Technical Information of LG 18650HG2 (3.0Ah)

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High Power Cell Development Team

LG Chem
Mobile Battery Division

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Summary

Type		Specification	Actual
Chemistry		$Li[NiMnCo]O_2$ (H-NMC) / Graphite + SiO	
Dimensions (mm)	Diameter	18.3 + 0.2 / -0.3 mm	
	Height	65.0 ± 0.2 mm	
Weight (g)		Max. 48	44~45
Initial IR (mΩ AC 1kHz)		Max. 17	14~16
Initial IR (mΩ DC)		Max. 30	24~26
Nominal Voltage (V)		3.6	
Charge Method		Nominal : 1.5A 4.2V, 50mA End-current (CC-CV)	
		Fast : 4A 4.2V, 100mA End-current (CC-CV)	
Charge Time	Nominal (min)	165min	
	Fast (min)	85min	
Charge Current	Nominal Current (A)	1.25A	
	Max. Current (A)	4A	
Discharge	End Voltage (A)	2V	
	Max. Current (A)	20A (Continued discharge current)	
0.2C Capacity	Nominal (Ah)	3.0 Ah	
Energy Density	Nominal (Wh/kg)	240	

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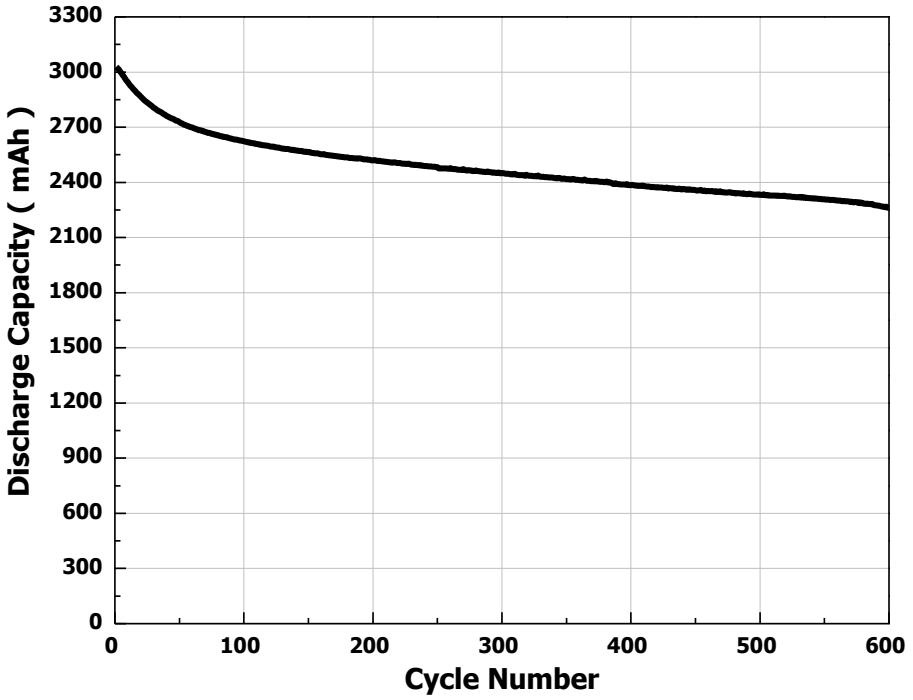
Cycle life (10A and 15A)

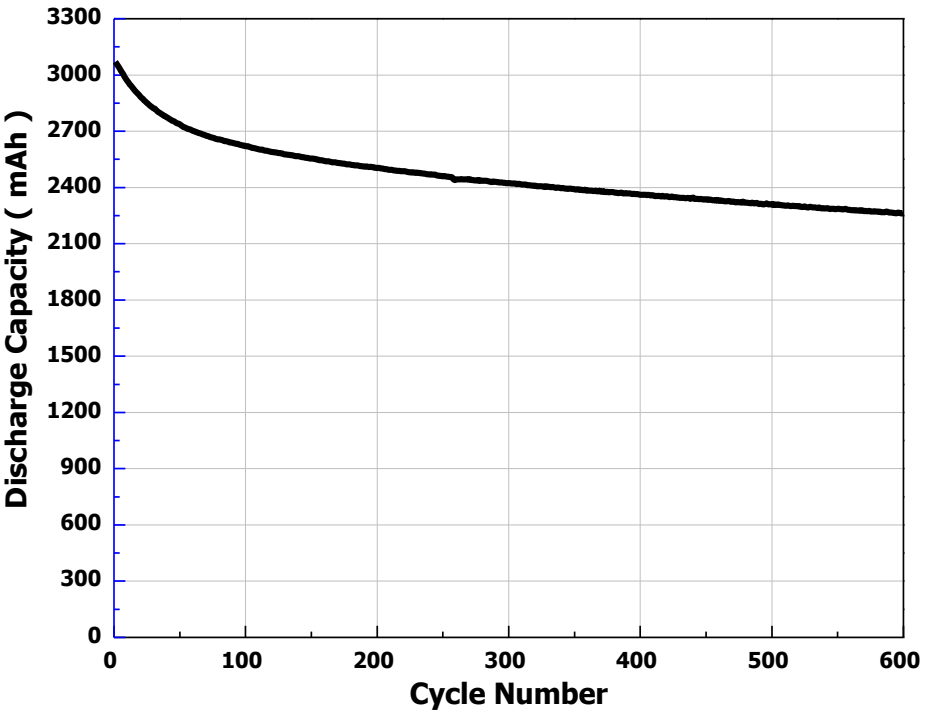
- Test Condition
  - Charge (CC/CV): 4A charge to 4.2V, 0.1A cut-off
  - Discharge (CC) : 10A discharge, 2.0V cut-off

