

|                        |  |
|------------------------|--|
| Nominal Voltage :      | 1.20 V   |
| Open Circuit Voltage : | ≥ 1.40 V after 16h/0.1C charge                                 |
| Nominal Capacity       | min. 2000 mAh at 0.2C discharge<br>1.0V after 16h/0.1C charge* |
| Weight ± 5 g :         | 29 g   |
| Int. Resistance :      | 25 mΩ at 1 kHz   |
| Self Discharge :       | 35% / year at 20°C storage                                     |



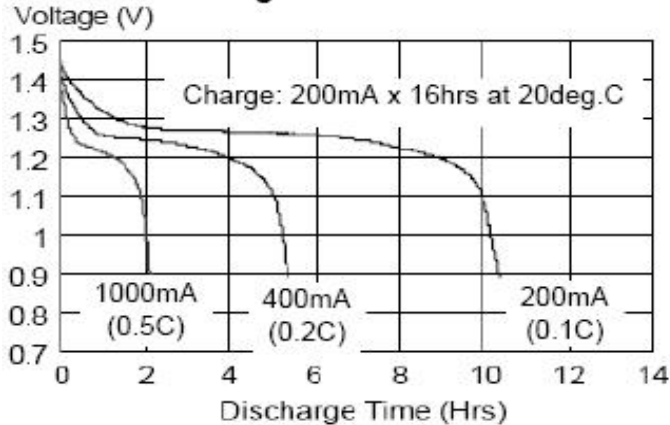
## Charge Characteristics

|                   |                        |
|-------------------|------------------------|
| Standard Charge : | 16 h x 0.1 C (200mA)   |
| Fast Charge :     | 2.5 h x 0.5 C (1000mA) |

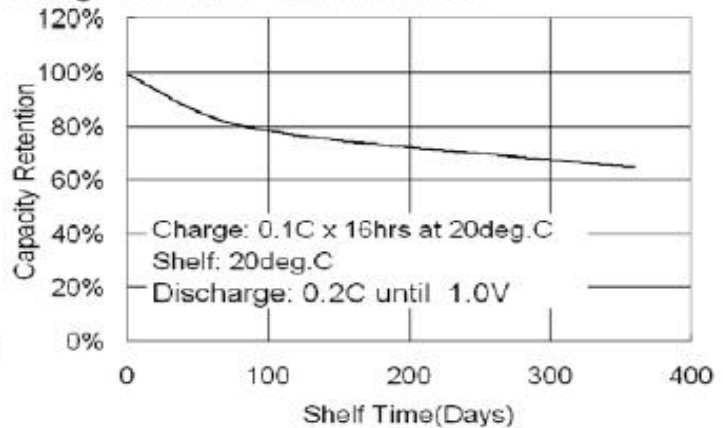
## Discharge Characteristics

|                 |         |
|-----------------|---------|
| end 1.0 V       |         |
| 0.2 C (400mA)*  | 315 min |
| 1.0 C (2000mA)* | 63 min  |

### Low Rate Discharge



### Charge Retention Characteristics



## Performance Characteristics

|                         |              |                   |
|-------------------------|--------------|-------------------|
| Storage Temperature :   | min -20 °C   | max 40°C          |
| Operating Temperature : | min -20 °C   | max 50°C          |
| Cycle life test :       | IEC standard | up to 1000 cycles |

## Cycle life performance (IEC)

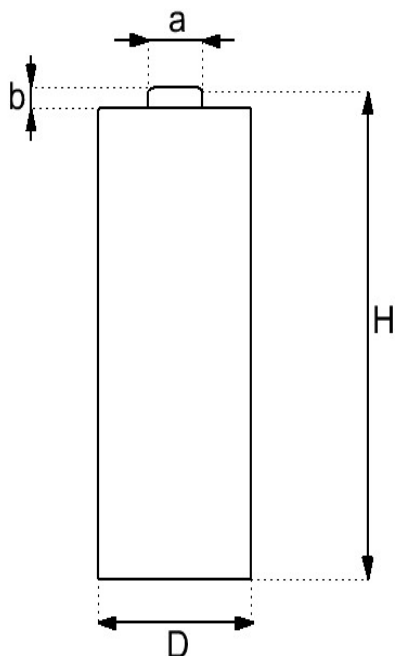
| Cycle number | Charge          | Rest  | Discharge       |
|--------------|-----------------|-------|-----------------|
| 1            | 0.1 C / 16 h    | no    | 0.25 C 2.33 h   |
| 2 to 48      | 0.25 C / 3.17 h | no    | 0.25 C / 2.33 h |
| 49           | 0.25 C / 3.17 h | no    | 0.25 C to 1.0 V |
| 50           | 0.1 C / 16 h    | 1-4 h | 0.25 C to 1.0 V |

The endurance test is considered complete when two such successive cycles give a discharge duration less than 3 h of any 50th cycle

## Safety Performance

|                    |  |   |
|--------------------|--|---|
| Drop test          | Drop to an concrete floor from a height of 75 cm<br>4 times after fully charge and discharge             | No machanical and<br>electrical abnormality |
| Short-circuit      | Short-circuit for 2 hours with 0,75qmm wire<br>after fully charge and discharge                          | No explosion                                |
| Overcharge test 1  | Charge 0.1C / 16h, charge 0.1C / 48h<br>rest 1h, discharge 0.1C to 1.0V                                  | Discharge time should be<br>> 5h            |
| Overcharge test 2  | Charge 1.0C (-dV:5mV), rest 10 min, charge 1.0A<br>(-dV:5mV) rest 10 min, charge 1.0C (-dV:5mV)          | No leakage should<br>occurr                 |
| Drop-overcharge    | Discharge 1.0C to 1.0 V, discharge 0.2C to 1.0 V, drop to<br>an concrete floor 3 times, charge 1.0C / 5h | No explosion                                |
| Drop short-circuit | Charge 0.1C / 16h, drop to an concrete floor<br>3 times, short-circuit for 2 hours with 0,75qmm wire     | No explosion                                |

## Dimensions



|   |          |
|---|----------|
| Height (H) $\pm 0.50\text{mm}$          | 50.00 mm |
| Diameter (D) $\pm 0.30\text{mm}$        | 14.00 mm |
| Nipple height (b)                       | 3.00 mm  |
| Nipple diameter (a) $\pm 0.30\text{mm}$ | 5.10 mm  |

Don't disassemble and don't mix with used or other battery types.  
Don't dispose to fire.  
Remove batteries when not in use for long periods.

