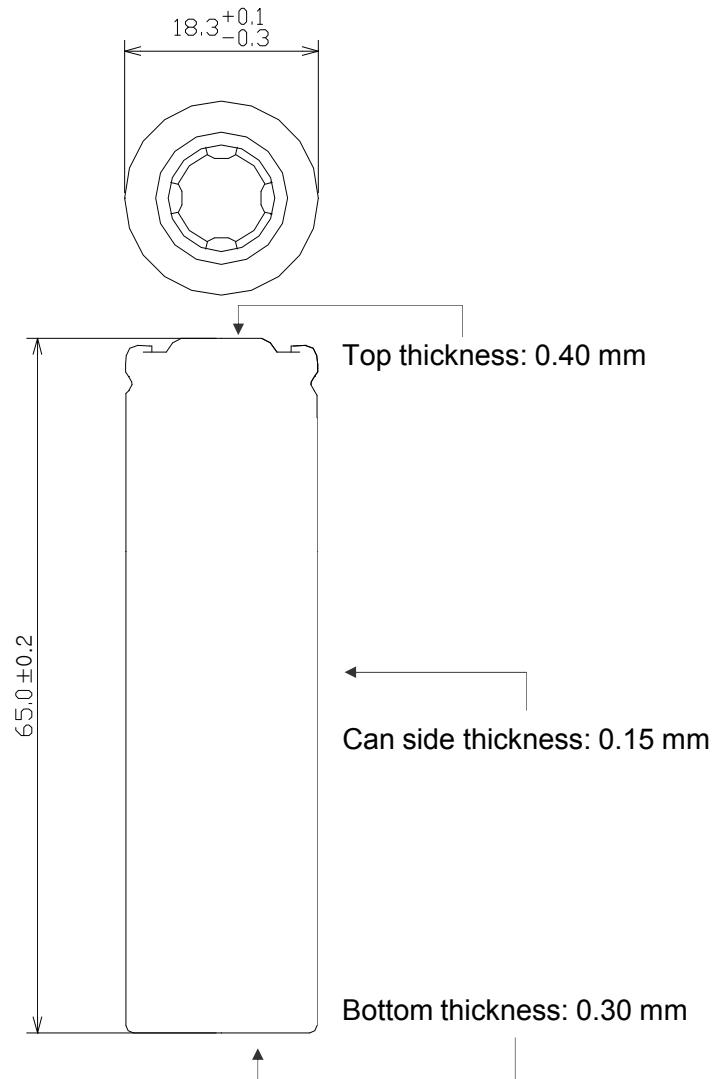
TECHNICAL INFORMATION of ICR18650 MF1 (2150mAh)

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Can material: Steel (Nickel-plated)
 Tube material: Colored PET (t=70 μ m)

Model ICR18650 MF1

0.2C Capacity *	Nominal	2,150 mAh
	Minimum	2,050 mAh
Nominal Energy Density (Wh/kg)		178
Dimensions	Diameter	$18.3 + 0.1, -0.3$ mm
	Height	65.0 ± 0.2 mm
Weight		Max. 44.0 grams
Nominal Voltage		3.65V
Initial Internal Impedance		≤ 30 mOhm

* **Charge** : 1075mA, 4.2V, 43mA End-current (CC-CV)
Discharge : 430mAh, 2.75V End-voltage (CC)