[10A Cycle]



- Test Condition
  - Charge (CC/CV): 4A charge to 4.2V, 0.1A cut-off
  - Discharge (CC) : 15A discharge, 2.0V cut-off

[15A Cycle]



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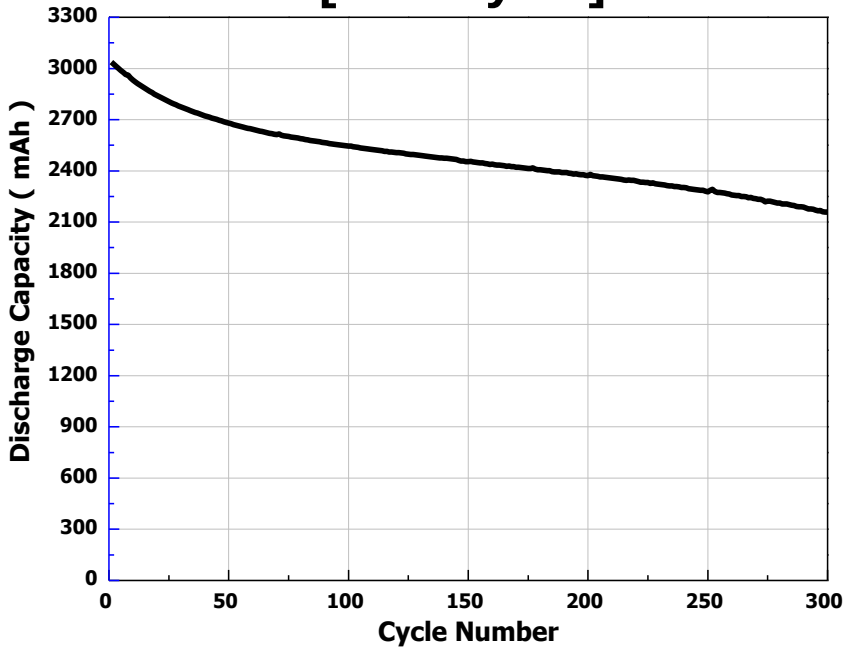
Cycle life (20A and High Current Pulse)

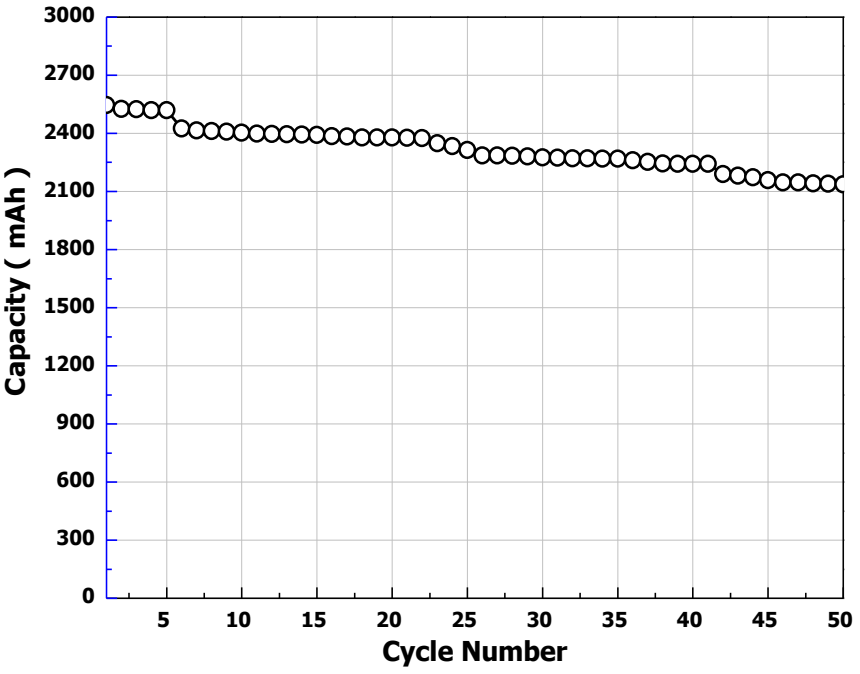
• Test Condition
- Charge (CC/CV): 4A charge to 4.2V, 0.1A cut-off
- Discharge (CC) : 20A discharge, 2.0V cut-off

