AA Size Lithium Ion Rechargeable Battery

Notice: Charging circuit and application load profile have to be approved by Tadiran prior to the use of this cell.

Physical Characteristics

Length 53 mm. Max  
Diameter 14.8 ± 0.3 mm  
Weight 21 gr. Max

Electrical Characteristics (for batteries stored at RT for 1 year or less)

Charge
Max. Charge Voltage 4.1 V  
Charge Method CCCV (Constant Current/Constant Voltage)  
Max Charge Current @ -20 to +50 °C 100 mA  
Max Charge Current @ -40 to +85 °C 20 mA  
Charge / Discharge operating temp. -40 to +85 °C

Discharge
Max. Continuous Discharge Current 6.0 A @ 20 °C (without PTC)  
End of Discharge 2.2 V @ RT. (discharge below 2.2 V at 20 °C may increase the cell internal impedance)

Performance

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Capacity when charged to 4.1 V</td>
<td>700 mAh</td>
<td>Discharge at 50 mA to 2.2 V at 20 °C</td>
</tr>
<tr>
<td></td>
<td>650 mAh</td>
<td>Discharge at 1 A to 2.5 V at 20 °C</td>
</tr>
<tr>
<td></td>
<td>450 mAh</td>
<td>Discharge at 1 A to 2.5 V at -40 °C</td>
</tr>
<tr>
<td>Charge / Discharge Cycles</td>
<td>25</td>
<td>At Room Temperature (see attached chart)</td>
</tr>
<tr>
<td>Capacity Retention after 25 cycles (reversible)</td>
<td>80%</td>
<td>Discharge at 250 mA at 20 °C</td>
</tr>
<tr>
<td>Capacity Retention after 5 years (reversible)</td>
<td>91%</td>
<td>Discharge at 250 mA at 20 °C</td>
</tr>
<tr>
<td>Impedance (RT)</td>
<td>&lt; 70 mΩ</td>
<td>Impedance at 1 KHz</td>
</tr>
</tbody>
</table>

Physical Cell / Battery Protection (to be applied by the user)

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over charge protection</td>
<td>Cell voltage should not be higher than 4.2 V</td>
</tr>
<tr>
<td>Over discharge protection</td>
<td>Cell voltage should not be lower than 2.2 V</td>
</tr>
</tbody>
</table>

Battery pack assembly and usage considerations

- For 2 cells or more in series, voltage shall be monitored on each cell.
- For more than 2 cells in parallel, maximum charge current shall be limited to 250 mA for the whole pack.

Safety Considerations

The cells successfully passed the following tests:

- Shock & Vibration UL, IEC
- Short Circuit at RT, +55 °C & +72 °C UN, UL, IEC
- Heating at 130 °C UL, IEC
- Over Charge UN, UL, IEC
- Forced Discharge UN, UL, IEC
- Crush & Impact UN, UL, IEC

Key Features

- Hermetically sealed (glass-to-metal)
- Wide operating temperature range
- Low self discharge
- High output current
- High reliability
- Safe design
- Lightweight

Main Applications

- Energy Harvesting
- Wireless Sensors
- BUB in Metering
- Asset, Container & Cargo Tracking
- Parking Meters
- Electrical Grid Monitoring
- Emergency & Medical Devices
- Automotive
- Industrial and Agricultural IOT

Ordering P/N:

- TLI-1550US/Z2 * 61-15xx-xxxxx
- TLI-1550US/Z2/TP * 61-15xx-xxxxx

* Z2 - Indicates that the cell is equipped with PTC- SRP 200.

For cells without the PTC, please contact Tadiran Batteries

Performance Data

Discharge curves at room temperature

Discharge curves @ 1 A

Pulse Capability at RT

1 Sec. Pulse Capability at 1 A

Charge/Discharge Cycling Performance RT
(250 mA to 4.1 V (EOC 20 mA; Discharge 250 mA to 2.5 V)

Open Circuit Voltage Vs. Capacity
(100 % capacity = 700 mAh at 50 mA discharge to 2.5 V)