



# Zinc Manganese Dioxide Battery

VER:

DATE:

**1.5V**

## Zinc Manganese Coin type Battery Specification

**145mAh**

**Model: LR44**

Prepared By/Date	Checked By/Date	Approved By/Date

### Important Notice

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## PRODUCT SPECIFICATION

**1. Applicability:** This specification is applicable to **LR44** coin type zinc manganese dioxide battery.

### **SPECIFICATION**

**1. Cross Reference :**

IEC	JAPAN	Ray-O-Vac	U.S.A SWITZERLAND	GERMANY	H.K PRODUCTS
LR44	LR44	RW32	303	V303	AG13

- 2. Chemical System :** Zinc-Manganese Dioxide ( Potassium Hydroxide Electrolyte )
- 3. Nominal Voltage :** 1.50V  
145mAh ( continuously discharge at 20±2°C under 6.8kΩ load to 0.9V end-point voltage )
- 4. Standard Capacity :**
- 5. Approximate Weight :** 1.95g
- 6. Dimensions & Structure :** Dimensions & structure of the cell are shown in the attached Fig. 1.
- 7. Terminal Materials :**
  - Negative : Ni plated/Fe/Cu plated or gold plated steel
  - Positive : Ni plated steel



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**8. Characteristics :**

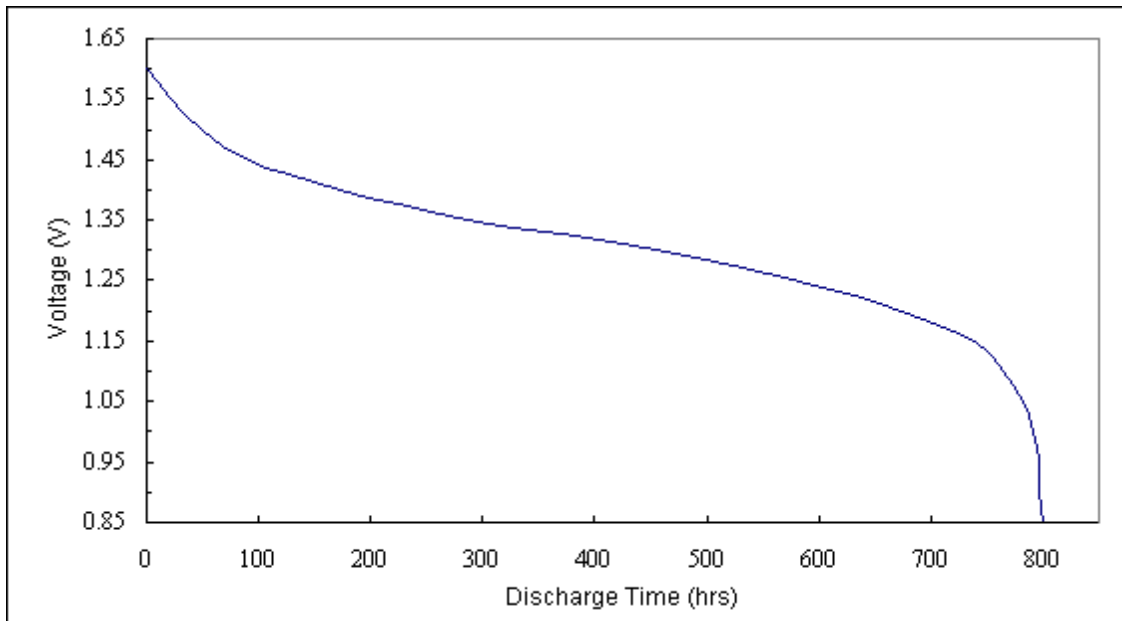
Characteristics of the cell are shown in the following table.

Items	Storage	Characteristics	Conditions
<b>8.1 Electric Characteristics</b>			
Open-Circuit Voltage	Initial	1.530V or higher	DC Voltmeter: The tolerance is $\pm 0.005V$ and the input resistance is $1M\ \Omega$ or more.
	After 12 months	1.500V or higher	
Closed-Circuit Voltage	Initial	1.520V or higher	DC Voltmeter : Same as above. Load Resistance : $6.8k\ \Omega$ , 0.8Sec.
	After 12 months	1.490V or higher	
<b>8.2 Service Output</b>			
Service Life 6.8k Continuous Discharge	Initial	800hrs or longer	Discharge Resistance : $6.8k\ \Omega$ End-Point Voltage : 0.9V
	After 12 months	720hrs or longer	
<b>8.3 Electrolyte Leakage Proof Characteristics</b>			
Electrolyte leakage on overdischarge	There are no bulging or deformation of cells in excess of maximum dimensions shown in attached Fig. 1 by 0.2mm or more. There are no visible electrolyte leakage.		Temperature : $20\pm 2^{\circ}C$ Humidity : $(65\pm 20)\%RH$ Load Resistance : $6.8k\ \Omega$ Overdischarge Time : 48hrs (discharge after having reached specified end-point voltage)

