

Tadiran Medium Power Lithium Organic Cell Model TLM-1520MP

1. Scope

This data sheet describes the mechanical design and performance of Tadiran medium power lithium organic cell model TLM-1520MP.

2. Characteristics

2.1. Physical

- 2.1.1. Length: 20 -1 mm.
- 2.1.2. Diameter: 14.8 ±0.3 mm.
- 2.1.3. Weight: 9 gr. max.

2.2. Electrical

- 2.2.1. Open Circuit Voltage (for batteries stored at RT for 1 year or less) 4.02 to 4.07 V
- 2.2.2. Closed Circuit Voltage (at 0.1 sec) at 0.25 A load 3.85 minimum
- 2.2.3. Discharge
 - Discharge capacity at 12 mA @ RT to 2.8 V 200 mAh
 - Discharge capacity at 125 mA @ RT to 2.8 V 170 mAh
 - Maximum discharge current
 - Continuous to 2.8 V: 1 A
 - 1 second pulse to 3 V: 2.5 A

2.3. Operating Temperature Range: -40 °C to 85 °C

2.4. Accumulated Capacity Loss*:

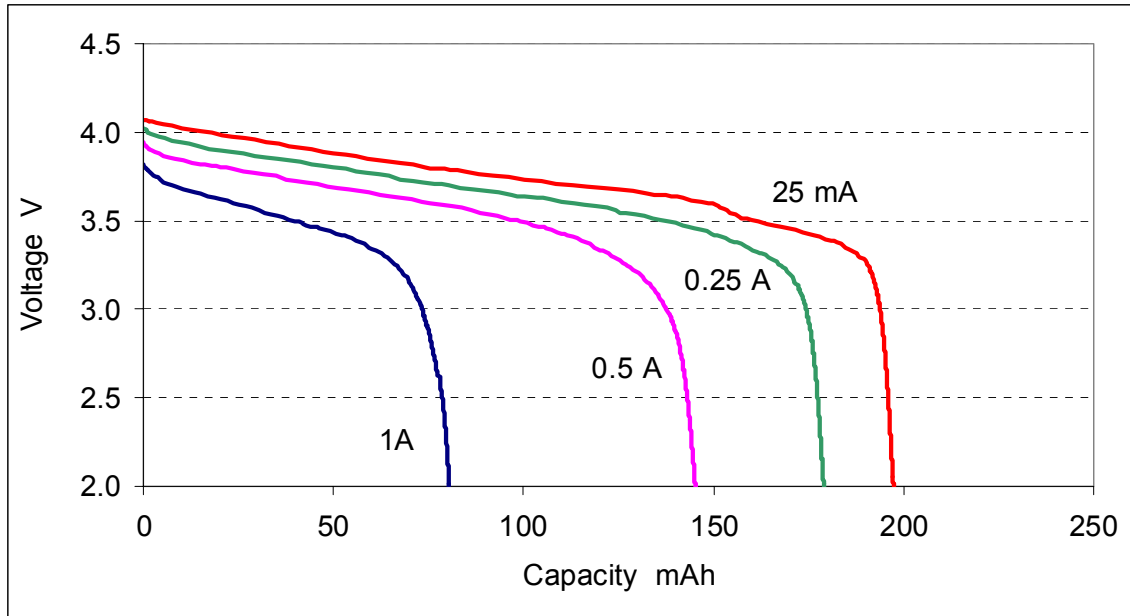
| Storage Temperature | 22 °C | 55 °C | 72 °C | 85 °C |
|---------------------|--------|-------|-------|-------|
| Storage Time [Y] | | | | |
| 1 | 2 % | 4 % | 7 % | TBD |
| 5 | 5 % | 15 % | 28 % | N/A |
| 10 | 7.5 % | 22 % | N/A | N/A |
| 15 | 10 % | 29 % | N/A | N/A |
| 20 | 12.5 % | N/A | N/A | N/A |

