

*ROCKET Electric Co., Ltd.*  
***TYPE: 4R25X***

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PREPARED BY:

APPROVED BY:

SPEC.NO: 4R25X-E4033S

Revision: R14A

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**ROCKET Electric Co., Ltd.**  
**500-866, 147-46, Yangil-ro, Buk-gu,**  
**Gwangju, Korea**

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*The Manufacturer reserves the right to modify product specification and data stated herein without prior notice.*

**SPEC.NO.: 4R25X-E4033S**

**1 Scope**

This specification is applicable to *Rocket's* 4R25X-E6635S super heavy duty.

**2 Type designation**

IEC/GB/JIS ANSI  
4R25X 908CD

**3 Reference Document**

IEC 60086-1:2011 *···Primary Batteries-Part1:General*  
IEC 60086-2:2011 *···Primary Batteries-Part2:Physical and Electrical Specification*  
IEC 60086-5:2011 *···Primary Batteries-Part5:Safety of batteries with aqueous electrolyte*  
GB/T 8897.1-2013 *···Primary Batteries-Part1: General*  
GB/T 8897.2-2013 *···Primary Batteries-Part2:Physical and Electrical Specification* GB/T  
8897.5-2006 *···Primary Batteries-Part5:Safety of batteries with aqueous electrolyte*

**4 Chemical System**

(-) Zn | ZnCl<sub>2</sub>-NH<sub>4</sub>Cl-H<sub>2</sub>O | MnO<sub>2</sub> (+)  
*Mercury is not added in the battery.*

**5 Nominal Voltage:** 6.0V

**6 Weight:** Approximate 510g

**7 Nominal Capacity:**

Approximate **7000mAh** (20±2°C,110Ω-12h/d, e.v.=3.6V)

**8 Jacket: Plastic box**

**9 Appearance**

The battery visually inspected by unaided eye 30cm away from battery. The battery shall be free from dents, scratch, rust and extruded internal compounds, such as sealing compounds and etc. and serious displacement of artwork. Appearance defects shall not be observed that may adversely affect actual use or performance of batteries.

**10 Electrical Characteristics**

- ◆ Unless otherwise stated, all measurements are to be performed at a Standard Environment of 20±2°C, 60±15% R.H.
- ◆ All samples are normalized for 8 hours at least at 20±2°C, 60±15% R.H environment prior to measurement.
- ◆ The digital voltmeter (DCM) is with the precision of 1mV(internal resistance not less than 1MΩ).
- ◆ The load resistance of the total circuit is accurate within±5% of the specified value.
- ◆ The initial discharge test shall commence within 30 days of manufacture.

**10.1 Open circuit voltage(O.C.V) and closed circuit voltage(C.C.V) (Load resistance15.6Ω, 0.3sec)**

/	O.C.V	C.C.V	S.C (reference)	Test Specification
Initial	6.40-6.92V	≥5.80V	≥6.5A	GB/T2828.1/ISO2859-1
After 1 year	6.20-6.92V	≥5.60V	≥5.0A	General inspection level I AQL=0.4

10.2 Service Output

Discharge Condition			IEC60086-2: 2011 Standard	Discharge Time			
Load	Test mode	End Voltage		Initial		After 1 year at 20±2°C	
				MAD	Normal	MAD	Normal
110Ω	12h/d	3.6V	155.0h	155.0h	158.0h	145.0h	148.0h
8.2Ω	30m/d	3.6V	350.0m	510m	550m	465m	500.0m
9.1Ω	30m/1h-8h/d	3.6V	270.0m	540m	580m	495m	530m
15.6Ω reference	24h/d	3.6V	/	950.0m	1020.0m	870.0m	920.0m
Remarks	♦ MAD- Minimum Average Discharge m- minute h- hour d-day ♦ Actual performance for each lot perhaps will be slightly different with normal performance.						

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, and no more than one battery has a service output less than 80% of the specified requirement.
- ♦ One re-test is allowed to confirm the previous result.

