15.5 Ah Lithium-Ion Space Battery

High quality, low cost space qualified lithium ion battery

Features and Benefits
- Qualified for space flight
- High energy density
- Highly reliable
- Low cyclic capacity fade
- Long calendar life
- Autonomous cell bypass capability
- Primary and redundant heaters
- Back-up temperature and voltage telemetry
- Built-in cell safety protection
- Current sense capability
- High reliability > 0.99

Applications
- Military communications and surveillance
- Commercial communication and broadcasting
- Environmental monitoring
- Global navigation and tracking
- Scientific and exploratory satellite missions
- Launch vehicle

Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Number</td>
<td>SAR 10215</td>
</tr>
<tr>
<td>Nominal Cell Weight</td>
<td>3.95 kg (8.7 lb)</td>
</tr>
<tr>
<td>Maximum Dimensions</td>
<td>See diagram on back</td>
</tr>
<tr>
<td>Nominal Voltage</td>
<td>28.8 V</td>
</tr>
<tr>
<td>Operating Voltage</td>
<td>32.0 V to 33.6 V</td>
</tr>
<tr>
<td>Beginning of Life Capacity/Energy</td>
<td>15.5 Ah/446.4 Wh</td>
</tr>
<tr>
<td>Energy Density</td>
<td>343 Wh/L</td>
</tr>
<tr>
<td>Specific Energy</td>
<td>113.1 Wh/kg</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>0 to 60°C (32 to 140°F)</td>
</tr>
<tr>
<td>Operating Temperature Discharge</td>
<td>-20 to 60°C (-4 to 140°F)</td>
</tr>
<tr>
<td>Survival Temperature (non-op)</td>
<td>-20 to 60°C (-4 to 122°F)</td>
</tr>
<tr>
<td>Charge Current (Max)</td>
<td>7.2 A</td>
</tr>
<tr>
<td>Maximum Continuous Discharge</td>
<td>15 A</td>
</tr>
<tr>
<td>Maximum Discharge Pulse</td>
<td>30 A</td>
</tr>
<tr>
<td>Random Vibe Levels</td>
<td>24.9 G</td>
</tr>
<tr>
<td>Sine Vibe Levels</td>
<td>19.8 G</td>
</tr>
<tr>
<td>Shock Level</td>
<td>2800 G</td>
</tr>
</tbody>
</table>

High-Quality Lithium-Ion Rechargeable Battery

Concept Design - Product Under Development
15.5 Ah Lithium-Ion Space Battery

Charge Voltage Profiles

- 25°C
- 50°C

The 15.5 Ah rated capacity is based upon a cell module End of Charge Voltage (ECCV) of 4.2V and an End of Discharge Voltage (EDCV) of 2.5V. The data in the charts is based on an ECV of 3.94V and an EDCV of 1.15V.

Standard Capacity Tests Comparison

- 25°C
- 50°C
- 85°C

Concept Design - Product Under Development