Lithium Ion Rechargeable Battery Technical Information

Revision 0.2
26th August 2013

Model Number: US18650VTC5
Cell Type: Cylindrical
Cell Name: US18650VTC5
Sony Code: 49928190

Sony Energy Devices Corporation
Device Solutions Business Group / Sony Corporation
**1. General**

**1.1 Name and Code**
- **Model Number**: US18650VTC5
- **Cell Name**: US18650VTC5
- **Sony Code**: 49928190

**1.2 Cell Shape and Weight**
- **Shape**: Cylindrical
- **Size (with plastic tube)**:
  - Diameter: 18.35mm max
  - Length: 65.20mm max
- **Weight**: 44.3g Average

**1.3 Safety Regulation**
- Sony will acquire UL1642.

**2. Performance**

<table>
<thead>
<tr>
<th><strong>Nominal Capacity (0.2C discharge)</strong></th>
<th>2600mAh 9.36Wh</th>
<th>average capacity 3.60V (average discharge voltage) at room temperature, 2.0V cut off</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rated Capacity (0.2C discharge)</strong></td>
<td>2500mAh 9.00Wh</td>
<td>minimum capacity at room temperature, 2.0V cut off</td>
</tr>
<tr>
<td><strong>Capacity at 1C</strong></td>
<td>2563mAh 9.23Wh</td>
<td>average capacity at room temperature, 2.5V cut off</td>
</tr>
<tr>
<td><strong>Capacity at 10A</strong></td>
<td>2577mAh 8.80Wh</td>
<td>average capacity at room temperature, 2.5V cut off</td>
</tr>
<tr>
<td><strong>Nominal Voltage</strong></td>
<td>3.6V</td>
<td></td>
</tr>
<tr>
<td><strong>Internal Impedance</strong></td>
<td>13.0mΩ Typ.</td>
<td>measured by AC1kHz</td>
</tr>
<tr>
<td><strong>Cycle Performance</strong></td>
<td>70% Min. of Initial capacity at 300 cycles</td>
<td>10A discharge at room temperature, 2.5V cut off</td>
</tr>
</tbody>
</table>

* Standard Charge Condition
  - Charge Method: constant current constant voltage
  - Charge Up Voltage: 4.2±0.05V
  - Charge Current: 2.5A
  - Charge Time: 2.5h
  - Ambient Temperature: 23°C
Charge Characteristics (US18650VTC5)

Test Condition Charge: 23°C, 4.2V, 2.5A (CC/CV), 2.5h cut

Test Condition
Charge: 23°C, 4.2V, 2.5A (CC/CV), 2.5h cut
Discharge Load Characteristics (US18650VTC5)

Test Condition
Charge: 23deg.C, 4.2V, 2.5A (CC/CV), 2.5h cut
Discharge: 0.5A, 2.5A, 10A, 20A, 2.5V cut off
Discharge Load Characteristics (US18650VTC5)

Test Condition
Charge: 23deg.C, 4.2V, 2.5A (CC/CV), 2.5h cut
Discharge: 23deg.C, 0.5A, 2.5A, 10A, 20A, 2.5V cut off
Temperature Dependence of Discharge Capacity (US18650VTC5)

Test Condition
- Charge: 23°C, 4.2V, 2.5A (CC/CV), 2.5h cut
- Discharge: -20～60°C, 10A, 2.5V cut off

Discharge Capacity / mAh vs. Ambient Temperature during Discharge / °C
Temperature Dependence of Discharge Curves (US18650VTC5)

-20deg.C
-10deg.C
0deg.C
23deg.C
45deg.C
60deg.C

Test Condition Charge : 23deg.C, 4.2V, 2.5A (CC/CV), 2.5h cut
Discharge : -20~60 deg.C, 10A, 2.5V cut off
Cycle Life Performance (US18650VTC5)
10A discharge

Test Condition
Charge: 23deg.C, 4.2V, 4A (CC/CV), 100mA cut
Discharge: 23deg.C, 10A, 2.5V cut off
Dimension with Plastic Tube: US18650VTC5