

## Alkaline manganese batteries Technology Specification

Customer \_\_\_\_\_

Part name     Alkaline manganese batteries

Model No     27A 12V

Serial No \_\_\_\_\_

Produce No \_\_\_\_\_

Approved by		Drafted by	Wenfei liang
Checked by		Signed by	Xiaojun nie
Prepared by		Valid Date	2018-08-15

Company address: 4th Building, Meitai Technology Park, Guanguang  
Road, Longhua, Shenzhen, China.

(Tel) : +86-755-86670672

(Fax) : +86-755-86670609

E-mail: [pkcell@pkcell.net](mailto:pkcell@pkcell.net)     [pkcell@pkcell.com](mailto:pkcell@pkcell.com)

Website: <http://www.pkcell.net>     <http://www.pkcell.com>

## 1. Preface

The specification is suitable for the performance of alkaline 27A battery produced by the SHENZHEN PKCELL BATTERY CO., LTD.

### 1.1 Model

27A

### 1.2 Reference Standard

IEC 86-1(1996-07) ---Primary Batteries - General

IEC 60086-2(1997-07) ---Primary Batteries - Specification Sheets

1.3 Height A: 27.4~28.4mm

Diameter  $\phi$ : 7.2~8.1mm

## 2. Chemical System

Alkaline battery

3. Nominal Voltage: 12.0V

4. Average Weight: 4.7g

5. Nominal Capacity

22mAh ( Condition: discharge 24h every day, at 20K $\Omega$ , 20 $\pm$ 2 $^{\circ}$ C, end voltage: 6.0V)

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## 6. Electrical Performance

( Condition: load Impedance: 1000 $\Omega$ , precision:  $\pm$ 0.5%, test time:0.3s, test temperature: 20 $\pm$ 2 $^{\circ}$ C, test within 30days)

	Open Circuit Voltage (V)	Closed Circuit Voltage (V)	Standard
Initial period	12.20	11.0	MIL-STD105E ,  Common II, AQL=0.4
After 12months	12.0	10.5	

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## 7. Discharge Performance

( Condition: test temperature:  $20\pm 2^{\circ}\text{C}$ , test within 30days)

	Discharge Condition			Minimum average discharge time	
	load	Discharge way	End voltage ( V )	Initial period	Storage 12months
IEC item	20K $\Omega$	24H/d	6	35h	30h

Test Standard: The Number Sample: 9pcs.

Average discharge time not less than minimum appointed average discharge

time, and number of battery those discharge time less than 80% of appointed not more than

1pcs, can be considered to be accord with the standard.

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Shenzhen Pkcell Battery Co., Ltd

## 8. Spillage Performance

Item	Condition	Time limit	Characteristic	Checking Standard
Spillage proof at over-discharge	20K $\Omega$ continuous discharge , Temperature : $20\pm 2^{\circ}\text{C}$ , Relative Humidity : $65\pm 20\text{RH}$	discharge continuously to 4.8V	No deformation, no spillage, the distortion of total height of the battery not exceed 0.2mm	N=30 AC=0 RE=1

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## 9. Safety performance

Item	Condition	Time limit	Characteristic	Checking Standard
Short circuit	Temperature: $20 \pm 2^{\circ}\text{C}$	24h	No explosion	N=30 , AC=0 , RE=1

## 10. Label on the battery

The following items are labeled on the battery surface:

Model: 27A

Brand name: PKCELL

Nominal Voltage: 12V

Polarity:  $-+ \parallel -- \parallel$

Precautions: Do not attempt to recharge a battery, and Do not dispose of batteries in fire.

Manufacturer: Shenzhen Pkcell Battery Co., Ltd

## 11. Precautions of use:

(1) The battery is designed not to be recharged, the forced recharge will result in the spillage or the risk of equipment damage.

(2) The labels  $-+ \parallel -- \parallel$  for the battery should installed correctly according to the directions specified by the equipment to be used.

(3) Short circuit, heating, burning and unsealing for the battery are forbidden.

12. Shelf Life : Storage life of batteries are two years long at  $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$  and  $\text{RH}60 \pm 15\%$ .

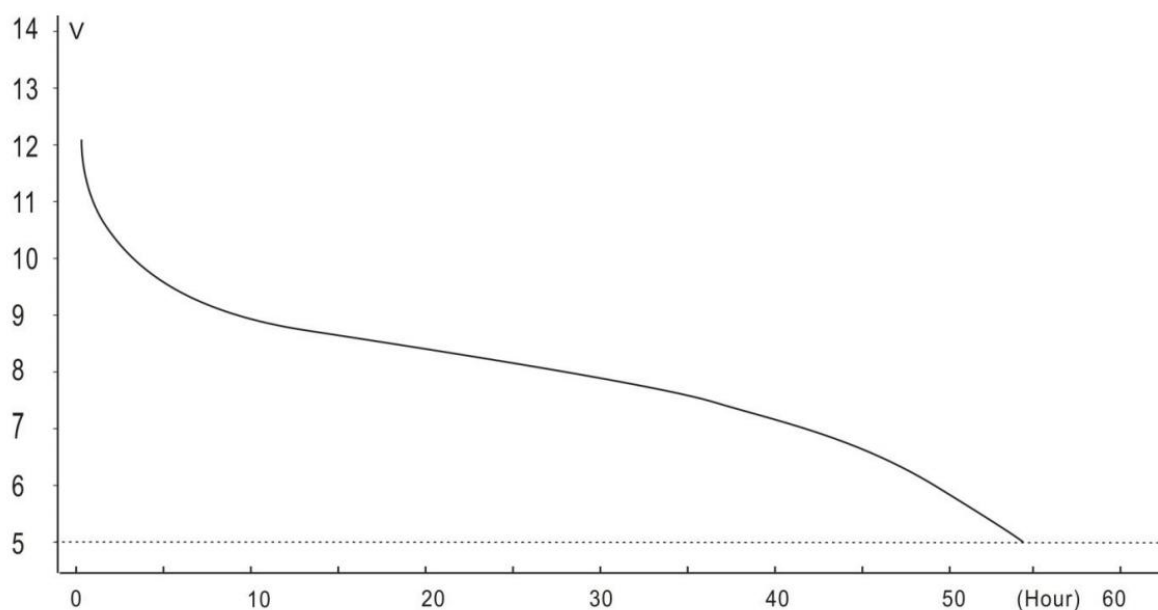
13. Discharge curve: ( Test temperature:  $20 \pm 2^{\circ}\text{C}$  )

Discharge method:  $20\text{K}\Omega$  24h/day ( Chart 1)

Discharge Characteristics:  $20\text{K}\Omega$ , 24h/day

Temperature:  $20 \pm 2^{\circ}\text{C}$

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