

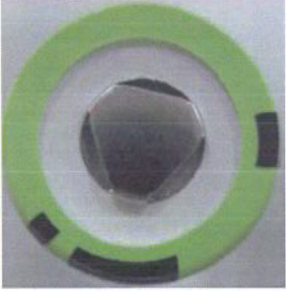
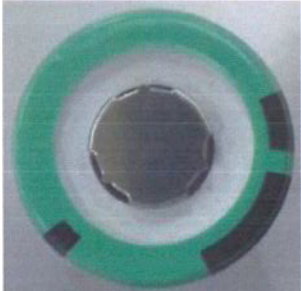


# Introduction of NCR18650PF

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March 2013

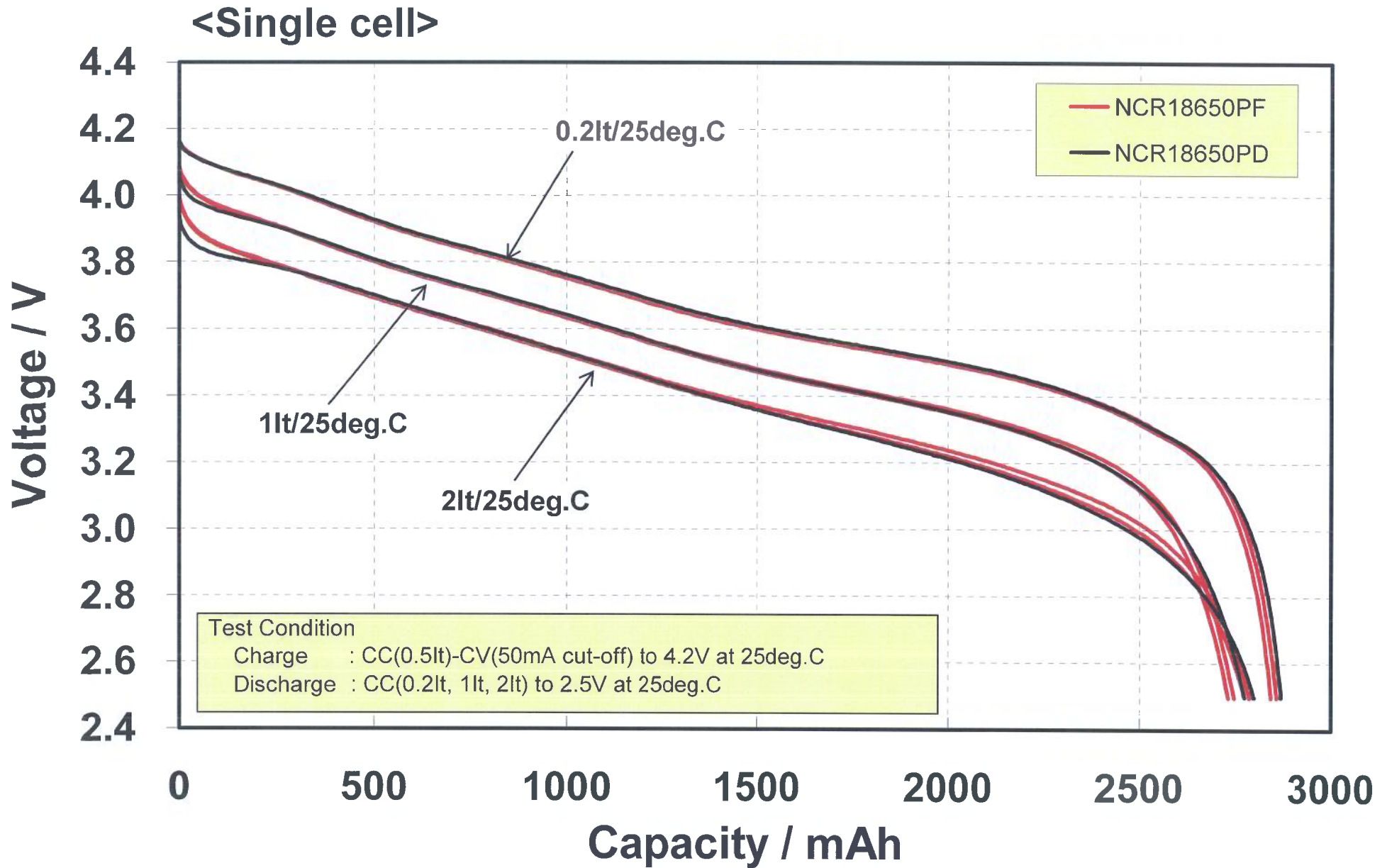
**Energy Company of Panasonic Group**  
Lithium-Ion Battery Business Unit  
Energy Company, SANYO Electric Co., Ltd.

