2. Description and Model

2.1 Description  Rechargeable Lithium-ion button battery

2.2 Model  LiR2025

3. Specification

3.1 Capacity
   Nominal  20mAh
   Typical  30mAh

3.2 Charging Voltage  4.20V

3.3 Nominal Voltage  3.7V at 0.2C mA

3.4 Standard Charging Method  Constant current:10mA Constant voltage 4.20V

3.5 Cut-off Discharge Voltage  3.00V

3.6 Max. Discharge Current  40mA

3.7 Max. Charge Current  20mA

3.8 Cycle Life  >500 cycles at 0.2C mA discharge

3.9 Ambient Temperature
   for Standard Charge  0°C~45°C
   for Discharge  -20°C~60°C

3.10 Storage
   for within the temperature  -20°C~60°C
   for within the humidity  <75%

3.11 Energy Density
   Wh/L  ~200
   Wh/Kg  ~90

3.12 Weight of Bare Cell  ~2.2g

3.13 Charge State Internal Impedance  <750mOhms

4. Appearance
   Appearance shall be free from any remarkable scratch, flaws, rust, discoloration or electrolyte leakage (visible or by smell)

5. Standard Test condition

5.1 Environment Conditions
   Unless otherwise specified, all test stated in this Product Specification are conducted within the temperature 15~25°C and the humidity 45~85%RH.

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5.2 Test Equipment
   (1) Impedance meter
       The impedance meter with AC 1kHz should be used

6. Test Procedure and Its Standard

<table>
<thead>
<tr>
<th>Item</th>
<th>Measuring Procedure</th>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1 Appearance</td>
<td>Visual</td>
<td>No Defect and Leak</td>
</tr>
<tr>
<td>6.2 Dimension</td>
<td>Caliper</td>
<td>As item 8</td>
</tr>
<tr>
<td>6.3 Weight</td>
<td>Scale</td>
<td>As item 3.12</td>
</tr>
<tr>
<td>6.4 Maximum Charge Current</td>
<td>CCCV(Constant Current Constant Voltage)</td>
<td>20mA</td>
</tr>
<tr>
<td>6.5 Full charge</td>
<td>CCCV</td>
<td>CC-0.2CmA CV- 4.2V total 8h</td>
</tr>
<tr>
<td>6.6 Open Circuit Voltage</td>
<td>Within 1hr after full charge,measure Open circuit voltage</td>
<td>&gt;4.15V</td>
</tr>
<tr>
<td>6.7 Internal Impedance</td>
<td>Measure the battery with 1kHz AC</td>
<td>&lt;750mOhms</td>
</tr>
<tr>
<td>6.8 Discharge Capacity</td>
<td>Within 1hr after full charge,discharge until final discharge,at 0.2C mA and measure the capacity</td>
<td>&gt;20mAh</td>
</tr>
<tr>
<td>6.9 Maximum Discharge Current</td>
<td>Until final discharge voltage</td>
<td>40 mA</td>
</tr>
</tbody>
</table>
| 6.10 Charge/Discharge Cycle Life | Charge:CCCV,CC- 0.2CmA,CV- 4.2V total 8h  
                        | Discharge:0.2CmA to 3.00V,This charge/discharge shall be repeated 500 times | Discharge capacity should be >70% of item 6.8 |
| 6.11 Leakage Proof          | After full charging, the battery shall be stored at 40±2C and humidity 80 ± 5%for 21 days | No leakage should be observed by visual inspection |
| 6.12 Temperature Characteristics | 1)After full charge at 20±5C ,stand at -20±2C for 18h,then discharge at 0.2C mA and measure the capacity  
                        | 2)After full charge at 20±5C ,stand at 55±2C for 2hrs ,then discharge at 1C mA and measure the capacity | Discharge capacity should be>60% of item 6.8 and no abnormality on its appearance and structute |
| 6.13 Charge Retension       | After full charging, stand at 20±5C for 28 days,measure the discharge capacity according to item 7.8 | Discharge capacity should be>85% of item 6.8 |

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PowerStream Li-ion Coin Cell Lir2025 Data Sheet

7.1 Charge/Discharge Characteristics
Charge: CC/CV 4.2V, 10mA (0.5C), total 5h
Discharge: 10mA (0.5C) Cut-off at 3.00V
Temperature: 25°C

7.2 Charge/Discharge Cycle Life
Charge: CC/CV 4.2V[] 0.2CA,
total 8h
Discharge: 0.2CA, Cut-off at 3.00V
Temperature: 25°C

7.3 Temperature Characteristics
Charge: CC/CV 4.2V  0.5CA, total 5h
Discharge: 0.5CA, Cut-off at 3.00V

7.4 Temperature Characteristics
Charge: CC/CV 4.2V  0.5CA, total 5h
Discharge: 0.5CA, Cut-off at 3.00V

8. Dimension (Bare cell) mm

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