•Test Conditions
- Charge : 4A to 4.2V, 100mA Cut-off at 23℃
- Discharge : 95A (0.5sec) → 80A (0.5sec) → 45A (0.5sec) → 30A (6sec) → rest (12sec), 1.5V cut-off at 23℃

[20A Cycle]



[High Current Pulse Cycle]



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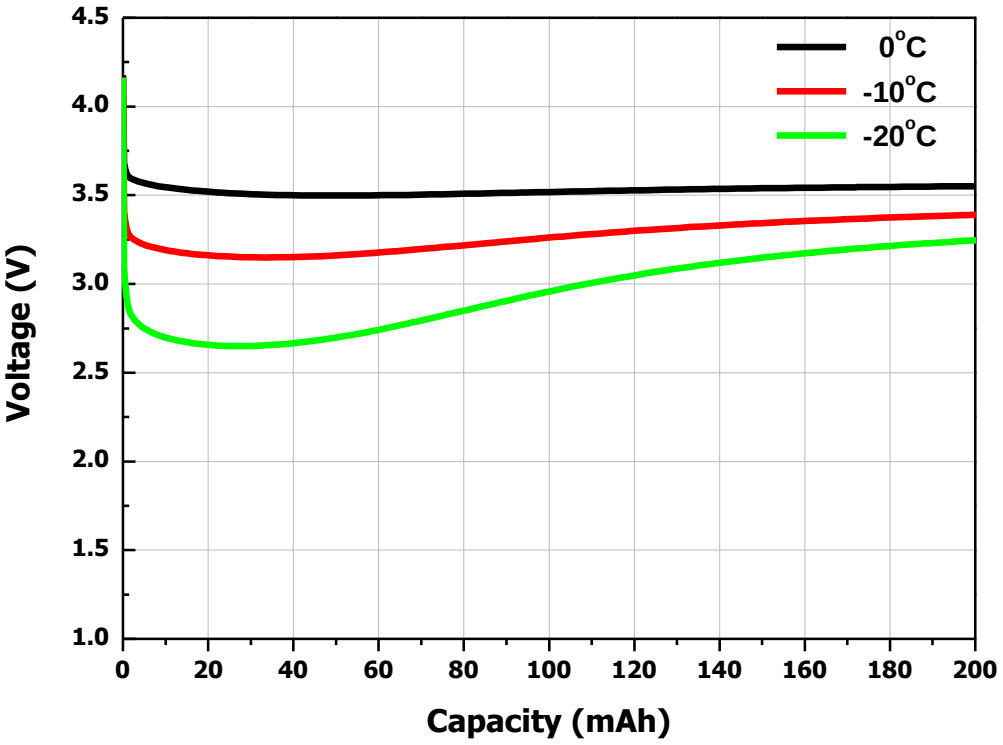
Low Temperature Discharge Profiles (10A)

