AA Size High Power High Energy Rechargeable Lithium Battery

**Notice:** The application load profile has to be approved by Tadiran. Charging circuits and protections have to be designed in line with Tadiran guidelines.

**Physical Characteristics**

- Length: 53 mm. max
- Diameter: 15.1 mm. max
- Weight: 22 gr. max

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

**Charge**
- Maximum Charge Voltage: 4.0 V
- Charge Method: CCCV (Constant Current/Constant Voltage)
- Maximum Charge Current @ -20 to +50 °C: 100 mA
- Maximum Charge Current @ -40 to +85 °C: 50 mA

**Discharge**
- Maximum Discharge Current @ 20 ºC: 5 A for Continuous to 2.0 V (without PTC), 10 A for 1 second pulse to 2.0 V
- Charge / Discharge operating temperature: -40 to +85 °C
- Storage Temperature Range: -55 to +85 °C
- Cell impedance: < 100 mΩ at 1 kHz

**Performance**

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Capacity when charged to 4.0 V</td>
<td>1200 mAh &gt;1000 mAh &gt;650 mAh</td>
<td>Discharge at 5 mA to 2.0 V at 20 °C, Discharge at 1 A to 2.0 V at 20 °C, Discharge at 1 A to 2.0 V at -40 °C</td>
</tr>
<tr>
<td>Charge / Discharge Cycles</td>
<td>75</td>
<td>*Charge 100 mA to 4.0 V EOC 20 mA, Discharge at 350 mA to 3.0 V at 20 °C</td>
</tr>
<tr>
<td>Capacity Retention after 75° cycles (reversible)</td>
<td>70%</td>
<td>Discharge at 350 mA at 20 °C</td>
</tr>
<tr>
<td>Capacity Retention after 5 years (reversible)</td>
<td>91%</td>
<td>Discharge at 50 mA at 20 °C</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 4.3 V</td>
</tr>
<tr>
<td>Over discharge protection</td>
<td>Cell voltage should not be lower than 2.0 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:
  - Altitude simulation
  - Shock & Vibration
  - Short Circuit at RT & +57 °C
  - Heating at 130 °C
  - Forced Discharge
  - Crush
  - Temperature Cycling
  - Overcharge

* Z2 indicates that the cell is equipped with PTC SRP 200

**Key Features**

- High Power - 750 W/kg / 1.79 kW/l Continuous
- Hermetically sealed (glass-to-metal)
- Wide operating temperature range
- Low self discharge
- High output current
- High homogeneity
- End of life indication capability
- High reliability
- Lightweight
- Safe design
- Assembled in custom packs (per request)

**Main Applications**

- Emergency & Medical Devices
- Telemetry
- Navigation systems
- Device for immobilizing an attacker
- Electrornical Grid Monitoring
- Wireless sensors
- Energy Harvesting
- Automotive
- Asset, Container & Cargo Tracking
- Internet of things (IoT)

**Ordering P/N:**

- TLI-1550ES/S 61-1579-22000
- TLI-1550ES/T 61-1579-22150
- TLI-1550ES/TP 61-1579-22250
- TLI-1550ES/Z2/T * 61-1579-14250

*WARNING:* Fire, Explosion, And Severe Burn hazards. Do Not Crush, Disassemble, Heat Above 100°C, Short Circuit, Incinerate Or Expose Contents to water.

www.tadiranbatteries.com

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