4R25

TECHNICAL SPECIFICATION
FOR
ZINC MANGANESE DIOXIDE BATTERY

PREPARED BY:
APPROVED BY:
DATE: 2012.11
SPEC.NO: 4R25-E11

1. **Scope**
   This specification defines the technical requirements for 4R25 heavy duty battery.
   Cross References: IEC
   4R25X
2. **Purpose**
   To assure that any 4R25 battery manufactured or will meet or exceed our customers expectations.
3. **Reference Document**
   IEC 60086-1:2007 ⋯***Primary Batteries-Part1:General***
   IEC 60086-2:2007 ⋯***Primary Batteries-Part2:Physical and Electrical Specification***
   GB/T 8897.1-2008 ⋯***Primary Batteries-Part1: General***
   GB/T 8897.2-2008 ⋯***Primary Batteries-Part2:Physical and Electrical Specification***
4. **Chemical System**
   Zinc-Manganese Dioxide --- (-)Zn | $ZnCl_2$+ NH_4Cl | MnO_2(+)
   Mercury: Less than 1 ppm.
5. **Nominal Voltage**: 6.0volt
6. **Weight**: approximate 510g
7. **Jacket:** Plastic box
8. **Nominal Capacity**
   3600mAh (Conditions: 15.6Ω continuously discharge at 20±2℃, end point voltage 3.60V)
9. **Electrical Characteristics**

/	Off-load Voltage	On-load Voltage	Short circuit current	Acceptance Standard
Initialwithin30 day	6.48V	5.78V	7.0A	GB/T2828.1-2003 commonly Ⅰ sampling AQL=0.4
After 12months	6.28V	5.58V	5.0A	

conditions: 8.2Ω ±0.5% load resistance, measuring time 0.3 seconds, temperature at 20±2℃,
The hairspring type ampere meter with ±0.5% accuracy (0.5level) shall be used.

10. **Service Time** (condition: test temp. 20±2℃, tested within 30 days after delivery)

Discharge Condition			IEC60086-2 & GB/T8897.2 Standard	Average Minimum Discharge Time	
Discharge load	Daily discharge time	End Point Voltage (V)		Initial within 30 days	After 6 month at 20±2℃
8.2Ω	30min	3.6	350min	350min	310min
9.1Ω	30m/h,8h/d	3.6	270min	400min	360min
15.6Ω	24h	3.6	/	700min	/

Satisfaction standard: 9 pieces of battery will be tested for each discharging standard.
The result of the average discharging time from each discharging standard shall be equal to or more than the average minimum time requirement.

11. Leakage & Deform

Discharge batteries till it meet the end points for capacity data. Keep on discharging at the same resistance and condition till batteries meet 40% lower than discharge end point. Batteries should not found any leakage or deform by eye checking.

12. Caution for Use

(1) Since the battery is not manufactured for recharging, there are risks of electrolyte leakage or causing damage to the device if the battery is charged.

(2) The battery shall be installed with its "＋"and "－" in correct position.

(3) Short-circuiting, heating, disposing of into fire and disassembling the battery are prohibited.

13. Storage Life

6 months after delivery under proper storage condition.

14. Discharge Curves

a. 8.2Ω-24h/d 8.2Ω-30min/d (**Page 3**)

b. 9.1Ω-30m/h-8h/d (**Page 4**)

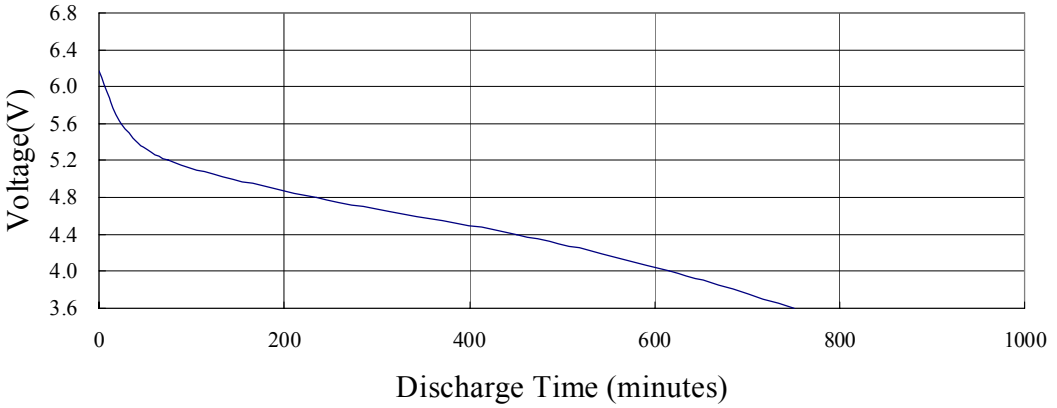
15. Expiry Period Marking:

