PowerStream Li-ion Coin Battery LiR1620 Data Sheet

1. Preface
The purpose of this product specification is to provide technical information for the rechargeable Lithium-ion button battery LiR1620

2. Description and Model
2.1 Description
Rechargeable Lithium-ion button battery
2.2 Model
LiR1620

3. Specification
3.1 Capacity
Nominal 10mAh
Typical 12mAh
3.2 Charging Voltage
4.20V
3.3 Nominal Voltage
3.7V at 0.2C mA
3.4 Standard Charging Method
Constant current:5mA Constant voltage 4.20V total 5h
3.5 Cut-off Discharge Voltage
3.00V
3.6 Max. Discharge Current
20mA
3.7 Max. Charge Current
10mA
3.8 Cycle Life
>500 cycles at 0.2C mA discharge
3.9 Ambient Temperature
for Standard Charge 0C ~ 45C
for Discharge -20C ~ 60C
3.10 Storage
for within the temperature -20C ~ 60C
for within the humidity 75%
3.11 Energy Density
Wh/L ~300
Wh/Kg ~120
3.12 Weight of Bare Cell ~1.2g
3.13 Charge State Internal Impedance <1200mOhms

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 15~25C 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

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<tr>
<th>Item</th>
<th>Measuring Procedure</th>
<th>Standard</th>
</tr>
</thead>
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<tr>
<td>6.1 Appearance</td>
<td>Visual</td>
<td>No Defects or Leakage</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>10mA</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;1200mOhms</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;10mAh</td>
</tr>
<tr>
<td>6.9 Maximum Discharge Current</td>
<td>Until final discharge voltage</td>
<td>20 mA</td>
</tr>
<tr>
<td>6.10 Charge/Discharge Cycle Life</td>
<td>Charge: CCCV, CC-0.2CmA, CV- 4.2V total 8h</td>
<td>Discharge capacity should be &gt;70% of item 6.8</td>
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<tr>
<td></td>
<td>Discharge: 0.2CmA to 3.00V, This charge/discharge shall be repeated 500 times</td>
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<tr>
<td>6.11 Leakage Proof</td>
<td>After full charging, the battery shall be stored at 40±2C and humidity 80.5% for 21 days</td>
<td>No leakage should be observed by visual inspection</td>
</tr>
<tr>
<td>6.12 Temperature Characteristics</td>
<td>1) After full charge at 20±5C, stand at -20±2C for 18h, then discharge at 0.2C mA and measure the capacity</td>
<td>Discharge capacity should be &gt;60% of item 6.8 and no abnormality on its appearance and structure</td>
</tr>
<tr>
<td></td>
<td>2) After full charge at 20±5C, stand at 55±2C for 2hrs, then discharge at 1C mA and measure the capacity</td>
<td></td>
</tr>
<tr>
<td>6.13 Charge Retention</td>
<td>After full charging, stand at 20±5C for 28 days, measure the discharge capacity according to item 7.8</td>
<td>Discharge capacity should be &gt;85% of item 6.8</td>
</tr>
</tbody>
</table>

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7.1 Charge/Discharge Characteristics
Charge: CC/CV 4.2V, 5mA(0.5C), total 5h
Discharge: 5mA(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

8. Dimension (Bare cell) mm

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