Tadiran High Power Lithium Organic Cell
Model TLM-1550HP

1. Scope

This data sheet describes the mechanical design and performance of Tadiran high power lithium organic cell model TLM-1550HP.

2. Characteristics

2.1. Physical

2.1.1. Length: 50.5 ± 0.5 mm.

2.1.2. Diameter: 14.8 ± 0.2 mm.

2.1.3. Weight: 20 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 0.5 A load — 3.88 V minimum

2.2.3. Discharge

Discharge capacity at 50 mA @ RT to 2.8 V — 550 mAh

Discharge capacity at 500 mA @ RT to 2.8 V — 500 mAh

Maximum discharge current

Continuous to 2.8 V: 5 A

1 second pulse to 3 V: 15 A

2.3. Operating Temperature Range: -40 ^{0}C to 85 ^{0}C

2.4. Acumulated Capacity Loss*:

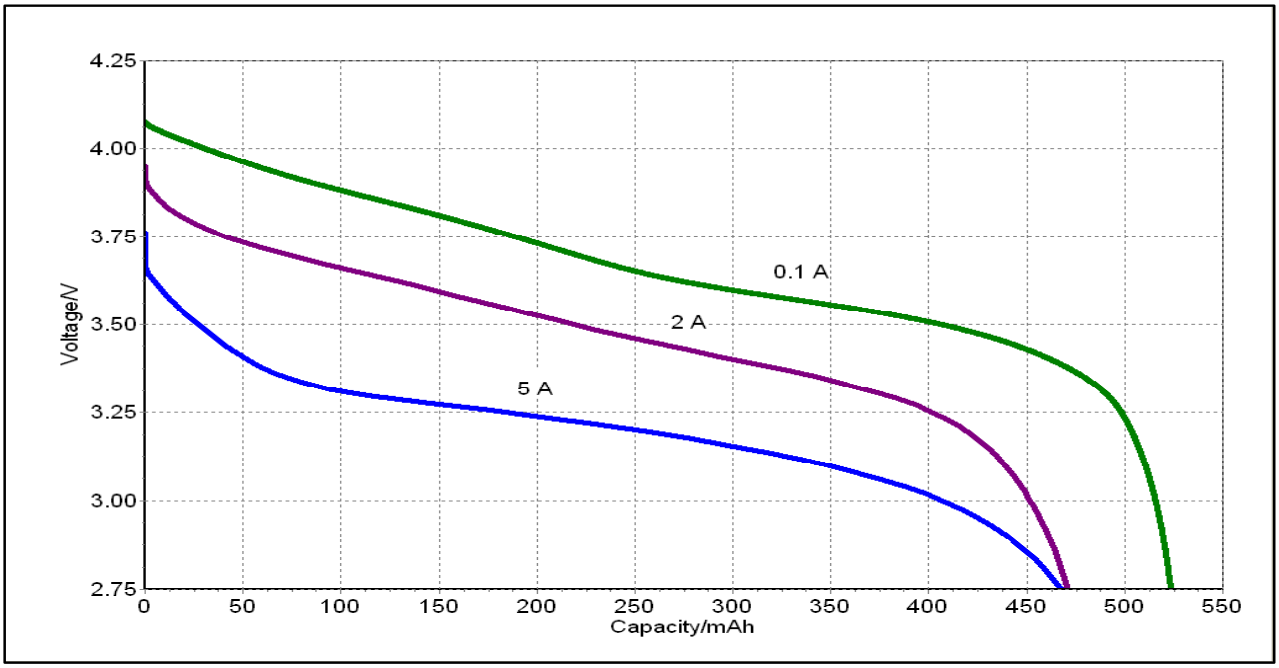
Storage Temperature / Storage Time [Y]	22 °C	55 °C	72 °C	85 °C
1	3 %	6 %	10 %	TBD
5	7 %	22 %	40 %	N/A
10	11 %	32 %	N/A	N/A
15	15 %	42 %	N/A	N/A
20	18 %	N/A	N/A	N/A

