Hybrid Layer Capacitor (HLC)  
For PulsesPlus™ batteries

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

| Capacity when charge to 3.67 V | 560 As |
| Capacity when charge to 3.90 V | 850 As |
| Discharge end voltage           | 2.5 V (discharge below 2.5 V at RT may increase the HLC internal impedance). For other temperatures and discharge condition please contact Tadiran for these end voltage conditions. |

**Mechanical characteristics**

| Length | 51 mm. max |
| Diameter | 15.1 mm. max |
| Weight | 18.8 gr. max |

**Operating conditions**

<table>
<thead>
<tr>
<th>Maximum discharge current:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous</td>
<td>2.0 A (without PTC)</td>
</tr>
<tr>
<td>Pulse, 1 sec</td>
<td>5.0 A (without PTC)</td>
</tr>
<tr>
<td>Charge (constant current)</td>
<td></td>
</tr>
<tr>
<td>Max. charge voltage</td>
<td>3.95 V</td>
</tr>
<tr>
<td>Max. charge current</td>
<td>100 mA</td>
</tr>
<tr>
<td>Operating temperature range</td>
<td></td>
</tr>
<tr>
<td>HLC in PulsesPlus™ battery</td>
<td>-40 °C ÷ +85 °C</td>
</tr>
<tr>
<td>Storage temperature range of HLC</td>
<td>-40 °C ÷ +60 °C</td>
</tr>
<tr>
<td>Cell impedance at RT</td>
<td>&lt; 100 mΩ at 1 kHz</td>
</tr>
<tr>
<td>Self discharge of PulsesPlus™ battery at RT</td>
<td>3 µA</td>
</tr>
<tr>
<td>Self discharge PulsesPlus™ battery at 80 °C</td>
<td>15 µA</td>
</tr>
</tbody>
</table>

**Technology**

- Anode: Carbon based
- Cathode: Multi metal oxides
- Electrolyte: Organic
- Shut down separator

**Key Features**

- Hermetically sealed (glass-to-metal)
- Wide operating temperature range
- Low self discharge
- End of life indication capability
- High reliability
- Lightweight
- Safe design

**Main Applications**

- Utility Meters (AMR)
- Asset, Container & Cargo Tracking
- RFID Devices
- Sonar Buoys
- Communication Equipment
- Emergency & Medical Devices

**Ordering Part No.**

- HLC-1550A/S  61155122000
- HLC-1550A/T  61155122150
- HLC-1550A/TP  61155132000
- HLC-1550A/PT2 61155135000

**UL Approved under file MH12193 issued December 7th, 2000**

**WARNING:** Fire, Explosion, And Severe Burn Hazard. Do Not Recharge, Crush, Disassemble, Heat Above 100ºC, Incinerate Or Short Circuit.
Performance data

Voltage curves for HLC1550A at Li/SOCl₂ potential (3.67 V), 750 mA

![Voltage curves for HLC1550A at Li/SOCl₂ potential (3.67 V), 750 mA](image)

Voltage curves for HLC1550A at Li/SO₂Cl₂ potential (3.90 V), 750 mA

![Voltage curves for HLC1550A at Li/SO₂Cl₂ potential (3.90 V), 750 mA](image)

Voltage curves for HLC1550A at Li/SOCl₂ potential (3.67 V), 1200 mA

![Voltage curves for HLC1550A at Li/SOCl₂ potential (3.67 V), 1200 mA](image)

Voltage curves for HLC1550A at Li/SO₂Cl₂ potential (3.90 V), 1200 mA

![Voltage curves for HLC1550A at Li/SO₂Cl₂ potential (3.90 V), 1200 mA](image)

Available capacity vs. OCV for HLC1550A (at RT, 200 mA discharge)

![Available capacity vs. OCV for HLC1550A (at RT, 200 mA discharge)](image)

**Warning:**

- The HLC is designed for use in a PulsesPlus™ battery or in low charge current as specified only. The HLC may explode or violently vent if over-charge above 4.4V.
- Do not charge the HLC higher than 4.1 V, over discharge, short circuit, heat above 100 °C, incinerate or expose content to water.
- Charging the HLC at above 3.95 V may lead to capacity loss and / or internal impedance rise.
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Rev F, April 2011

ECN 6101551

Lead terminations

HLC-1550A/T (Soldering Tabs)
Cat. # 61155122150

HLC-1550A/TP (PCB Mountable - Polarized)
Cat. # 61155132000

HLC-1550A/PT2 (PCB Mountable)
Cat. # 61155135000