Model		NCR18650PD	NCR18650PF
Nominal Voltage (V)		3.6	3.6
Rated Capacity (mAh) at 20°C		2680	2700
Typical Capacity (mAh) at 20°C		2830	2750
Nominal Capacity (mAh)/Typ. at 25°C		2880	2900
Standard Charge(CCCV)		0.5It 4.2V	0.5It 4.2V
Dimensions with Tube(Max.)	Diameter	18.5	18.5
	Height	65.3	65.3
Weight (g) (max.)		46.5	Almost 46.5
Maximum Continuous Discharge Current (A) *Actual(Reference)		10(**Spec.)	10(**Spec.)
AC-IR(mOhm) Actual		21	21
DC-IR(mOhm) **Actual		43	43

	NCR18650PD	NCR18650PF
Top cap shape		
Bottom shape		
Over charge characteristics	—	CID works earlier than NCR-PD

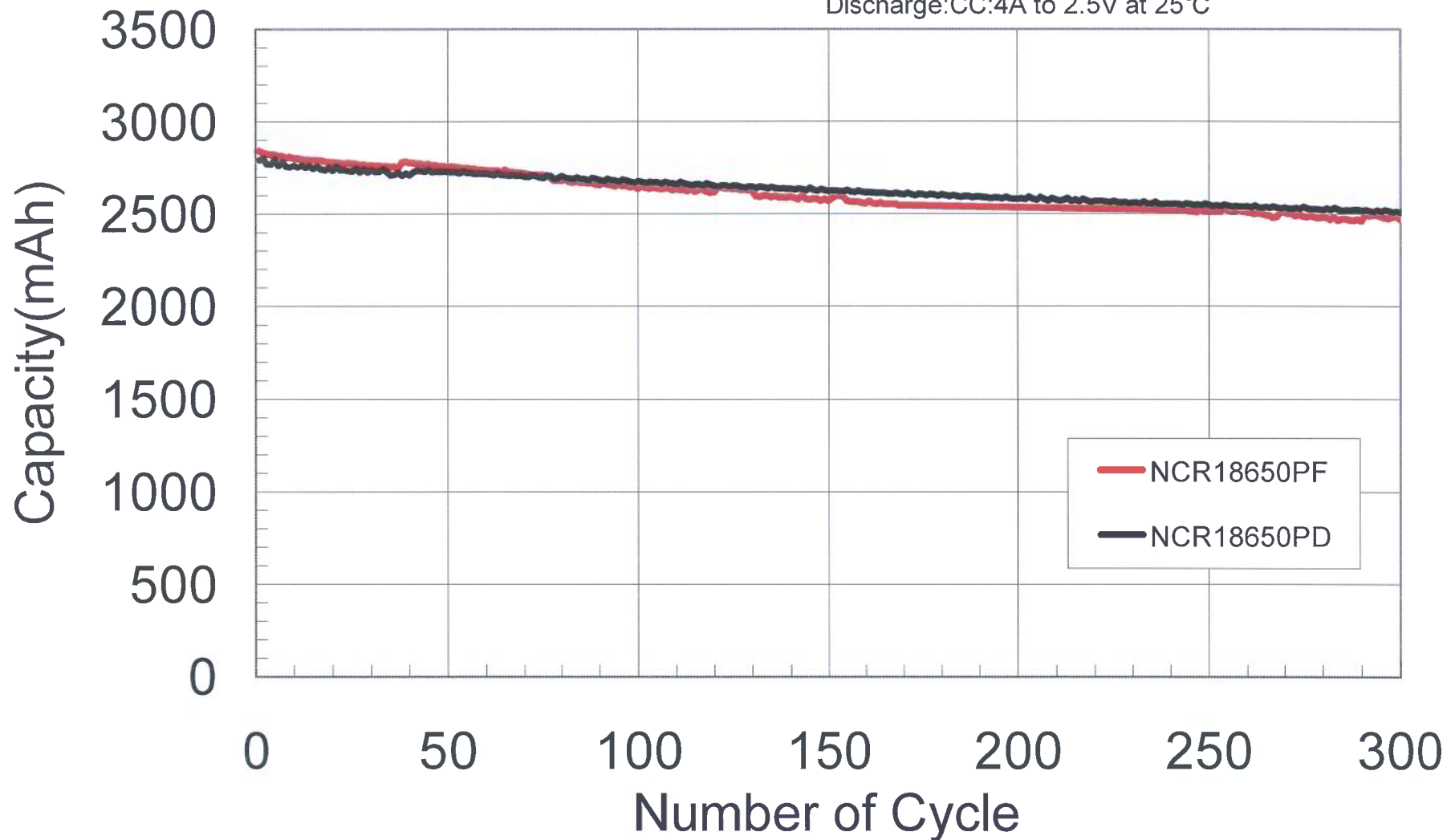
## Advantage

- Improving weldability due to large area of top cap
- Improving safety performance (overcharge characteristics)



