

# ***GREAT POWER BATTERY CO., LTD.***

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## **1. Preface**

This specification is suitable for the performance of the **GREAT POWER** Ni-CD button rechargeable battery.

## **2. Model**

PH280K-280

## **3. Appearance**

There shall be no such defects as discoloration, electrolyte leakage or no voltage.

## **4. Nominal specification**

Description		Specification	
Model		PH280K-280	
Size		PH280K	
Dimensions	Width (mm)	26 ± 0.2	
	Height (mm)	MAX8.6	
	Weight(g)	Approx 14g	
Nominal Voltage(V)		1.2 V	
Nominal capacity (mAh)		280	
Discharge Cut-off Voltage		1.0V	
Ambient temperature	Charge	standard	0 to 40
		quick	10 to 40
	Discharge		-10 to 50
	Storage	< 1 year	-10 to 30
		< 3 months	-10 to 40

## **5.Characteristics**

Unless otherwise specified, the standard range of atmospheric conditions as follows:

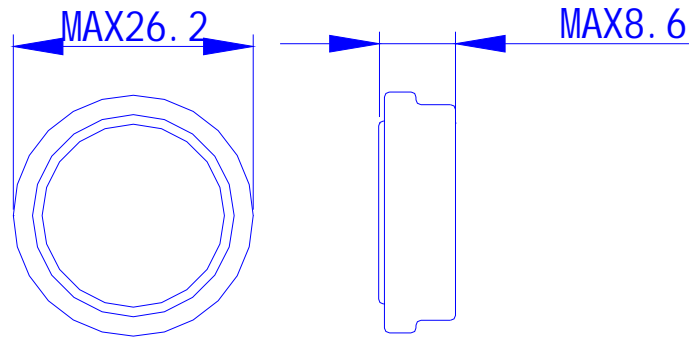
- Ambient Temperature      20 ± 5
- Relative Humidity          65 ± 20%

· Atmospheric Pressure 960 ± 100mbar

· Voltmeters and ammeters to be used in test shall be of grade 0.5 over

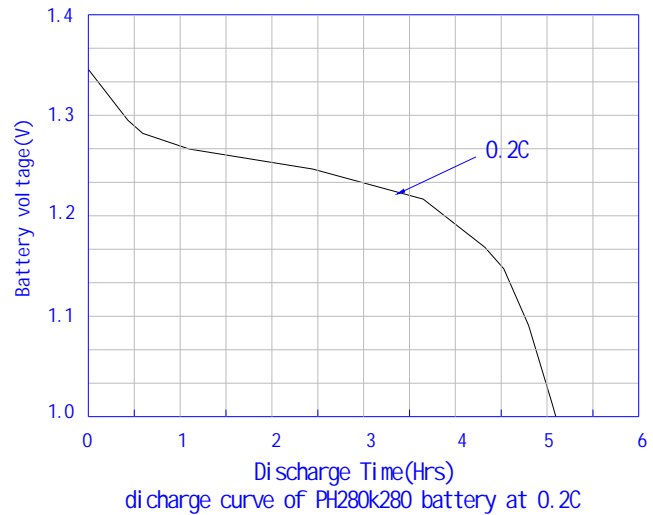
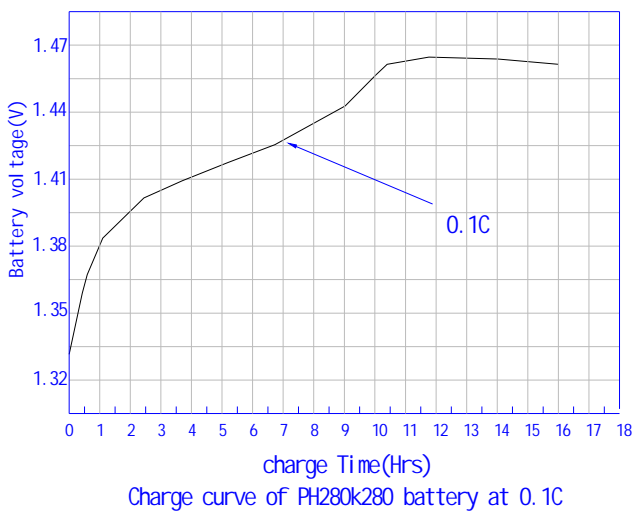
Test Item		Condition		Specification
1. Charge	Standard	Charge at 0.1C <sub>5</sub> for 16 hours		
	Quick	Charge at 0.2C <sub>5</sub> for 7 hours		
2. Standard Discharge		Discharge At 0.2C <sub>5</sub> to 1.0V		
3. Discharge Cut-off Voltage				1.0V
4. Capacity	Nominal	Standard Charge/Discharge		280mAh
	Typical	Standard Charge/Discharge		290mAh
5. Cycle life		Standard by IEC		Capacity Retention 65% After 500 cycles
6. Self-Discharge		The charged battery is stored for 28 days at 20 ± 5 . And the discharge time is measured at standard discharge		180minutes
7. High Temperature Test		Store at 50 for 2 hours then at 0.2C discharge, charge at 0.1C for 16h at 20 ± 5 , first.		No leakage
8. Low Temperature Test		Store at 0 for 2 hours then at 0.2C discharge, charge at 0.1C 16h at 20 ± 5 first.		No leakage
9. Short Circuit Test		Short circuit after fully charge		No explode
10. Drop Test		Free fall on the concrete from 1 meter for 3 axis after fully charged		No leakage No short-circuit No crack of sleeve
11.Cycle life	Charge	Rest	Discharge	Capacity retention 60% after 500cycles
1	0.1C for 16h	0	0.25C for 2h20min	
2	0.25C for 3h10min	0	0.25C for 2h20min	
3	0.25C for 3h10min	0	0.2C to 1.0V	
4	0.1C for 16h	1~4h	0.2C to 1.0V	

## 6、 Physical:



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## 7、 charge /discharge curve(charge at 0.1C,discharge at 0.2C)



## 8、 Caution :

8.1 Please charge battery follow the instruction of item 5.1, charge current cannot be more than the limit of item 5.1. overcharge with high current is harmful, it may cause battery deformation, leak or even explosion.

8.2 Do not discharge battery to the condition of lower voltage than 1.0V. Overdischarge may decrease the cycle life and may cause battery deformation, leak or explosion.