* When tested at RT under 50 mA to 2.8 V

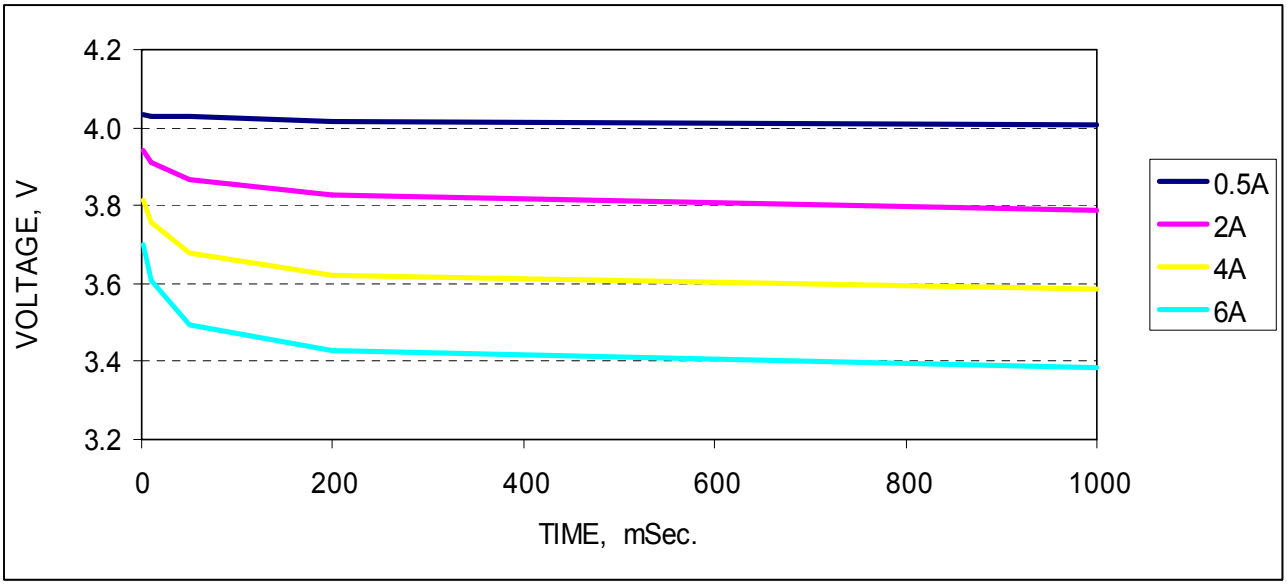
2.5. Cell impedance: Less than 100 mOhm @ 1kHz at room temperature.

