

# Product Specification

## 1. APPLICABILITY

This specification is applicable to "Cardio Cell" GBT alkaline cell, LR20 (No mercury added).

## 2. GENERAL

### 2.1 Type designation

IEC LR20

JIS AM-1

ANSI D

### 2.2 chemical system

Zn/KOH-H<sub>2</sub>O/MnO<sub>2</sub>

### 2.3 Nominal voltage: 1.5 V

### 2.4 Weight: approximate 140g

### 2.5 Dimension(mm)

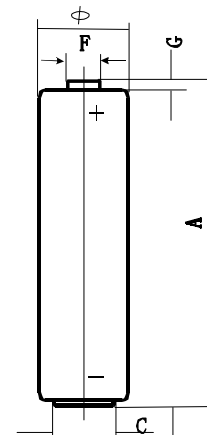
/	min	max
•	33.0	34.0
A	59.6	61.0
C	26.0	27.0
F	8.0	9.0
G	2.5	3.0

### 2.6 Heavy Metal Contents

Hg	Cd	Pb
<1ppm	<3ppm	<30ppm

### 2.7 capacity

approximate 14500mAh (10•,24h/d, 20•, e.v.:0.9V)



## 3. APPEARANCE

There shall be no dirt, scratch or deformation detrimental to practical service in appearance.

## 4. ELECTRICAL CHARACTERISTICS (1.0•, 0.3S, 20±2•)

/		OCV(V)	CCV(V)	SC(A) (reference)
Initial	Min	1.57	1.30	7.0
	Normal	1.60	1.50	12.0
Storage 1 year	Min	1.55	1.20	5.5
	Normal	1.57	1.35	9.0

Note: storage condition: 20±5°C, RH: 45%-75%

## 5. SERVICE OUTPUT

Load		2.2•	2.2•	2.2•	3.9•	10•
Test mode		24h/d	4min/h,8h/d	1h/d	1h/d	4h/d
end voltage		0.9V	0.9V	0.8V	0.9V	0.9V
Initial	MAD	18.0 h	20.0h	22h	38.0 h	122 h
	Normal	19.0 h	21.5h	24h	41.5 h	125h
Storage 1 year	MAD	17.0 h	18.0h	20h	36.5 h	119 h
	Normal	18.3 h	19.5h	22.5h	39.5 h	122h

Note: storage condition: 20±5°C, RH: 45%-75%

## 6. LEAKAGE RESISTANCE

(1) over discharge leakage test

# Product Specification

---

samples: 9pcs

test conditions: 20±2 • RH 60±15% • 2.2 • continuous discharge 48h

requirement: no visible leakage and overall height no higher 0.2mm than max height(61.5).

criterion: 0/9

(2) high temperature leakage test

samples: 40pcs

test conditions: store 20 days under 60±2 • &RH 90±5%, then store 4~24 h under 20±2 • &RH 60±15%.

requirement: no visible leakage and overall height no higher 0.2mm than max height (61.5) .

## 7. SECURITY CHARACTERISTICS

(1) short-circuit explosion-proof characteristics

samples: 10pcs

test conditions: 24h short-circuit under 20±2 • , RH 60±15%.

requirement: negative terminal no departure from battery body.

criterion: 0/10

(2) recharge explosion-proof characteristics

samples: 10pcs

test conditions: 20±2 • , 60±15%, recharge 24h with 400mA current.

requirement: negative terminal no departure from battery body

criterion: 0/10

## 8. DISCHARGE CURVE(Reference)

2.2 • continuous • 2.2 • pulse • 2.2 • • 3.9 • intermittent (encl.page.1)

## 9. EXPIRY PERIOD:

7 years

## 10. EXPIRY DATE MARKING:

(1) production date marked on the bottom plate of finished cells . for example: 2004-01 means produced on jan. , 2004. shelf life 3 years marked on bottom of sticker label.

(2) for private label, can mark according to customer's requirements.

# Product Specification

---