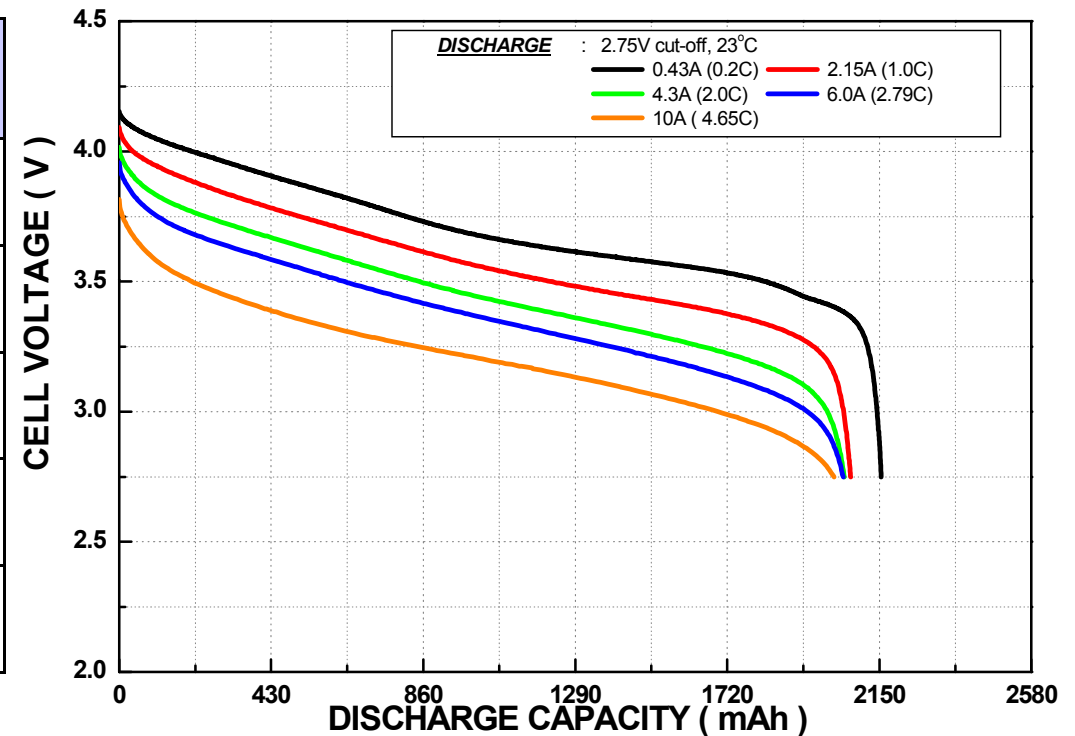
Test Condition

Charge : CC-CV, 0.5C, 4.2V, end-current 0.05C, 23±2°C

Discharge : CC, 0.2~4.65C, 2.75V cut-off, 23±2°C

Discharge Rate		0.2C (0.43A)	1C (2.15A)	2C (4.3A)	2.8C (6A)	4.65C (10A)
Capacity	mAh	2153	2060	2044	2040	2008
	%	100.0	95.7	94.9	94.8	93.3
Energy	Wh	7.95	7.37	7.06	6.88	6.45
	%	100.0	92.7	88.7	86.5	81.2
Temp.	°C	25.6	29.1	33.5	38.5	50.6

* All ratio's are calculated vs. 0.2C discharge capacity at 23°C.