* When tested at RT under 12 mA to 2.8 V

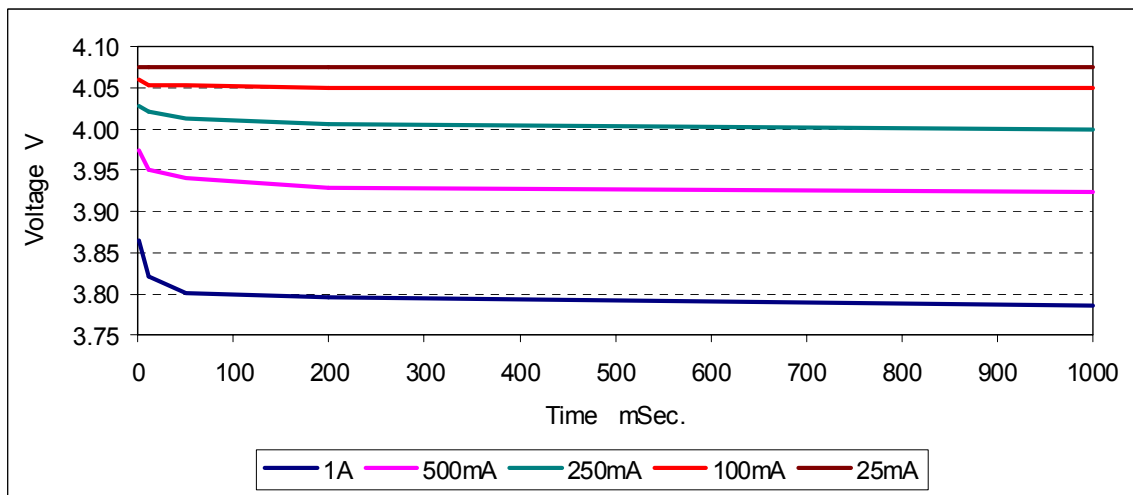
2.5. Cell impedance: Less than 300 mOhm @ 1 kHz at room temperature.

