PROPRIETARY AND CONFIDENTIAL

Technical Report of INR18650-35E

SAMSUNG SDI

Nov, 2014

Cylindrical cell development group
Energy Business Division
SAMSUNG SDI

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Tentative Specification of INR18650-35E

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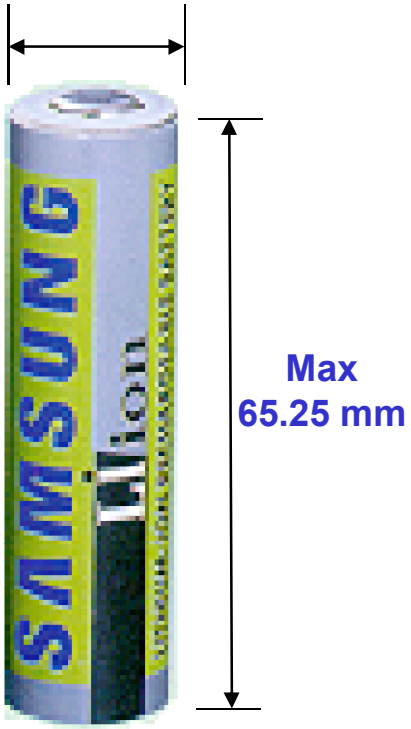
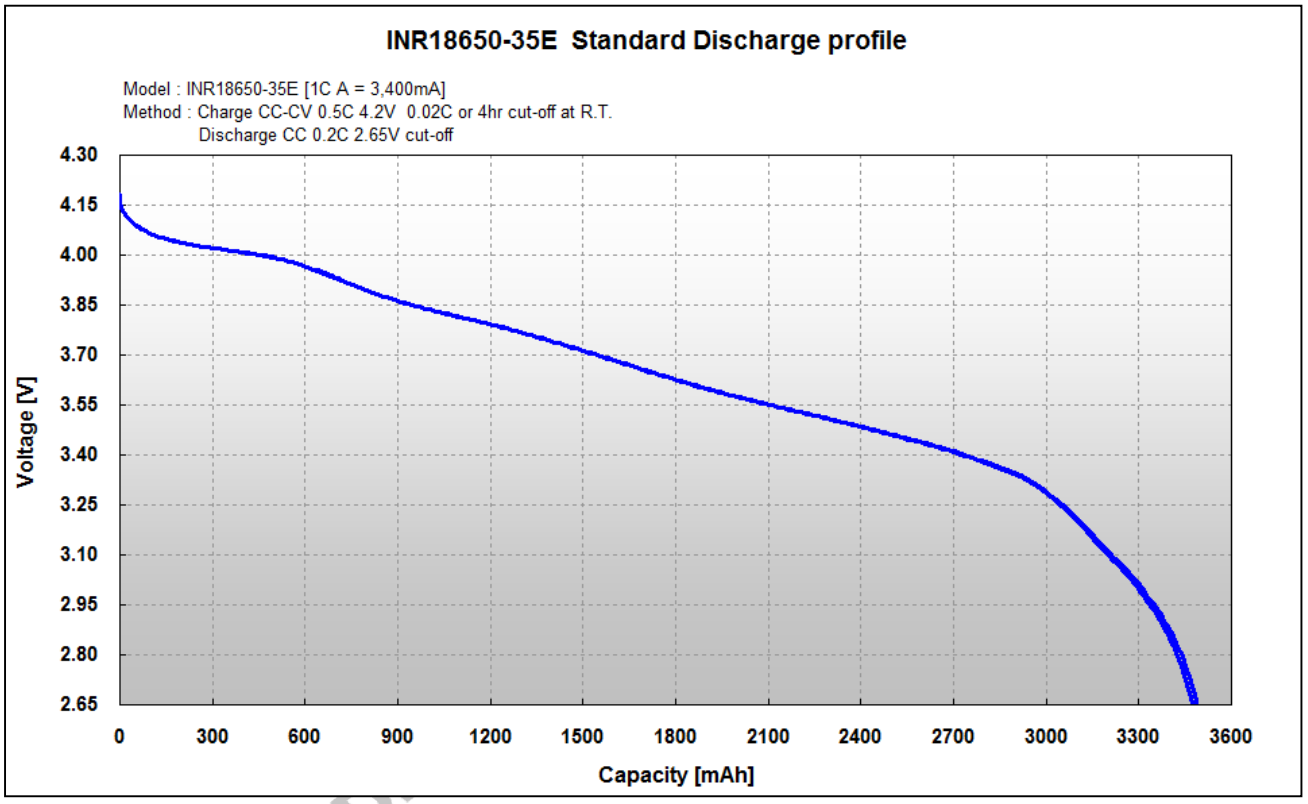


