Tadiran High Power Lithium Organic Cell
Model TLM-1530HPM (Preliminary)

1. Scope

This data sheet describes the mechanical design and performance of Tadiran high power lithium organic cell model TLM-1530HPM.

2. Characteristics

2.1. Physical

2.1.1. Length: 28 -1 mm.

2.1.2. Diameter: 14.8 ± 0.3 mm.

2.1.3. Weight: 12 gr. max.

2.2. Electrical

2.2.1. Open Circuit Voltage

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

3.95 to 4.07 V

2.2.2. Closed Circuit Voltage (at 0.1 sec) at 0.225 A load

3.88 V minimum

2.2.3. Discharge

Discharge capacity at 9 mA @ RT to 2.8 V 225 mAh

Discharge capacity at 225 mA @ RT to 2.8 V 190 mAh

Maximum discharge current

Continuous to 2.5 V: 3.2 A

1 second pulse to 2.6 V: 6.8 A

2.3. Operating Temperature Range:

-40°C to 85°C

2.4. Accumulated Capacity Loss*:

<table>
<thead>
<tr>
<th>Storage Temperature</th>
<th>22 °C</th>
<th>55 °C</th>
<th>72 °C</th>
<th>85 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storage Time [Y]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3 %</td>
<td>6 %</td>
<td>10 %</td>
<td>TBD</td>
</tr>
<tr>
<td>5</td>
<td>7 %</td>
<td>22 %</td>
<td>40 %</td>
<td>N/A</td>
</tr>
<tr>
<td>10</td>
<td>11 %</td>
<td>32 %</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>15</td>
<td>15 %</td>
<td>42 %</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>20</td>
<td>18 %</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* When tested at RT at 5 mA to 2.8 V

2.5. Cell impedance: Less than 100 mOhm @ 1kHz at room temperature.
2.6. Performance Data (Typical results for up to 5 years old cells):

**Discharge capability at RT**

![Graph showing discharge capability at RT]

**Pulse capability at RT**

![Graph showing pulse capability at RT]
Discharge capability @ 450 mA at several temperatures

Pulse capability @ 0.5 A at several temperatures

* Performance at 85°C is close to that at 72°C
2.7. End of life indication:

OCV measurements can provide a good estimation for the remaining capacity of the cell as shown below.

**Capacity vs. OCV**

![Graph showing Capacity vs. OCV](image)

2.8. Safety tests:

The cell has successfully passed the following safety tests:

- Short circuit at RT and at 55°C
- Oven at 150°C
- Impact
- Nail penetration
- Over charge (200% at currents up to 60 mA)
- Over discharge (200% at currents up to 2.5A)