2.6. Performance Data:

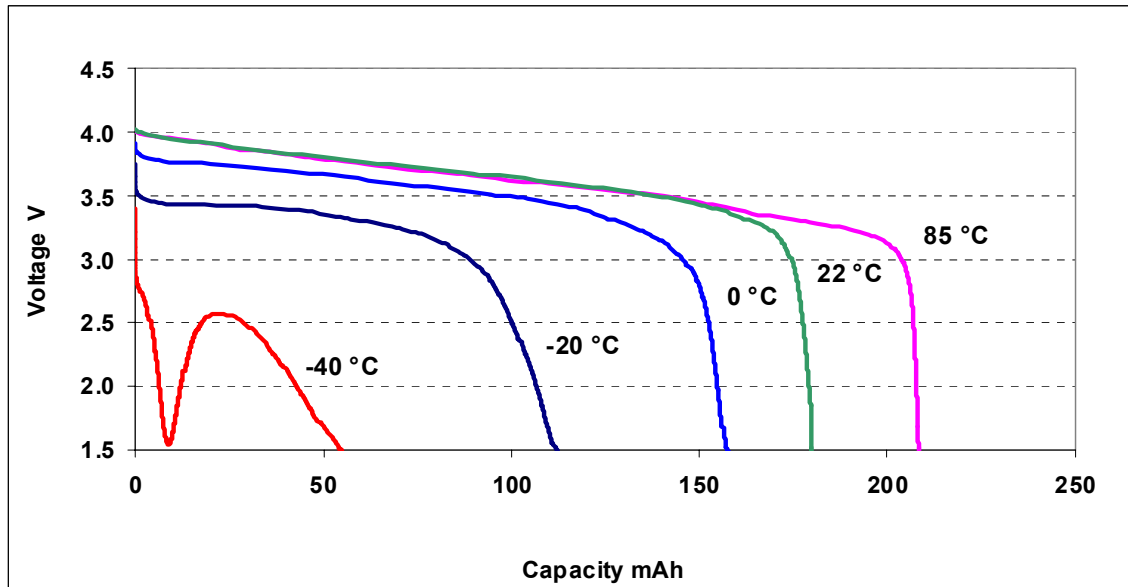
Discharge capability at RT



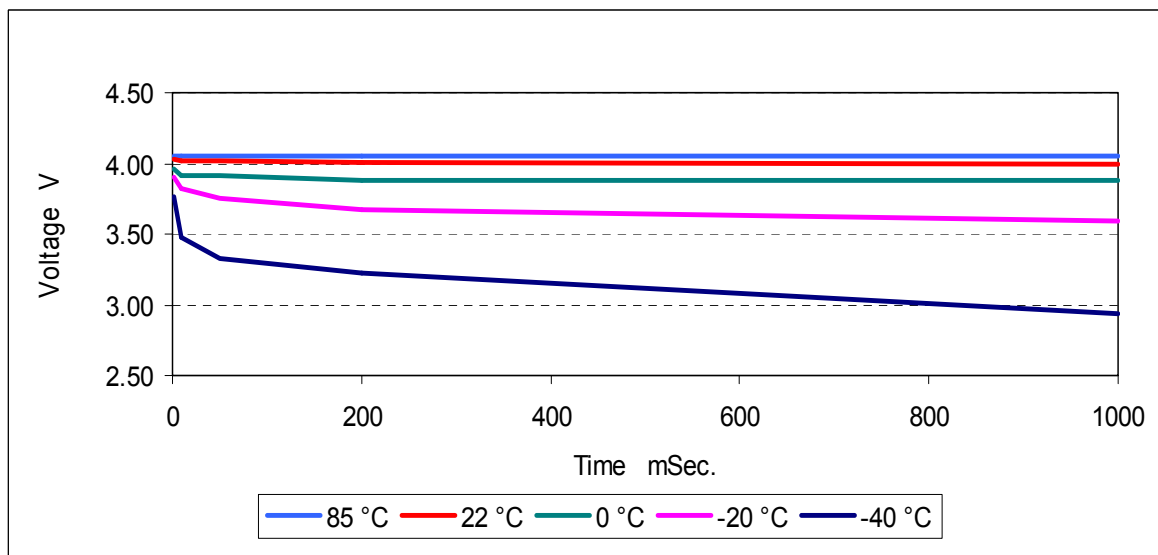
Pulse capability at RT



Discharge capability @ 0.25A at several temperatures



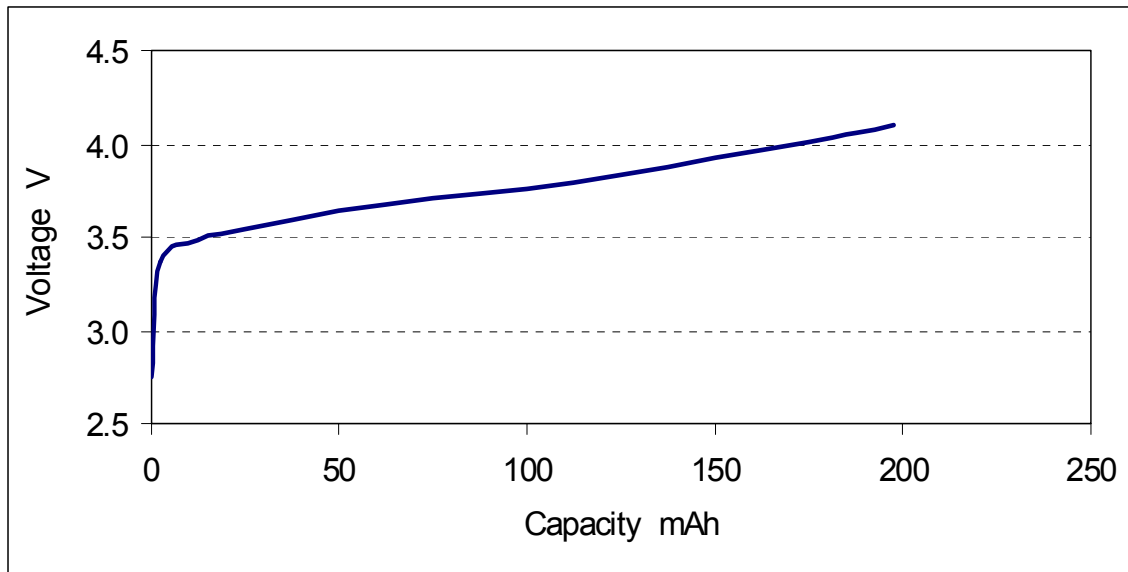
Pulse capability @ 0.25A at several temperatures



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



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 and over discharge