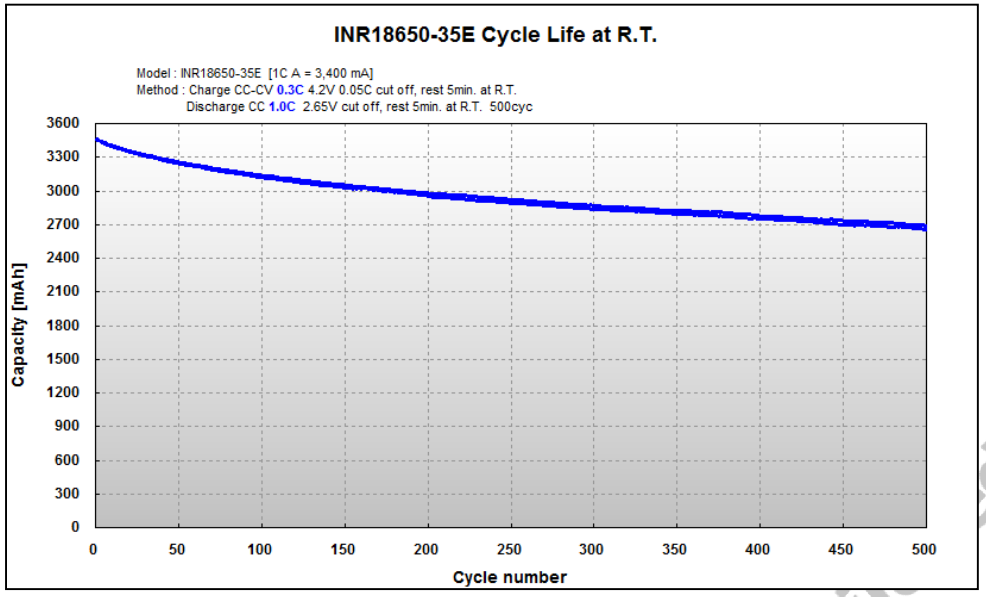
		INR18650-35E
● Capacity (0.2C)	Typical Min.	3450mAh 3350mAh
● Nominal Voltage (0.2C)		3.60V
● Charging Method		CC-CV
● Charging Voltage		4.20V
● Charging Current (Not for cycle)	Max.	2000mA
● Discharging Cut-off Voltage		2.65V
● Discharging Current (Not for cycle)	Max.	8000mA
● Weight	Max.	50.0g
● Operating Temperature	Charge Discharge	0 ~ 45 ℃ -10 ~ 60 ℃
● Storage Temperature	1 Year 3 Months 1 Month	-20 ~ 25 ℃ -20 ~ 45 ℃ -20 ~ 60 ℃