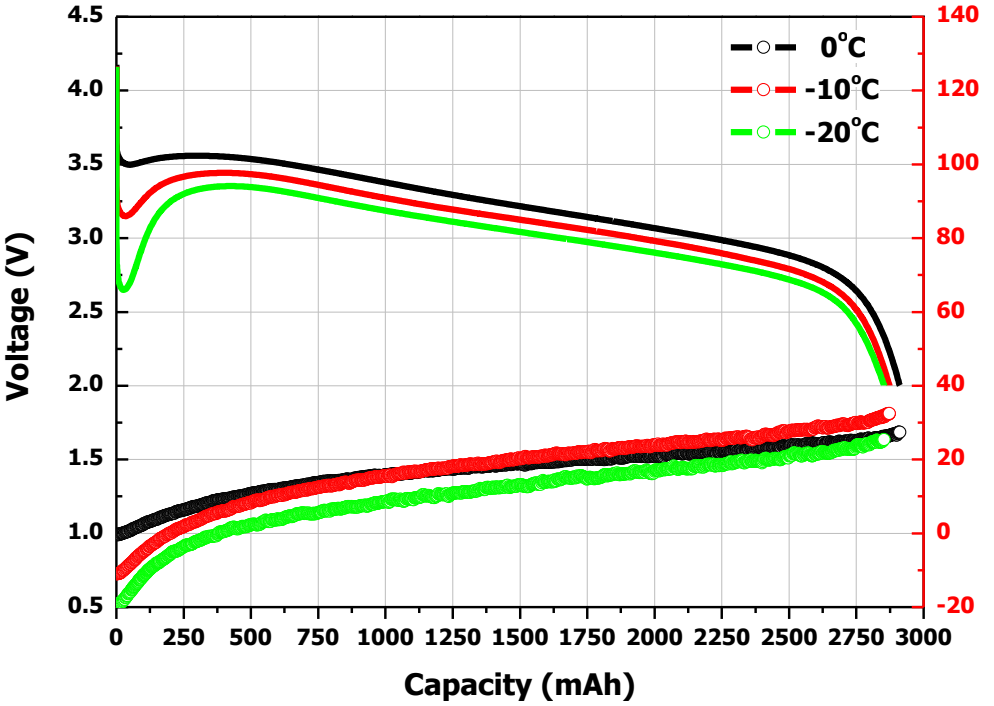
Test Condition

- Charge (CC/CV): 4A charge to 4.2V, 100mA cut-off at RT
- Discharge (CC) : 10A, at 0, -10, -20°C, 1.5V cut-off

Discharge vs. Temp.



Discharge vs. Temp.



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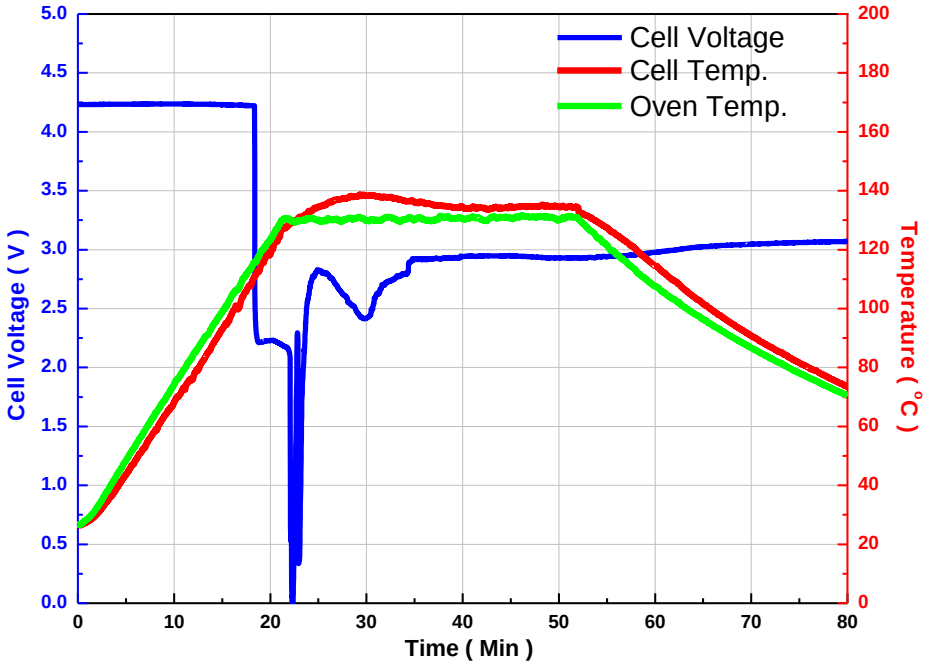
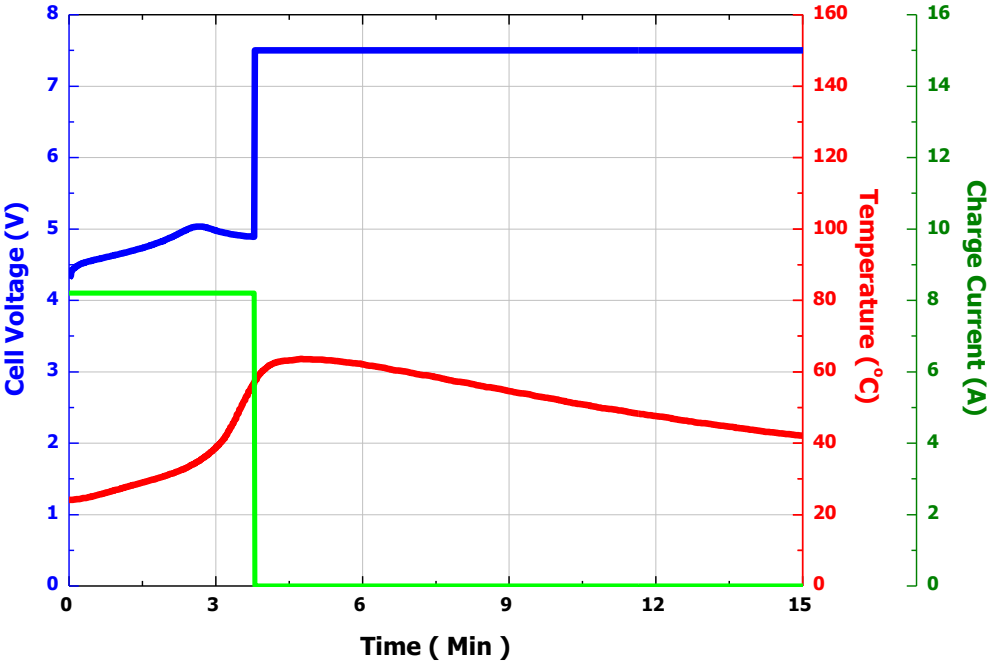
Safety Test (Hot box and Overcharging)

