

TECHNICAL INFORMATION

ALKALINE MANGANESE BATTERY

LR14 UniversalPower

FDK CORPORATION

ALKALINE BATTERY DIVISION

QUALITY ASSURANCE DEPARTMENT



1. Type

LR14 UniversalPower (IEC : LR14, JIS : LR14)

2. Nominal value

(1)Nominal voltage : 1.5 volts

(2)Standard capacity : 7,500 mAh (40Ω continuously discharge at 20°C,
End point voltage = 0.9 volts)

3. Structure

Show Fig.1.

4. Dimension

Show Fig.2.

5. Electric characteristics

	Initial	After 1 year	After 7 years
Off-load voltage (V)	1.60	1.59	1.55
On-load voltage (V)	1.53	1.51	1.42
Short-circuit current (A)	11.0	8.5	4.8

1) Load resistance : 5Ω(The resistance shall be adjusted within±0.05%),
Measure time : 0.3 seconds

2) Test temperature : 20±2°C, Storage temperature : 20±2°C.

6. Service out-put

(1) Average duration

Discharge condition		Initial	After1years	After7years
400mA 2hr/D (hr) EPV=0.9V	Nominal	11	11	9
	JIS/IEC(MAD)	8	7.2	7.2
3.9Ω 1hr/D (hr) EPV=0.8V	Nominal	19	19	17
	JIS/IEC(MAD)	14	12	12
3.9Ω 4mON/11mOFF Repeat.×8hr/D (m) EPV=0.9V	Nominal	1059	1038	980
	JIS/IEC(MAD)	790	710	710

1) EPV : End point voltage

2) Test temperature : 20±2°C, Storage temperature : 20±2°C.

3)MAD=Minimum average duration

(Minimum average time on discharge which is met by a sample of batteries)

*This data are not intended to make or imply any guarantee or warranty.

7. Electrolyte leakage proof characteristics

(1) Over-discharge test

Visual check at the time when the on-load voltage of test cell first decreases below 40% of the nominal voltage.

Discharge condition	n	Leakage
400mA 2hr/D	n=8×5lots	0
3.9Ω 1hr/D	n=8×5lots	0
3.9Ω 4mON/11mOFF Repeat.×8hr/D	n=8×5lots	0

(2) Storage at 45°C, below 70%RH

Period	n	10days	20days	30days	60days	90days
Leakage	40	none	none	none	none	none

(3) Storage at 60°C, 90%RH

Period	n	10days	20days	30days	40days
Leakage	40	none	none	none	none

8. Safety characteristics (abuse test)

(1) Short circuit test

Shorted time	n	24hours
Explosion	5	none

(2) Incorrect installation (four batteries in series)

Charging time	n	24hours
Explosion	10	none

9. Operating temperature range

-10°C~50°C(In the state of over 40°C, within 30 day)

*This data are not intended to make or imply any guarantee or warranty.

Fig.1 LR14 STRUCTURE

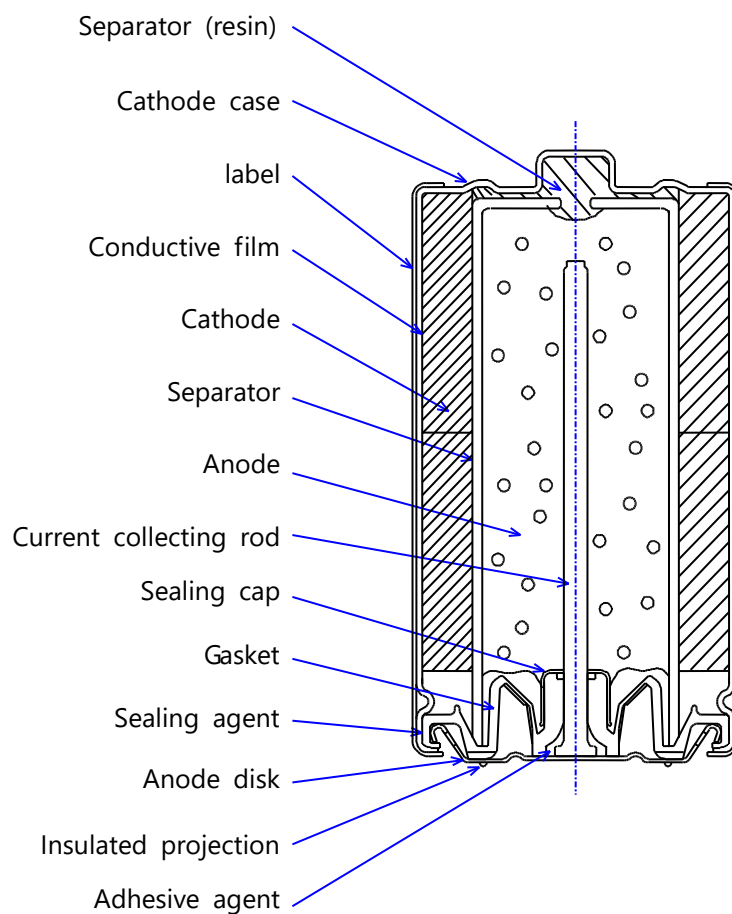
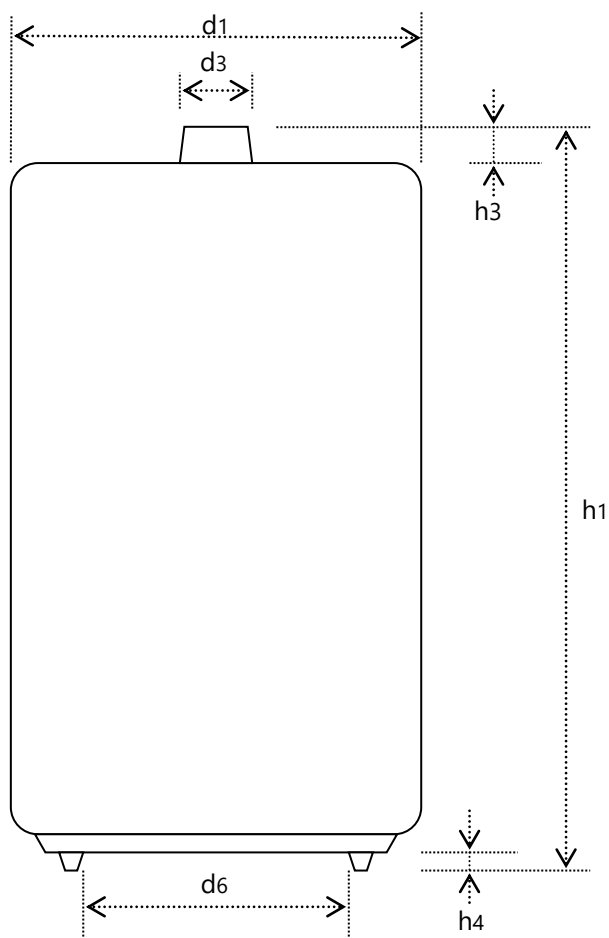


Fig.2 LR14 DIMENSION



Unit : mm

		Unit : mm
h1	Overall height	50.0 max. (48.6 min.)
d6	Outer diameter of the negative contact area	13.0 min.
h4	Recess of negative contact	0.9 max.
d3	Diameter of the positive contact	7.5 max. (5.5 min.)
h3	Height of the projected flat contact from the next higher part	1.5 min.
d1	Diameter	26.2 max. 24.9 min.

The numerical values in parentheses are informative reference values.