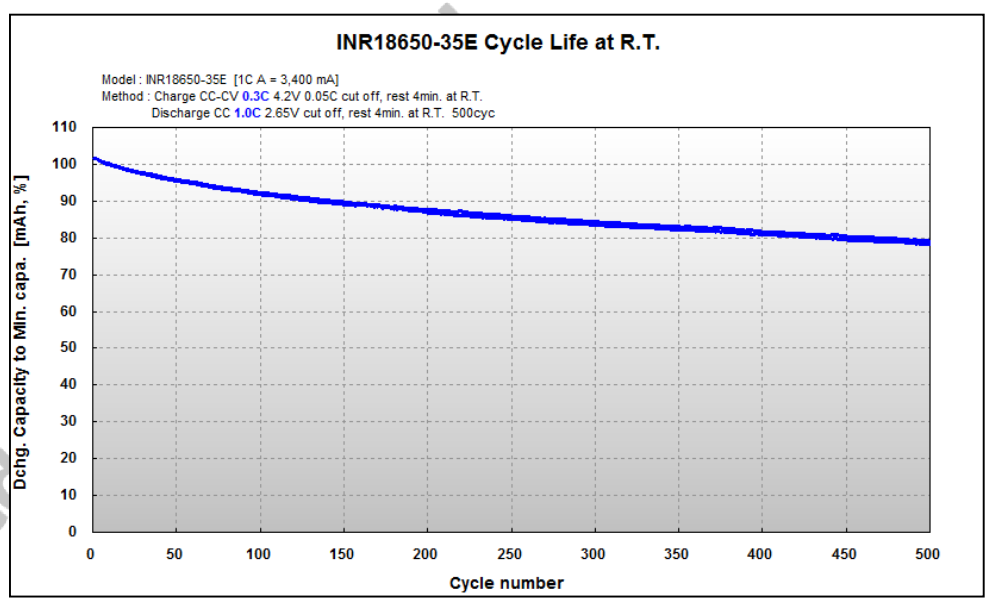
Standard Capacity_0.2C



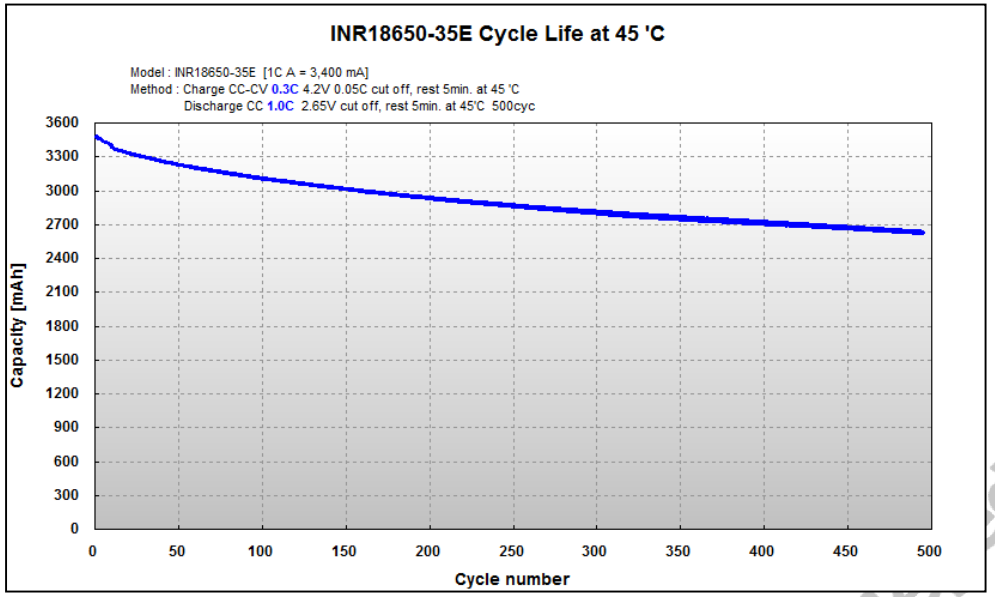
capacity (mAh)	Energy (Wh)
3,482	12.62

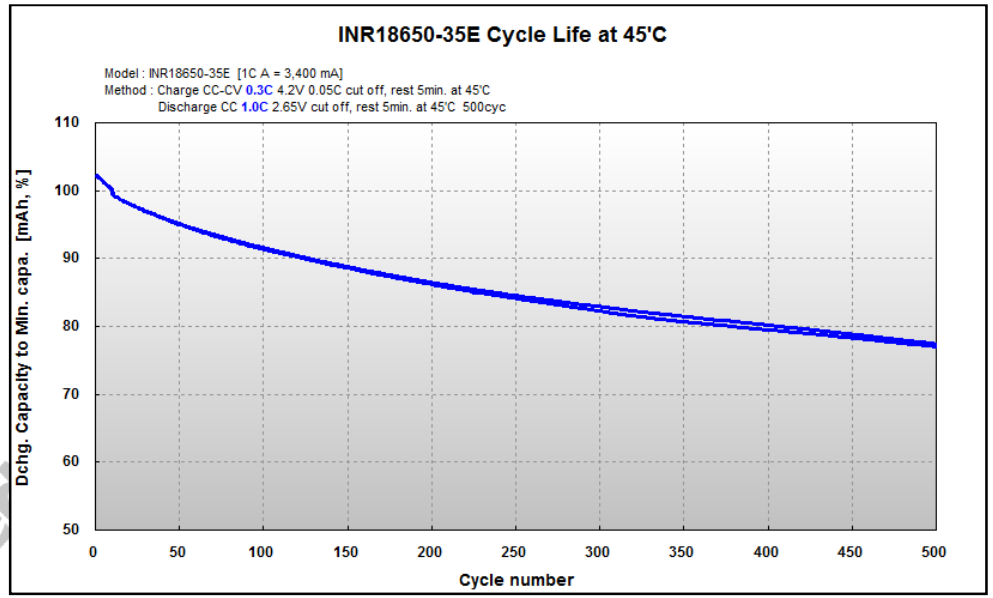
Cycle Life_1C cycle



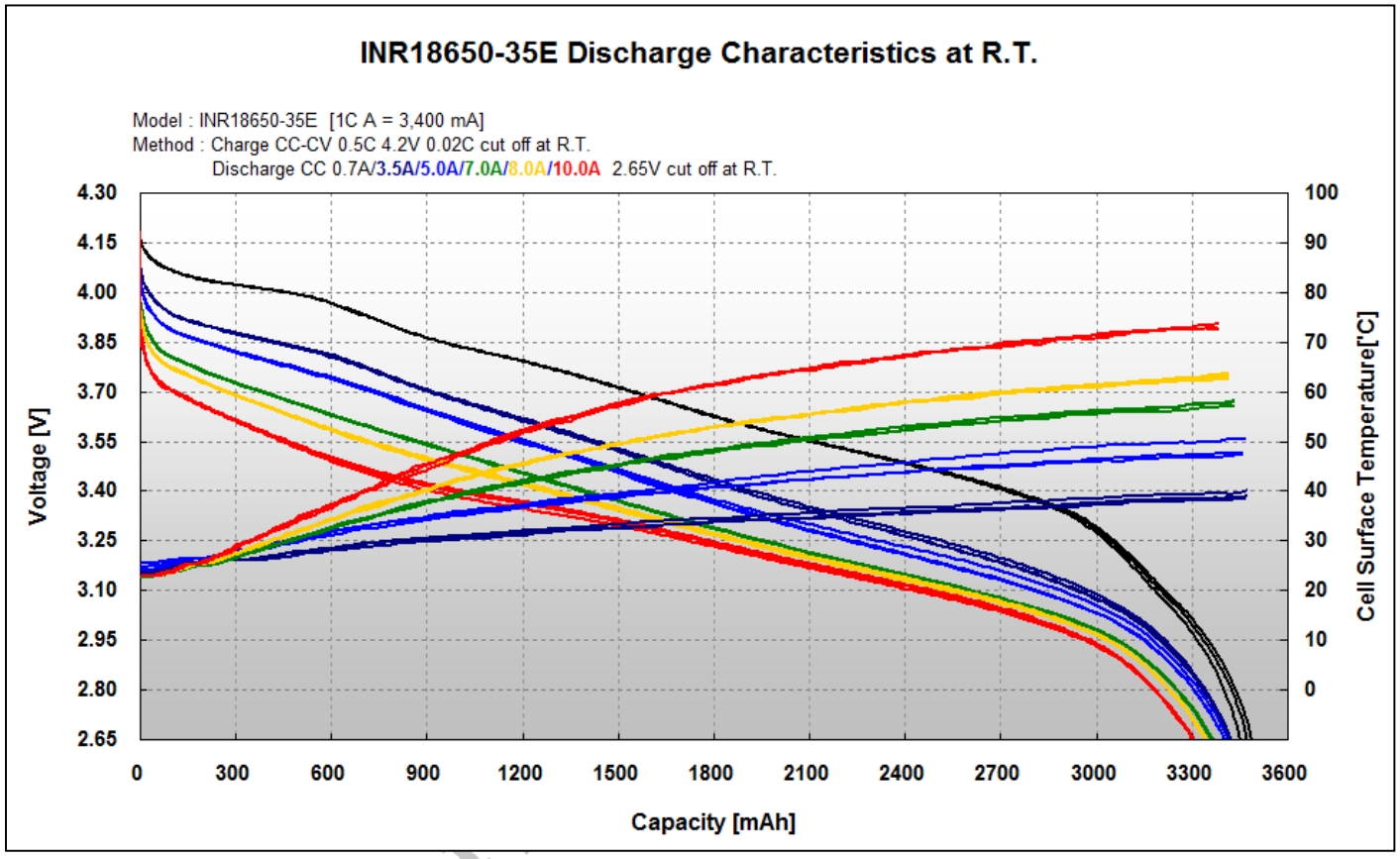


Cycle Life_1C cycle at 45℃





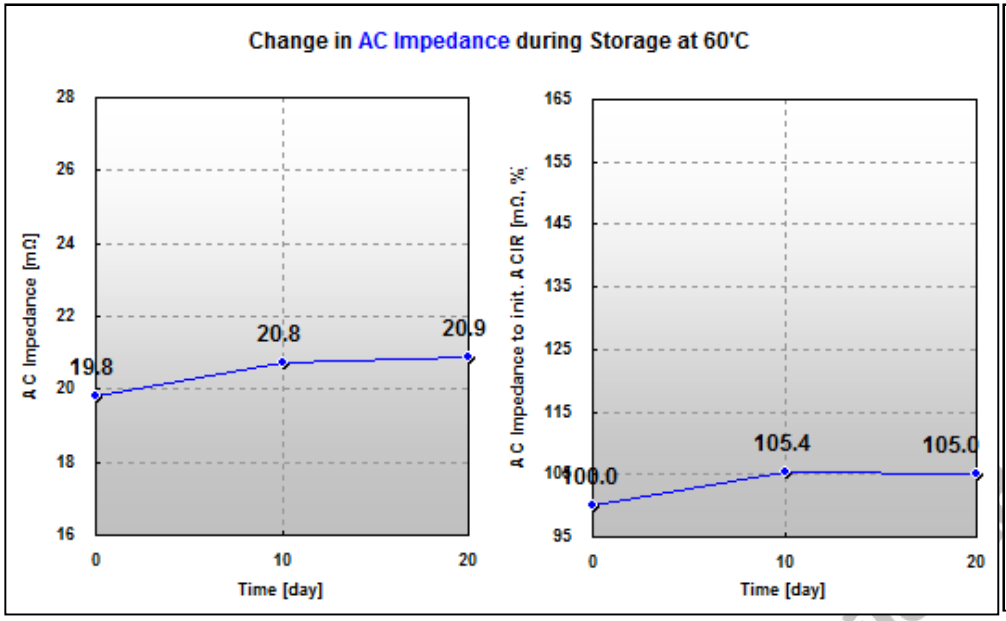
Room Temperature Discharge (23℃)