11 Leakage Resistance

Item	Test Condition	Period	Requirement	Criterion
High temperature leakage test	At temp. 45±2°C, Relative Humidity: Less than 65% R.H.	30days.	There shall be no deformation exceeding the IEC specified dimensions, nor leakage recognized by human eye.	N=10 Ac=0 Re=1

12 Safety Characteristics

Item	Test Condition	Period	Requirement	Criterion
Short circuit characteristics	Positive & negative of an undischarged battery shall be connected directly at temp. 20±2°C, Relative Humidity:60±15%R.H.	24h	There shall be no fire, no explosion *,and leakage is allowable.	N=5 Ac=0 Re=1
Free fall test	The test battery shall be dropped from a height 1m onto a concrete surface. Each test battery shall be dropped six times, once in each face .	The test batteries shall be stored for 1h afterwards.	There shall be no fire, no explosion * or leakage.	N=3 Ac=0 Re=1

\* An instantaneous release wherein solid matter from any part of the battery is propelled to a distance greater than 25 cm away from the battery.

13 Raw & Regulation Compliances

- ♦ This product complies with EU's battery directive 2006/66/EC.
- ♦ Packaging materials comply with EU's directive on packaging materials and waste 94/62/EC.

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**14 Caution for Use**

- 14.1 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.
- 14.2 The battery shall be installed with its “+”and “-” in correct position, otherwise may cause short-circuit.
- 14.3 Short-circuiting, heating, disposing of into fire and disassembling the battery are prohibited.
- 14.4 Battery cannot be forced discharge, which lead to excess internal gas generation and, may result in bulging, leakage.
- 14.5 Exhausted batteries should be removed from compartment to prevent over-discharge, which cause leakage & damage to the device.
- 14.6 Do not allow metal objects to contact the battery terminals, which will damage the battery.
- 14.7 Keep battery away from small children. In case of accident should contact physician at once.
- 14.8 The battery should not be dismantled and deformed.

**15 Storage**

- 15.1 Storage in cool, dry place before use.
- 15.2 It is recommended that the storage temperature be lower than 30°C.
- 15.3 Do not keep batteries at relative humidity of 65% or above for long time.

**16 Packaging Requirements**

The printing on each battery label is legible and permanent. Label defects, if any, shall conform to mutually agreed upon limit samples.

- 16.1 Packaging for shipment and sales shall conform to the mutually agreed to packaging specification of the designated customers.
- 16.2 The total of heavy metal lead, cadmium, mercury, and hexavalent chromium concentration shall not exceed 100ppm in packaging materials and printing inks. Ozone depleting substances (ODS) shall not be used in the manufacturing of any packaging.

**17 Expiry Date**

2 years after delivery under proper storage condition.

**18 Expiry Date Marking:**

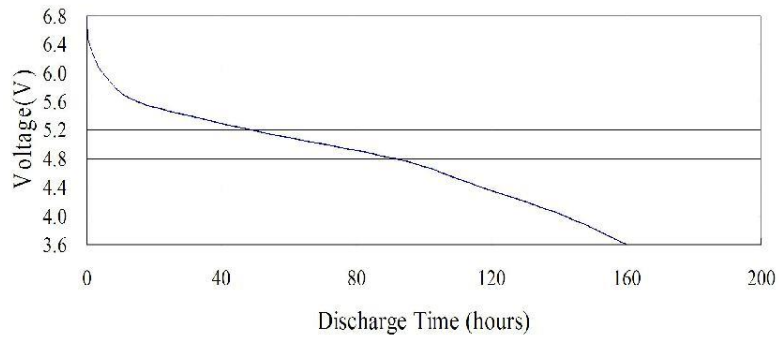
- 18.1 Unless otherwise specified, each battery will carry a manufacturing date code followed by month and year of manufacturing for domestic and manufacturing date code followed by month and year of expiry for export.(Shelf life 2 years)
- 18.2 For private label, can mark according to customer’s requirements.

