

LITHIUM BATTERY

CR123A

SPECIFICATION

Approved by *Setty Setty* Date: 5/24/02

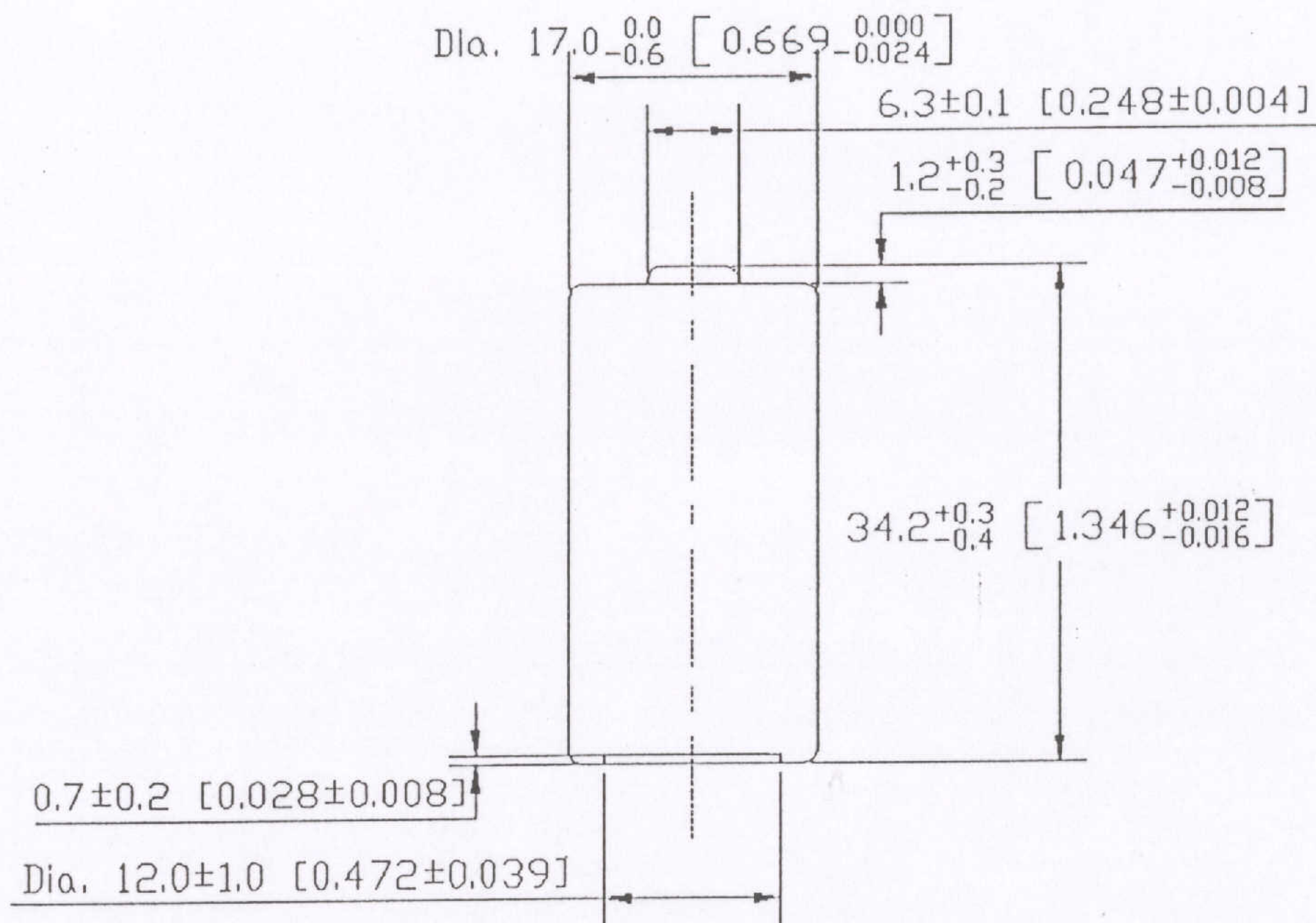
Prepared by *Jason Bennett* Date: 5/24/02