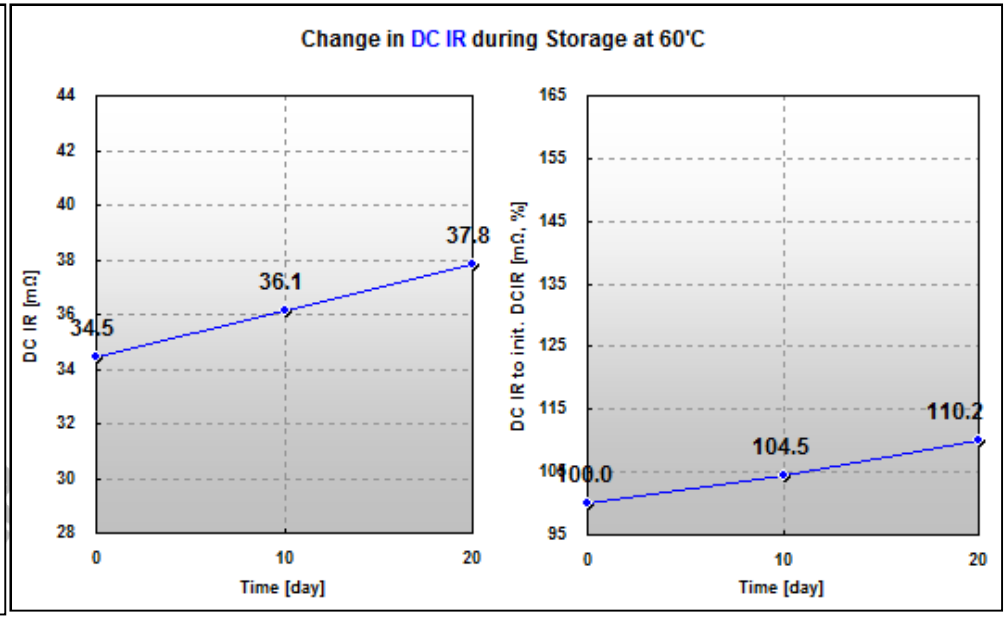
	3.5A	7.0A	10.0A
Capacity (mAh)	3,448	3,409	3,359
Energy (Wh)	11.87	11.30	10.92
Max. T (℃)	39.1	57.6	73.0

Storage at 60℃ (SOC100)

▪ AC-IR



▪ DC-IR



Storage day	Initial		After storage		Ratio		
	AC-IR	DC-IR	AC-IR	DC-IR	AC-IR	DC-IR	Recovery
10	19.8	34.5	20.8	36.1	105.4	104.5	98.0
20			20.9	37.8	105.0	110.2	97.4

Safety Test Results

Tests	Requirements	Results	OK/NG
Overcharge (1C, 3hr)	L1	4L0	OK
Hot oven (140℃)	L1	3L1	OK
Crush (13 kN)	L3	10L1	OK
Impact (ϕ15.8, 9.1kg, 610mm)	L3	10L0	OK
External short Circuit @55℃ (20mΩ)	L1	5L0	OK
Forced-Discharge	L3	5L0	OK

Level	Criteria
L0	No change
L1	Leak
L2	Smoke, <200℃
L3	Smoke, >200℃
L4	Fire
L5	Explosion

- Thank you -

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