



1、 Battery Type and Rations:

NOVACELL LR03 AM-4 SIZE AAA

2、 Chemical System:

Electrolyte-Zinc-Manganese Dioxide (Mercury & Cadmium Free)

3、 Dimension:

Diameter: 9.5~10.5 Height: 43.3~44.5

4、 Nominal Voltage: 1.5V

5、 Nominal Weight: 11.5g

6、 Hg Content: 1ppm

7、 Capacitance: 1120mAh(75 \dot{U} , 20 , 0.9v Cut Off)

8、 Storage Characteristics

After 12 months storage at 20 , 90% capacitance of fresh cells

After 24 months storage at 20 , 85% capacitance of fresh cells

After 36 months storage at 20 , 80% capacitance of fresh cells

9、 Electrical Characteristics [3.9 \dot{U} (Precision $\pm 0.5\%$), 0.3S, 20 ± 2]

	OCV (V)	CCV (V)	Short-circuit current (A)
Initial	1.58	1.48	9
After 12 months	1.56	1.46	7

10、 Discharge Capacity (20 ± 2 , Rh:45%-75%)

Load	20 \dot{U}	3.6 \dot{U}	5.1 \dot{U}	10 \dot{U}	75 \dot{U}
Discharge Mode	24h/day	Pulse*	4min/h, 8h/day	1hrs/day	4hrs/day
End Voltage	0.9V	0.9V	0.9V	0.9V	0.9V
Initial	18.1h	600times	240min	480min	68h
After 12 months storage	17h	540times	215min	450min	63h

* Discharge 15S, stop for 45S, 24hr/day



11、 Leakage Resistance

- ◇ Top seal is made of special battery NYLON (DUPONT, USA), which emphasized the explosion-proof characteristics of battery.
- ◇ Double bead, which emphasized the unity of can and top seal.
- ◇ Applied special alkaline battery sealant, and efficiently prevent alkali from spilling.

12、 Leakage Resistance Characteristics

◇ **Over discharge test**

Samples: 64pcs

Test conditions: 20 ± 2 , Rh: $60 \pm 15\%$

Test method: 20 Û continuous discharge 65hr

Requirement: No visible leakage and overall height no higher than max height (44.5) 0.2mm.

Criterion: 0/64

◇ **High temperature test**

Samples: 64pcs

Test conditions: 60 ± 2 , Rh: $90 \pm 5\%$

Test method: After 20 days storage, the cells shall be stored in an ambient temperature of 20 ± 2 , Relative humidity of $60 \pm 15\%$, for not less than 4h and not more than 24h.

Requirement: No visible leakage and overall height no higher than max height (44.5) 0.2mm.