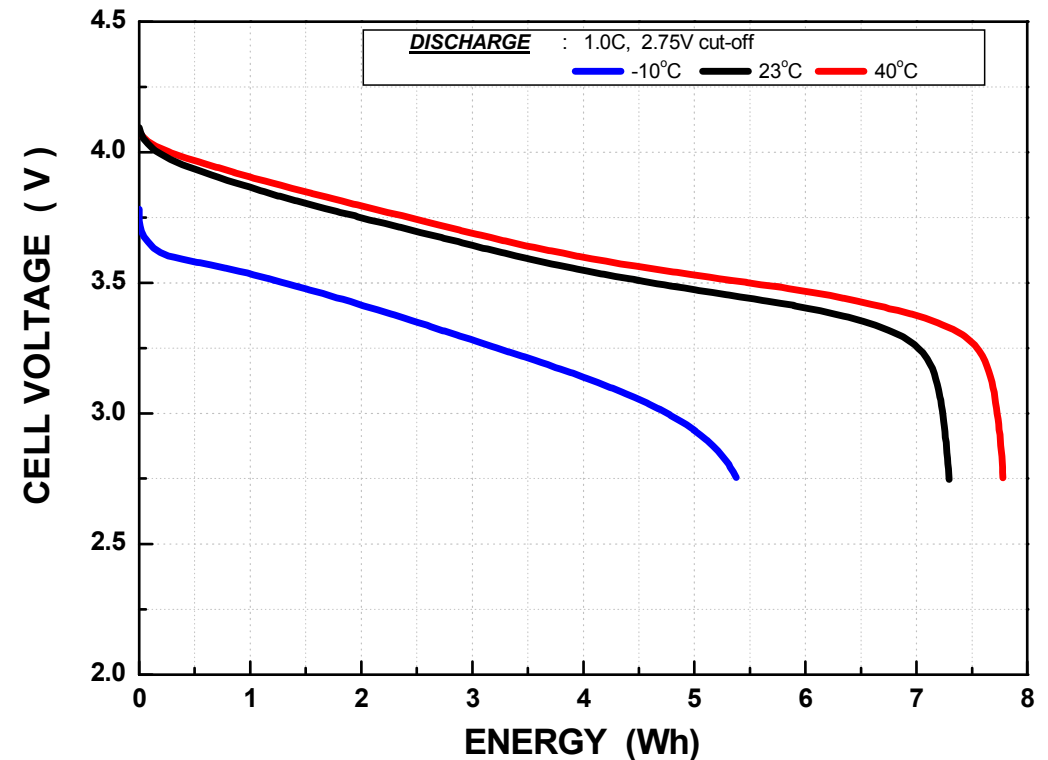
Test Condition

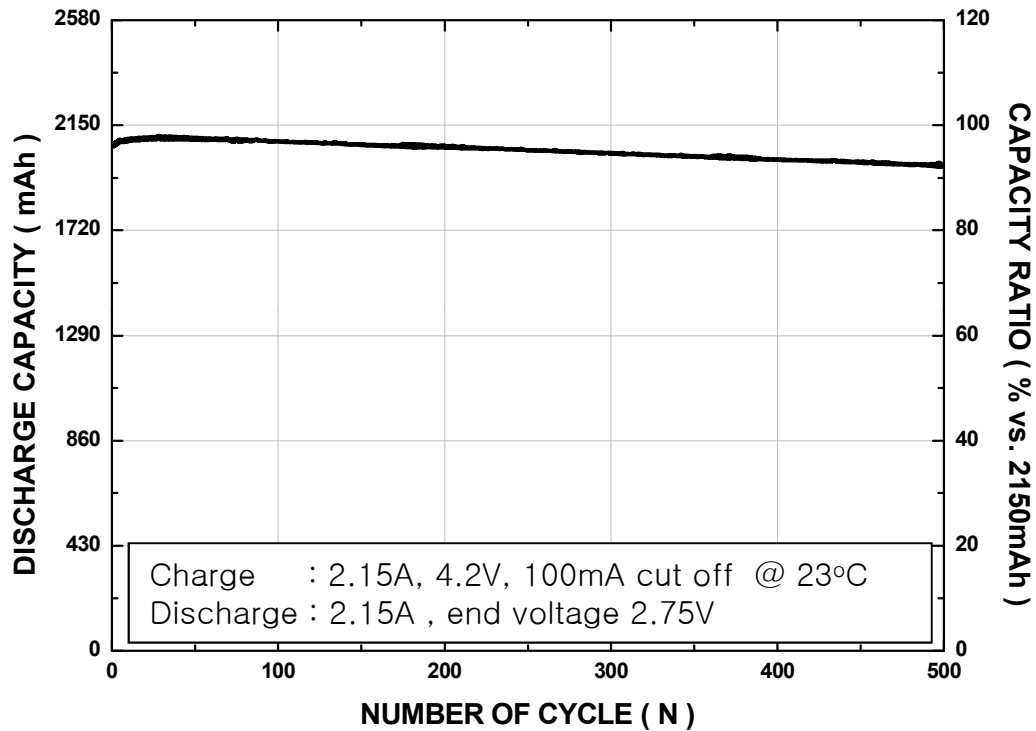
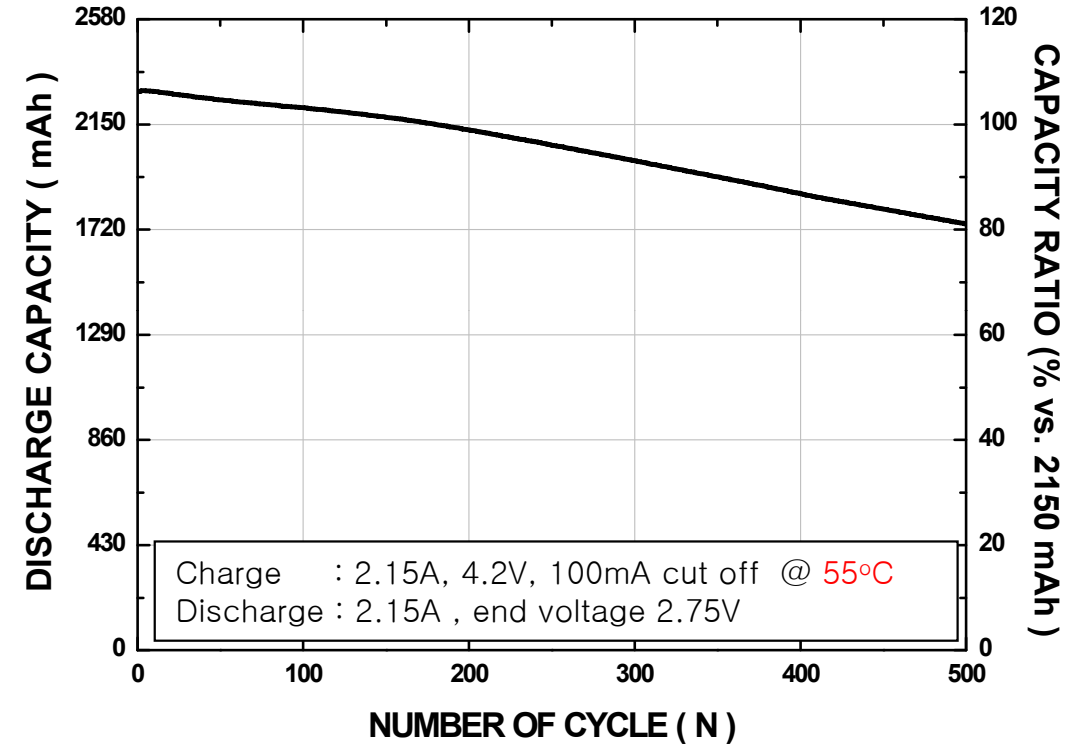
Charge : CC-CV, 0.5C, 4.2V, end-current 0.05C, 23°C