[Hot box, 130℃, 1h]



[Overcharging, 8.2A]



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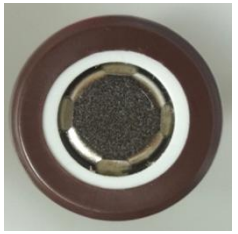
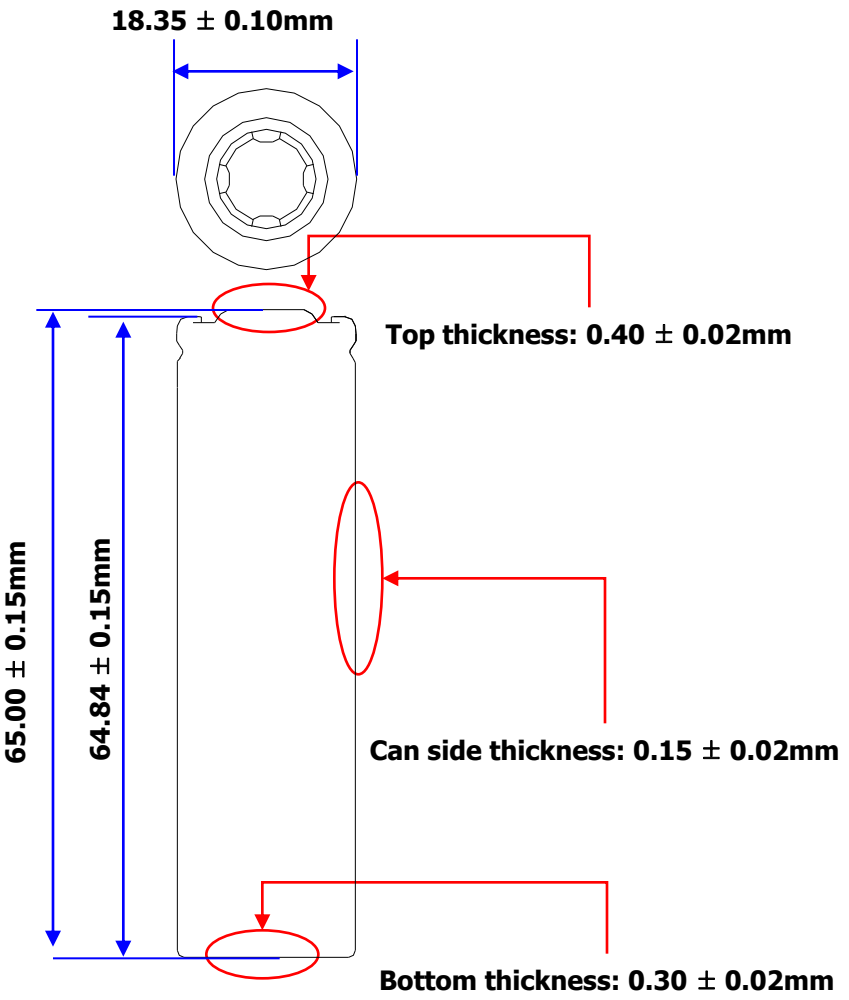
Dimension of HG2

Can material: Steel (Nickel-plated)
Tube material: Colored PET (t=0.08 ± 0.02 mm)





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