Criterion: 0/64

13、 Security Characteristics

◇ **Short circuit explosion-proof characteristics**

Samples: 32pcs

Test conditions: 20 ± 2 , Rh: $60 \pm 15\%$

Test method: Short circuit in an ambient temperature for 24h

Requirement: Negative terminal no departure from battery body

Criterion: 0/32

◇ **Recharge explosion-proof characteristics**

Samples: 32pcs

Test conditions: 20 ± 2 , Rh: $60 \pm 15\%$

Test method: Recharge 24h with 80mA current

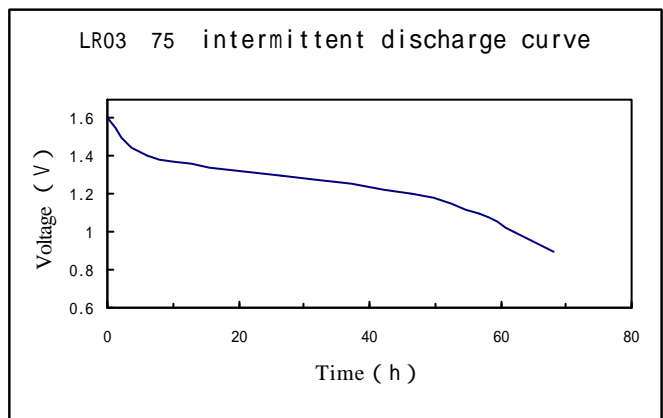
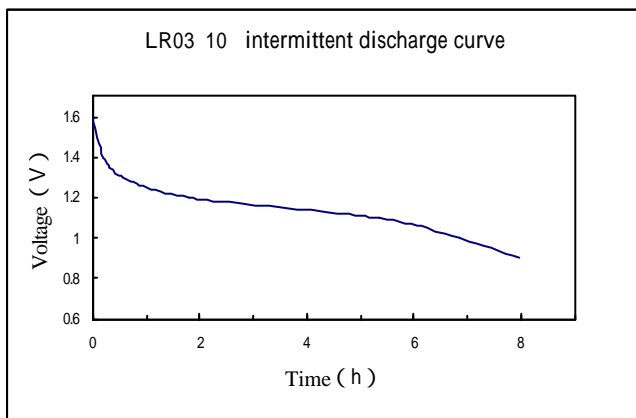
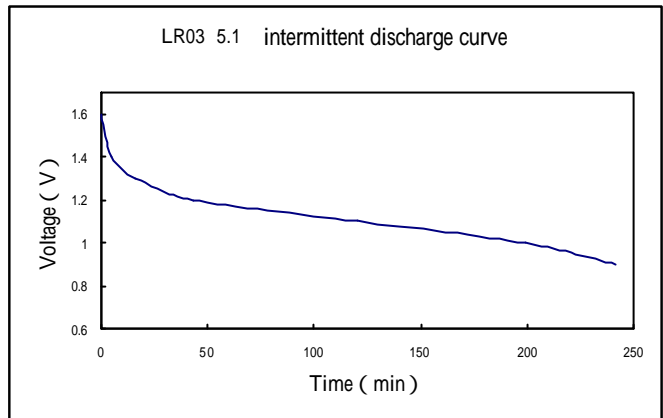
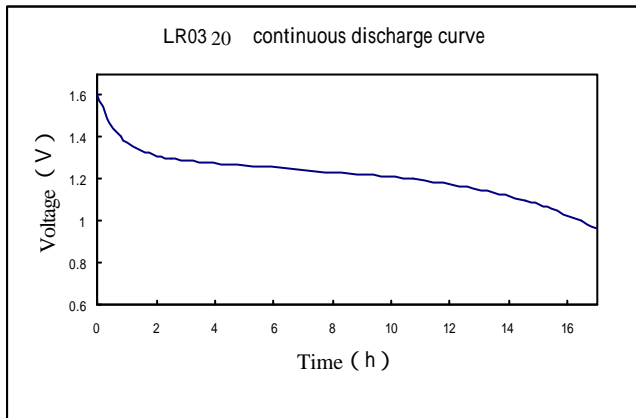
Criterion: Negative terminal no departure from battery body

Criterion: 0/32

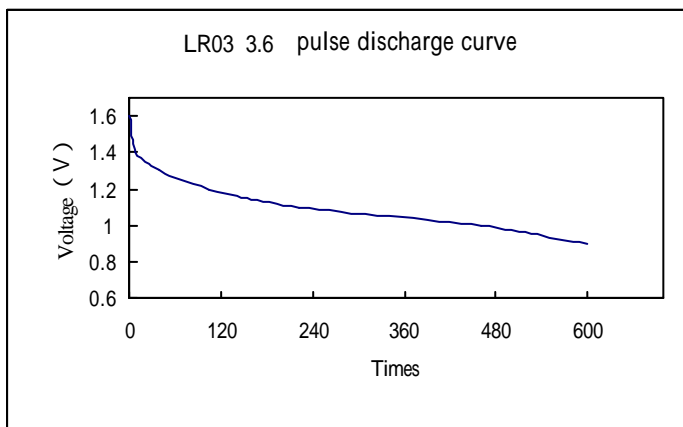


14, Discharge Curve

- ◇ 20Û, 24h/day to 0.9V continuous
- ◇ 3.6Û, 15s/1m, 24h/day to 0.9V pulse
- ◇ 5.1Û, 4m/1h, 8h/day to 0.9V intermittent
- ◇ 10Û, 1h/day to 0.9V intermittent
- ◇ 75Û, 4h/day to 0.9V Intermittent



15, Relation Figure Of Load Temperature and Discharge Capacity

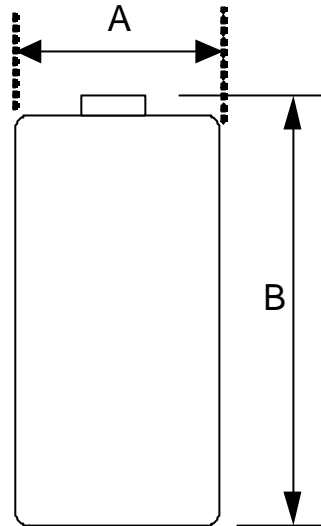




16、 LR03 Battery Dimension

A : $\bar{O}9.50\sim 10.5$

B : 43.3~44.5



17、 Expiry Period: 3 Years

18、 Expiry Period Marking:

- ◇ Production date marked on the bottom plate of finished cells.
For example: 2002-02 means produced on Feb.2002.
- ◇ For private label, can mark according to customer' s requirements.

19. Label And Packing

We have registered trademark “NOVACELL” In both Chinese and English,
OEM、 ODM welcome, can design according to customer' s requirement.



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TECHNICAL SPECIFICATION

ALKALINE BATTERY

MODEL: NV-UM4L

SUPER ALKALINE

[MERCURY FREE]

Date FEB. 01, 2006

Sign GLOSO CO., LTD