Nov,2001

MATSUSHITA BATTERY INDUSTRIAL CORPORATION OF AMERICA  
LITHIUM BATTERY DIVISION

|                                       |           |  |
|---------------------------------------|-----------|--|
| 1. Designation                        | :         | CR123A   |
| 2. Nominal Voltage                    | :         | 3 V  |
| 3. Nominal Capacity                   | :         | 1550 mAh   |
|                                       | Load      | : 100 $\Omega$ at 20 °C  |
|                                       | Cut Off V | : 2.0 V  |
| 4. Max. Continuous Discharge Current  | :         | 1000 mA at 20 °C   |
| 5. Construction                       |           |  |
| 5.1 Appearance, Dimensions            | :         | There shall be no noticeable deformation.<br>The dimensions shall be according to the attached drawings. |
| 5.2 Weight                            | :         | Approx. 17 g   |
| 6. Performance                        |           |  |
| 6.1 Open Circuit Voltage              | :         | Min. 3 V   |
| 6.2 Duration 1. ( at 20 $\pm$ 2°C )   |           |  |
| 6.2.1 Pulse Discharge Conditions      | :         | Average 2000 cycles  |
| Pulse Current                         | :         | 900 mA   |
| One Cycle                             | :         | 3 seconds on, 27 seconds off   |
| Cut Off V.                            | :         | 1.55 V   |
| 6.3 Duration 2. ( at - 20 $\pm$ 2°C ) |           |  |
| 6.3.1 Pulse Discharge Conditions      | :         | Average 1100 cycles  |
| Pulse Current                         | :         | 900 mA   |
| One Cycle                             | :         | 3 seconds on, 27 seconds off   |
| Cut Off V.                            | :         | 1.55 V   |
| 6.4 Impedance                         | :         | Max. 1.0 $\Omega$  |
| 6.5 Vibration Resistance              | :         | Deterioration of performance shall not occur.  |
| 6.6 Temperature Range                 | :         | Discharge -20 to 60 °C<br>Storage -20 to 45 °C   |
| 6.7 Leakage Resistance                | :         | The battery shall not show leakage or salting which harms performance.                                   |

CR123A Product Drawing



Voltage : 3V  
 Terminals : Flat Contacts  
 Jacket : Resin Label

Remarks

- \* The heights of overlapped portion is not specified
- \* PTC device is installed inside

unit : mm (inch)

Scale : none

Product Type : Lithium Battery

Approved by: *Scott Scott* Date: 11/15/01

Prepared by: *Jason Besant* Date: 11/15/01

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## 8. Precautions for use

- 1) A battery shall not be stored at temperatures in excess of 45 °C. Storage at less than 30 °C is recommended. Storage at less than -20 °C can deform the plastic parts and may cause leakage. To prevent self-discharge caused by corrosion, or decrease of insulation, humidity during storage shall be less than 70 %.
- 2) The battery has an explosion resistant construction. But the following cautions should be taken, because combustible materials such as lithium metal and organic electrolyte are contained in the battery.
  - \* Do not short circuit.
  - \* Do not dispose in fire.
  - \* Do not charge.
  - \* Do not disassemble.
  - \* Do not mix fresh batteries with used batteries or other battery types.
- 3) Keep away from heat source or flame.
- 4) The battery shall not be washed by ultrasonic wave washer.

## 7. Test Conditions, Measuring Instruments and Measuring Methods

- 7.1 Test Conditions : If not otherwise specified,  
Temperature ;  $25 \pm 5$  °C  
Humidity ;  $65 \pm 10$  %
- 7.2 Measuring Instruments
- i) Volt Meter : Internal Impedance ; More than  $10M\Omega$   
Accuracy ; Less than 0.5 %
- ii) Battery Impedance Meter : Sine wave A.C. method ; 1 kHz 0.1mA  
( National Digital milliohm Meter [ VP-2811A ] )
- iii) Caliper : Accuracy ; Less than 1 % by JIS
- iv) Balance : Sensitivity ; More than 100 mg
- 7.3 Measuring Method
- i) Outer Dimensions : This shall be measured with the caliper described in Item 7.2 iii ).
- ii) Weight : This shall be measured with the balance described in Item 7.2 iv ).
- iii) Appearance : Deformation or tarnish shall be visually checked.
- iv) Open Circuit Voltage : This shall be measured with the volt meter described in Item 7.2 i ).
- v) Operating Time ( Duration ) : Operating time shall be measured with cycles until terminal voltage reaches the specified cut -off voltage.
- vi) Battery Impedance : This shall be measured by the meter described in Item 7.2 ii ).
- vii) Vibration Resistance : Amplitude ; 2 mm  
Number of Vibrations ; 1000rpm.  
Directions ; X, Y, Z  
Time; 30 minutes in each direction
- viii) Leakage Resistance : Heat cycle test  
: Leakage, appearance and outer dimension shall be checked after 10 cycles according to MIL-STD -202E-106D.  
The battery shall be kept in a dry place. It should not show any dew point when stored in this condition.

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