**19 Battery Discharge Curves Chart (Page 4)**

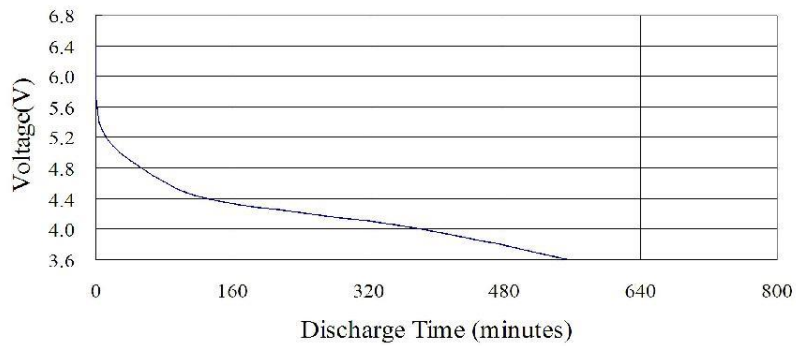
**20 Battery Dimension Chart (Page5)**

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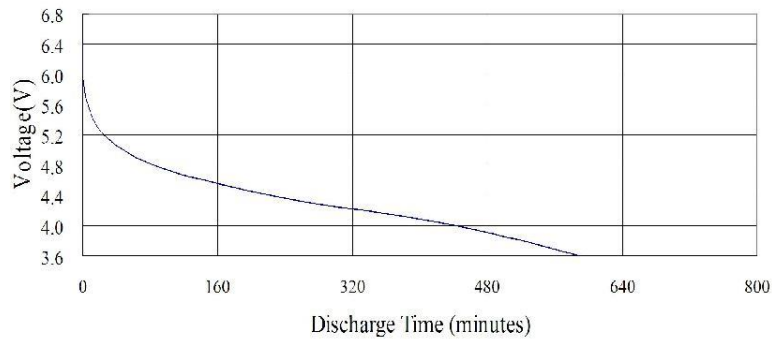
110 Ω 12h/day Discharge Curve



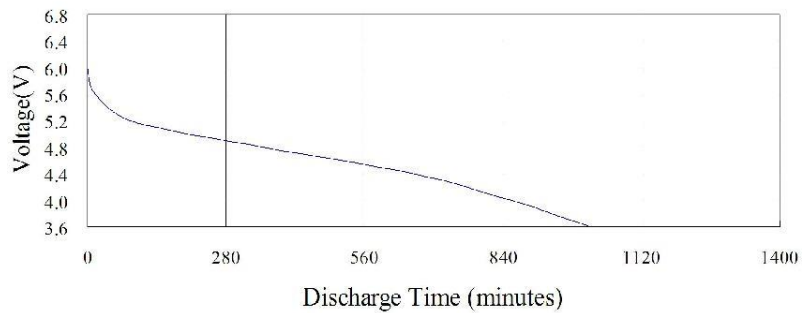
8.2 Ω 30min/day Discharge Curve



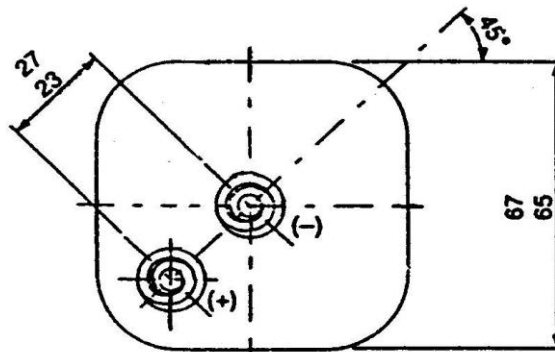
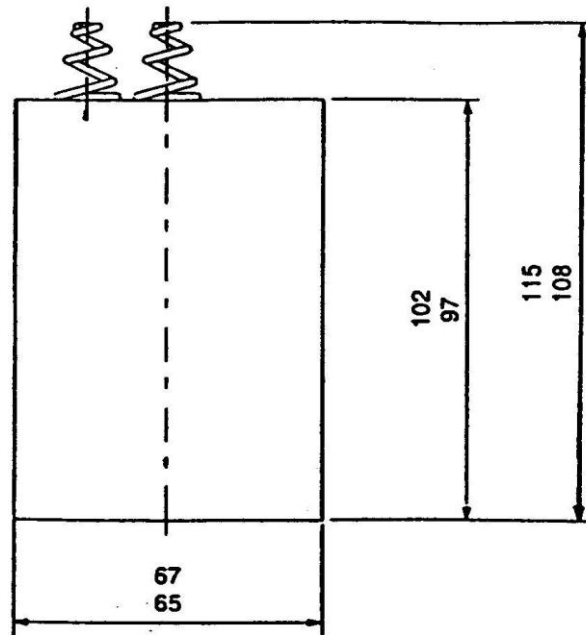
9.1 Ω 30m/h-8h/d Discharge Curve



15.6 Ω Continuous Discharge Curve



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## 4R25X Battery Dimension Chart