## **Panasonic**

## Introduction of NCR18650PF

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Automotive & Industrial Systems Company of Panasonic Group

Portable Rechargeable Battery Business Division, SANYO Electric Co., Ltd.

## Cell design of NCR18650PD and PF

Model		NCR18650PD		NCR18650PF	
Nominal Voltage (V)		3.6	S	ame	3.6
Rated Capacity (mAh) at 20°C		2680			2700
Typical Capacity (mAh) at 20°C		2730	Incre	asing	2750
Nominal Capacity (mAh)/Typ. at 25°C		2880			2900
Standard Charge(CCCV)		0.5lt 4.2V	Sa	ame	0.5lt 4.2V
Dimensions with Tube(Max.)	Diameter	18.5			18.5
	Height	65.3	Sam	e	65.3
Weight (g) (max.)		46.5			Almost 46.5
Maximum Continuous Discharge Curretnt (A) *Actual(Reference)		10	Sa	me	10
AC-IR(mOhm) Actual		21		21	
DC-IR(mOhm) **Actual		43	Sa	a <mark>me</mark> 43	

For BMZ



## Changing points

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

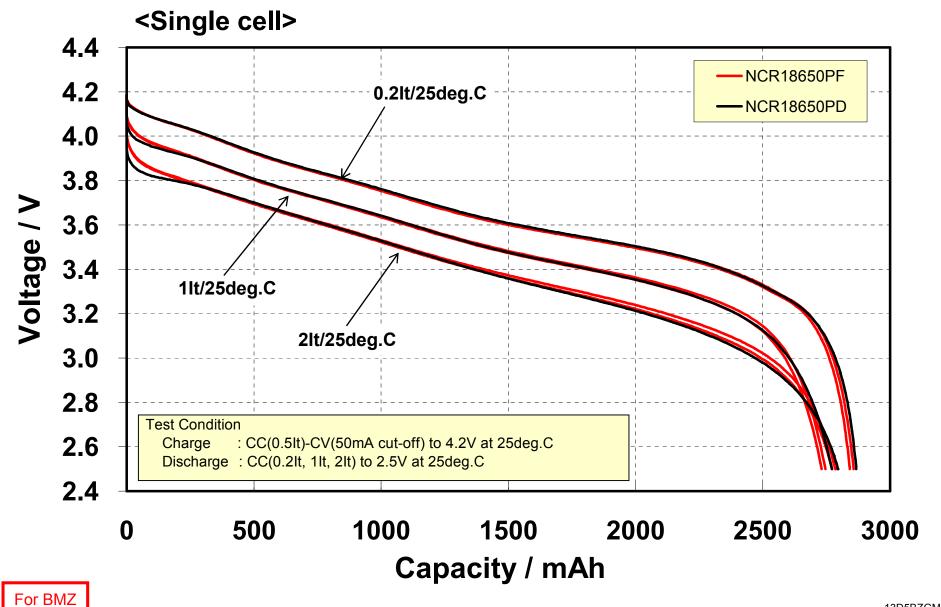
#### **Advantage**

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

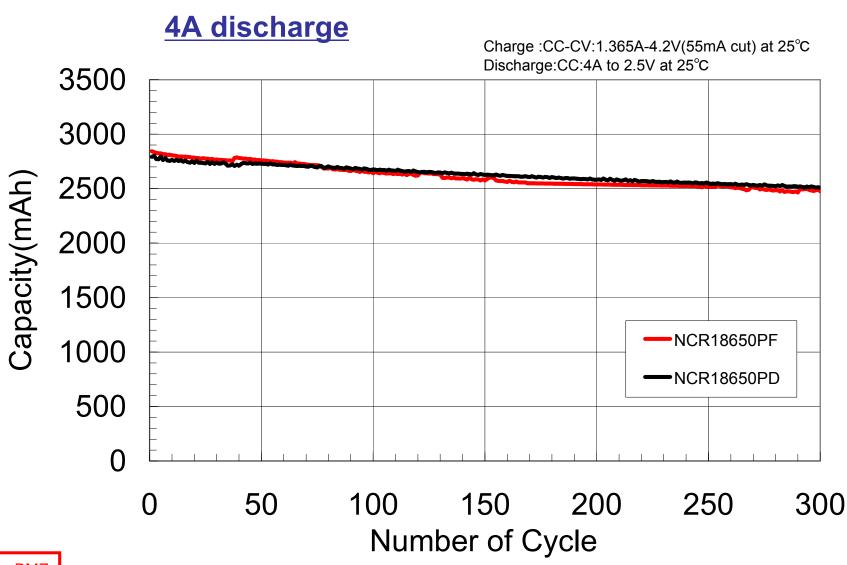




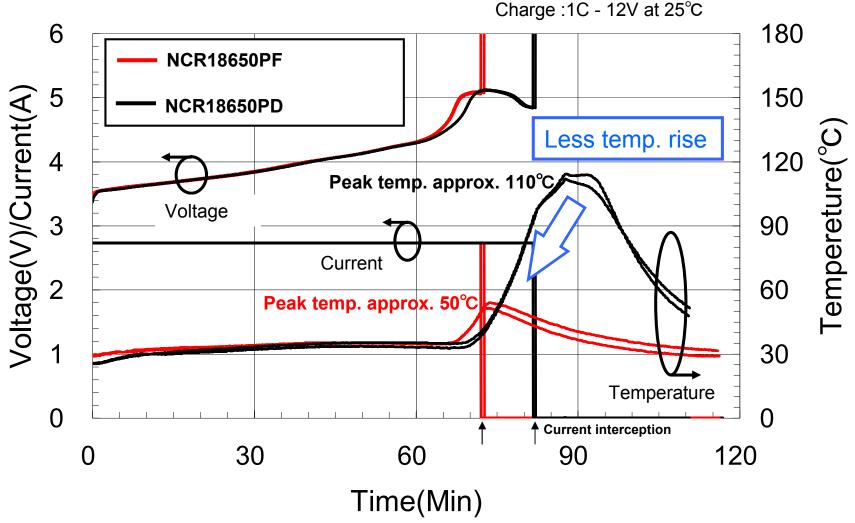
## Discharge characteristics at 25°C







## 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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