

**ENGINEERING SPECIFICATION**

**Product:** R14P, Zn/MnO<sub>2</sub>,6.0 Volts

**Date:** March 9, 2005

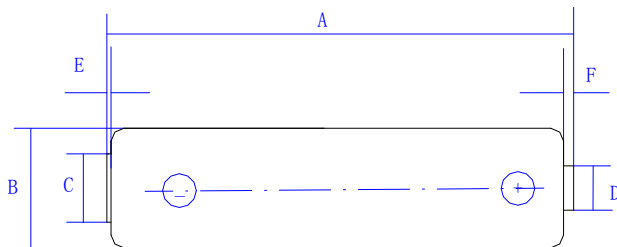
**SCOPE :**

This specification defines the technical requirements for dry cells distributed by BAO TONG. If not otherwise specified, the cells should meet or exceed the requirements of **IEC 60086-1,2**

If not otherwise specified in the drawing, the cell shall meet the dimensional requirements of standards listed in the scope.

**1. Dimensions**

in accordance with attached drawing.



Dimensions	max	min
A	50.0	48.6
B	26.2	24.9
C	--	13.0
D	7.5	--
E	0.9	--
F	--	1.5

**2. Electrical Requirement**

O.C.V. Min 1.500V Max 1.725V

C.C.V. ≥ 1.450V After 0.2sec±0.01sec by R=5.0Ω

**3. Service Life:**

3.1

Load Resistance ( ±0.5%)	<b>3.9 Ohms</b>			
Cycle Time	<b>24h/d</b>			
Cutoff Voltage	<b>0.9Volt</b>			
Storage Condition	<b>+20°C±2°C and 60±10%RH</b>			
Minimum Average Duration	<30days	12 months	24months	36months
	270 mins	230 mins	216 mins	

3.2

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Load Resistance ( ±0.5%)	<b>3.9 Ohms</b>			
Cycle Time	4min/h 8h/d			
Cutoff Voltage	<b>0.9Volt</b>			
Storage Condition	+20°C±2°C and 60±10%RH			
Minimum Average Duration	<30days	12 months	24months	36months
	300mins	270mins	255 mins	

**3.3**

Load Resistance ( ±0.5%)	<b>3.9 Ohms</b>			
Cycle Time	1h/d			
Cutoff Voltage	<b>0.8Volt</b>			
Storage Condition	+20°C±2°C and 60±10%RH			
Minimum Average Duration	<30days	12 months	24months	36months
	6.5hours	5.5hours	5.2hours	

**3.4**

Load Resistance ( ±0.5%)	<b>20Ohms</b>			
Cycle Time	4h/d			
Cutoff Voltage	<b>0.9Volt</b>			
Storage Condition	+20°C±2°C and 60±10%RH			
Minimum Average Duration	<30days	12 months	24months	36months
	35hours	29hours	28hours	

**3.5**

Load Resistance ( ±0.5%)	<b>6.8 Ohms</b>			
Cycle Time	<b>1h/d</b>			
Cutoff Voltage	<b>0.9Volt</b>			
Storage Condition	+20°C±2°C and 60±10%RH			
Minimum Average Duration	<30days	12 months	24months	36months
	11.5hours	9.8hours	7.8hours	

**4. Leakage Resistance**

**4.1 High heat and humidity storage test**

High Temperature Exposure

When exposed to a temperature of 45 ±2°C

for a period of

**20 days**

no leakage shall occur during the test

**5. Safety Requirement**

**5.1 Short Circuit Test**

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When a continuous short circuit is applied to the cell terminals at Standard Environment, the case temperature must not exceed the specified limit and no explosion may occur.- Leakage is tolerable

### **5.2 Safety Vent Test**

When 4 cells are connected in series with a load resistor and one of the 4 cells is connected with reverse polarity no explosion may occur. - The safety valve must operate  
Test Duration

**24 hours**

### **5.3 Forced Over Discharge Test**

When one drained cell is connected in series with 3 fresh cells and a load resistor, no explosion may occur. - Leakage is tolerable. The drained cell is prepared by discharging a fresh cell through a 3.9 Ohm resistor until its CCV reaches 0.9 V  
Test Duration

**3 days**

## **6. Heavy Metal Contents**

The heavy metal contents of the cell shall conform to  
Mercury limit (per cell weight)  
Cadmium limit (per cell weight)

**1 ppm max**  
**100ppm max**