a. Production date and shelf life 6 months marked on the finished cell.

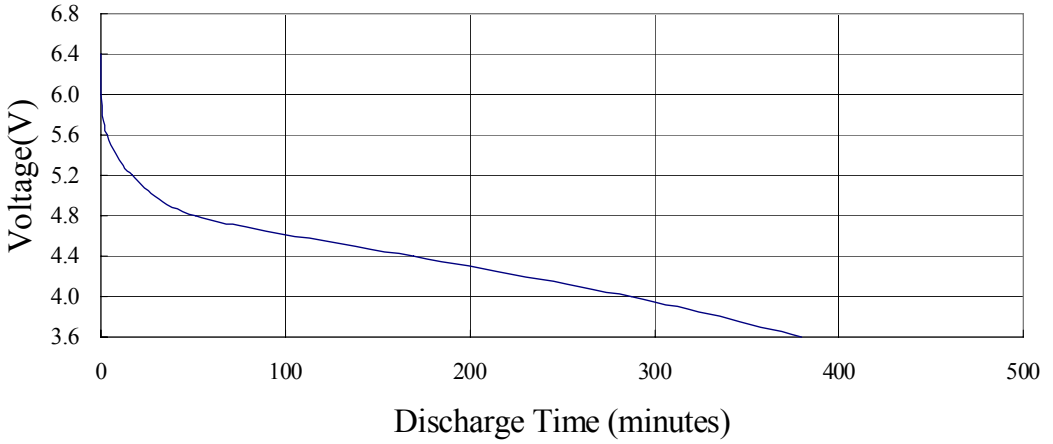
b. For private, can mark according to customer's requirements.

16. Battery Dimension Page 5.

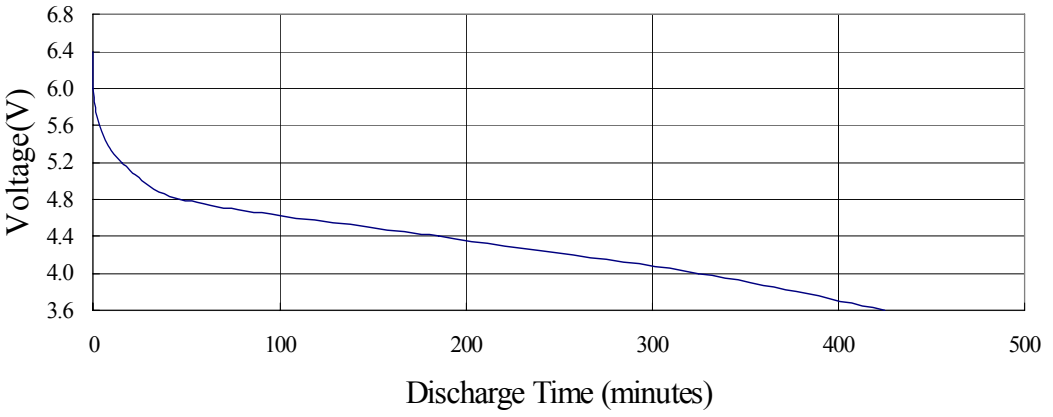
15.6Ω Continuous Discharge Curve



8.2Ω 30min/day Discharge Curve



9.1Ω 30m/h-8h/d Discharge Curve



4R25 Battery Dimension(mm)