## 9. Discharge Curve :

Load Resistance : 6.8k $\Omega$ 

End-Point Voltage: 0.9V



## 10. Markings on Product :

- (1) Battery Type : L1154
- (2) Brand :
- (3) Polarity : "+" at the bottom ( "--" not indicated )
- (4) Other specified markings

## 11. Caution for Use :

- (1) Since the button cell is not manufactured for recharging, there are risks of electrolyte leakage or causing damage to the device if the cell is charged.
- (2) The button cell shall be installed with its "+" and "--" sign according to the instruction shown on the applied device.
- (3) Short-circuiting, heating, disposing of in fire, or disassembling the button cell shall be prohibited.

## 12. Warranty :

12 months shelf life after delivery.

## L1154 DIMENSIONS & STRUCTURE

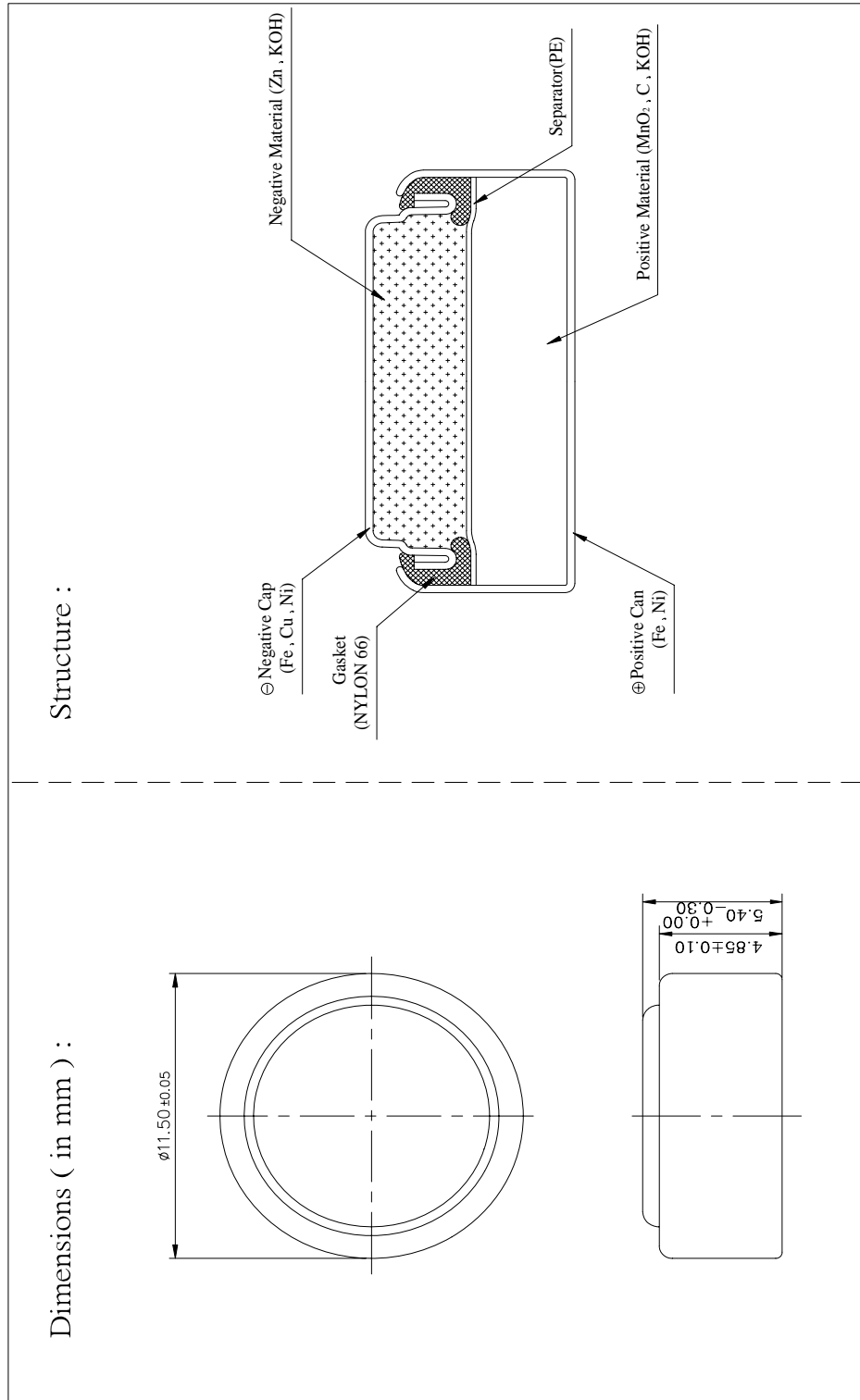


Fig. 1