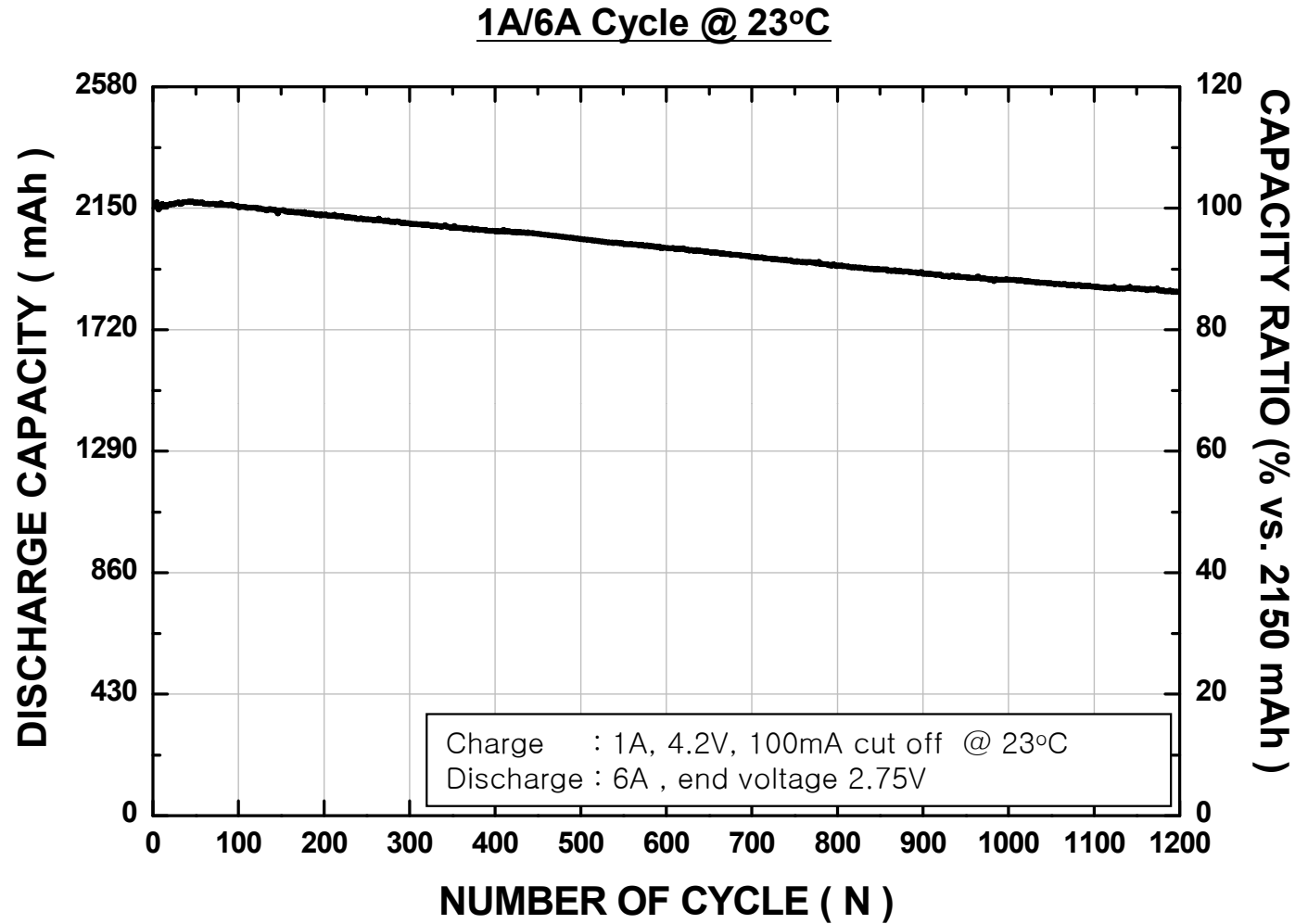
Discharge : CC, 1.0~2.8C, 2.75V cut-off, -10~40°C