## 4A discharge

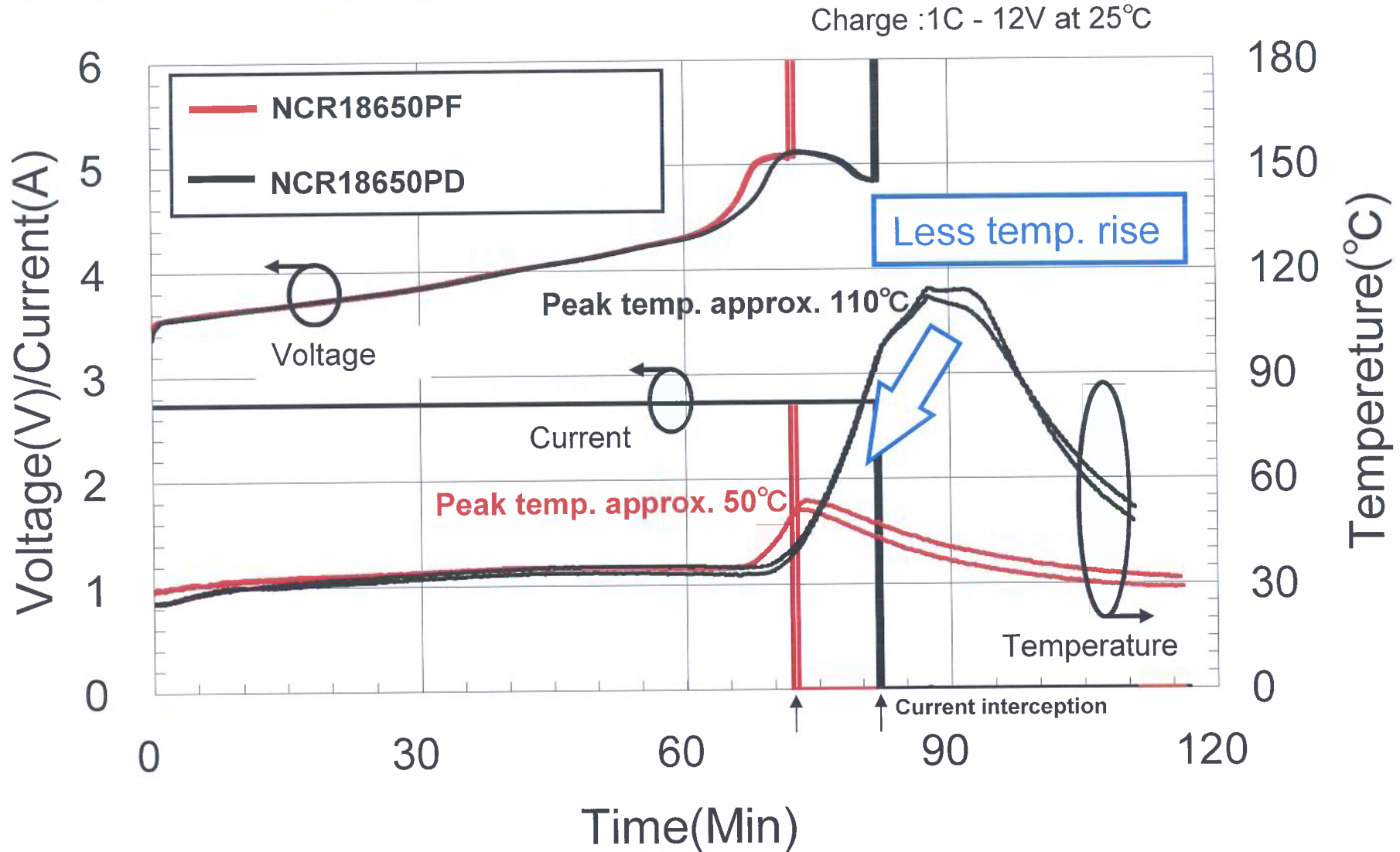
Charge :CC-CV:1.365A-4.2V(55mA cut) at 25°C  
Discharge:CC:4A to 2.5V at 25°C



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# Over Charge Test for NCR18650PD and PF



- NCR18650PF passed overcharge test with enough temperature margin. (No fire, No explosion)
- MAX temperature of overcharge decreased, compared with current design.

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