Discharge Rate		1C (2.15A)	2C (4.3A)	2.8C (6A)
-10°C	wh	5.38	4.99	4.70
	%	73.8	68.4	64.5
23°C	wh	7.29	7.14	6.95
	%	100	97.9	95.3
40°C	wh	7.78	7.53	7.41
	%	106.7	103.3	101.6

* All ratio's are calculated vs. 1.0C discharge energy at 23°C.



1C/1C Cycle @ 23°C1C/1C Cycle @ 55°C



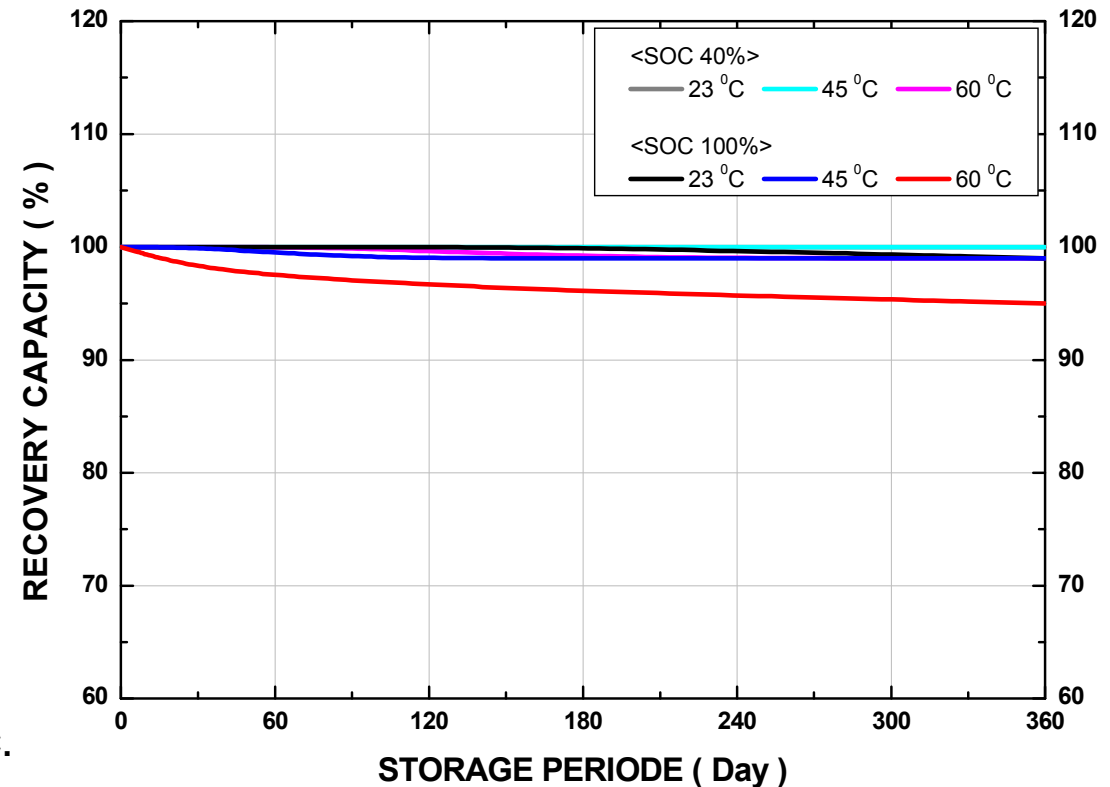
Test Condition : Recovery

Charge : CC-CV, 0.5C, 4.2V, end-current 0.05C, 23±2°C

Discharge : CC, 0.5C, 2.75V cut-off, 23±2°C

Recovery Capacity (%)		30 days	90 days	180 days	360 days
SOC 40%	23 °C	100%	100%	100%	100%
	45 °C	100%	100%	100%	100%
	60 °C	100%	100%	99%	99%
SOC 100%	23 °C	100%	100%	100%	99%
	45 °C	100%	99%	99%	99%
	60 °C	98%	97%	96%	95%

* All ratio's are calculated vs. 0.2C discharge capacity at 23°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 :130°C, 10Min	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