2.6. Performance Data:

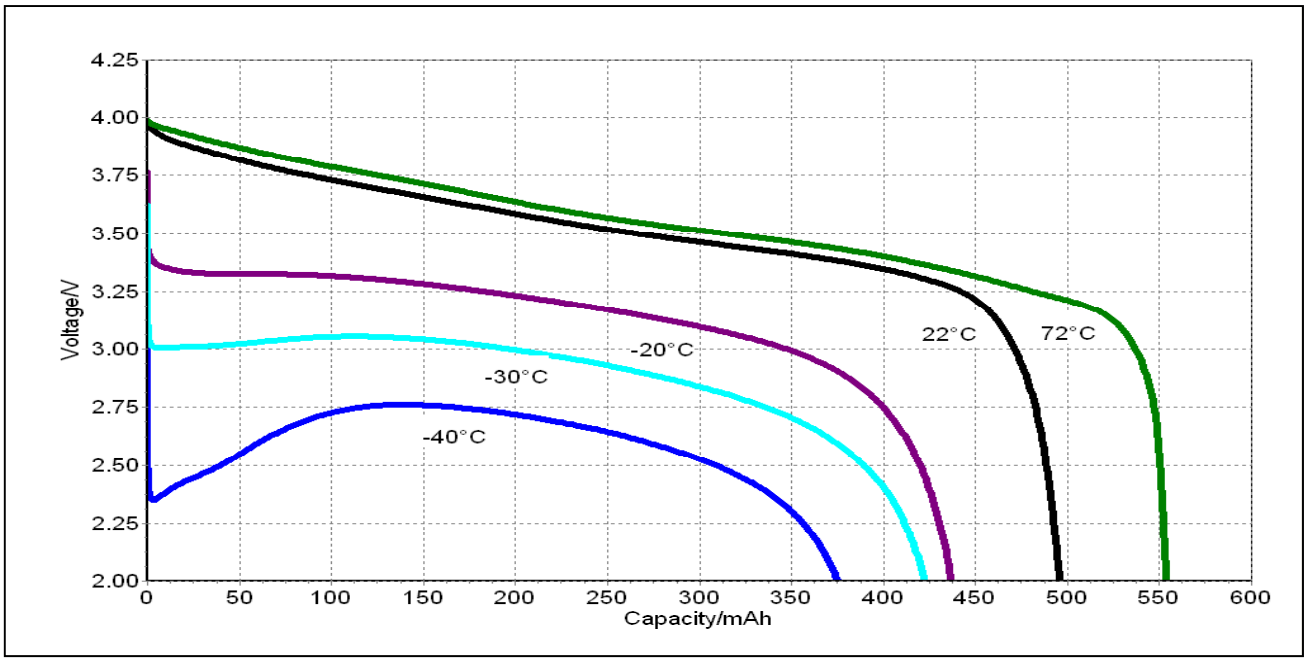
Discharge capability at RT



Pulse capability at RT

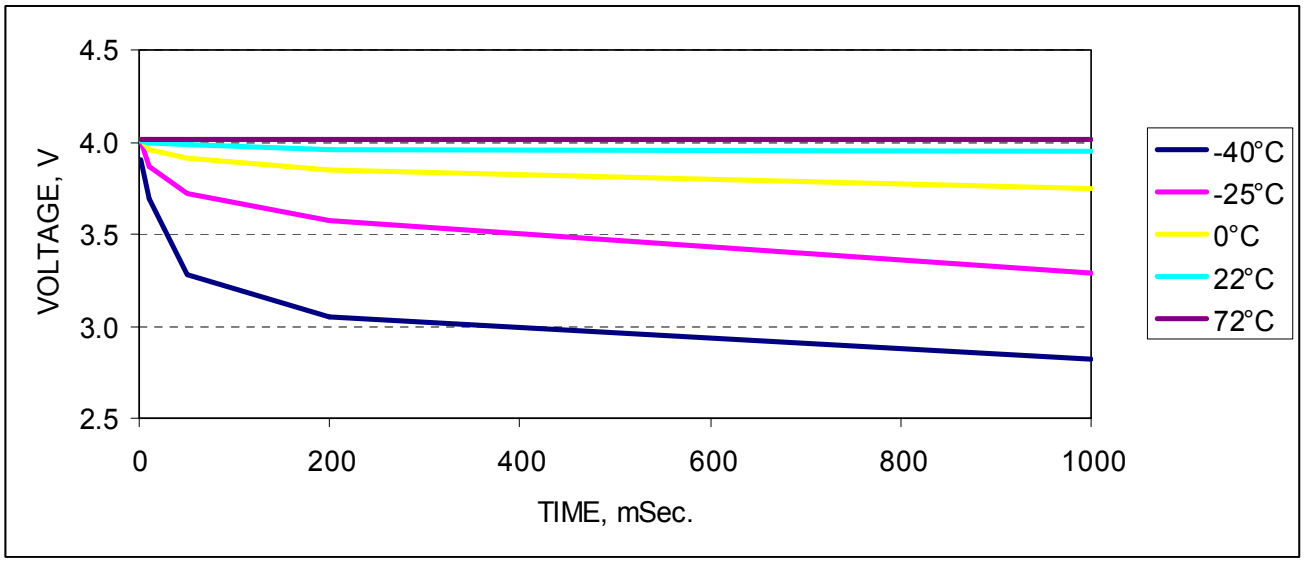


Discharge capability @ 1A at several temperatures



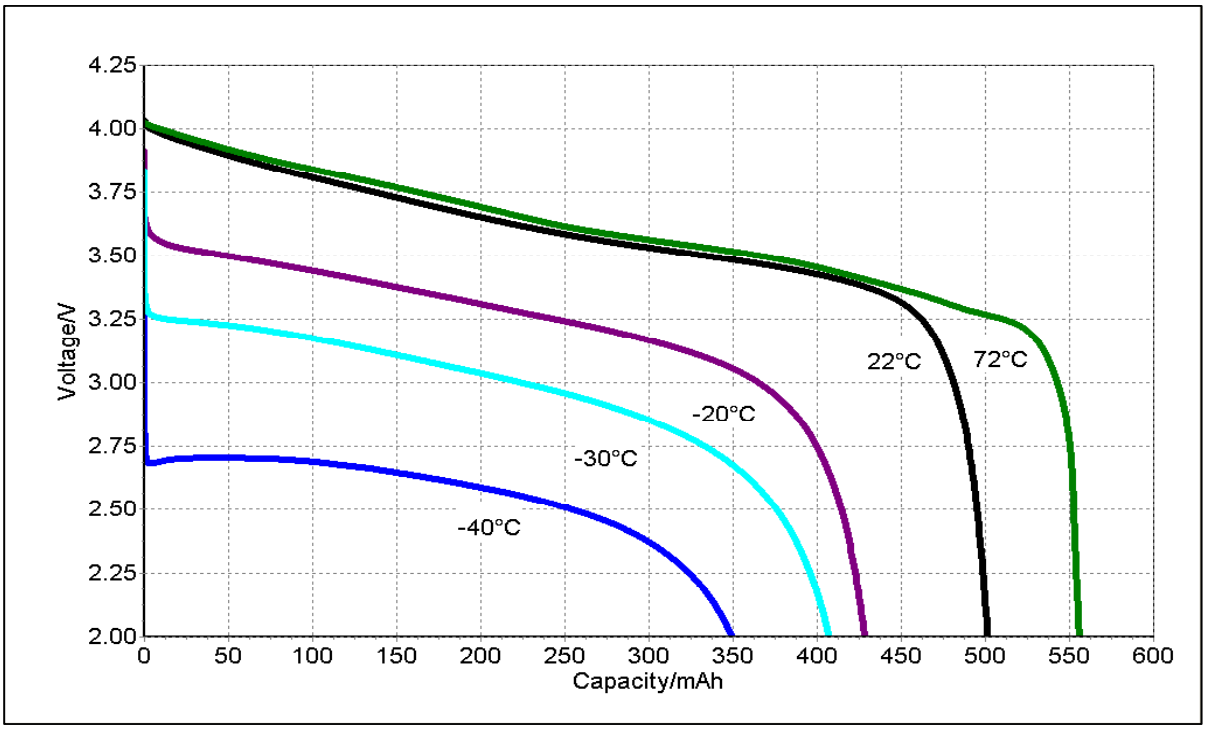
* Performance at 85ºC is close to that at 72ºC

Pulse capability @ 1A at several temperatures



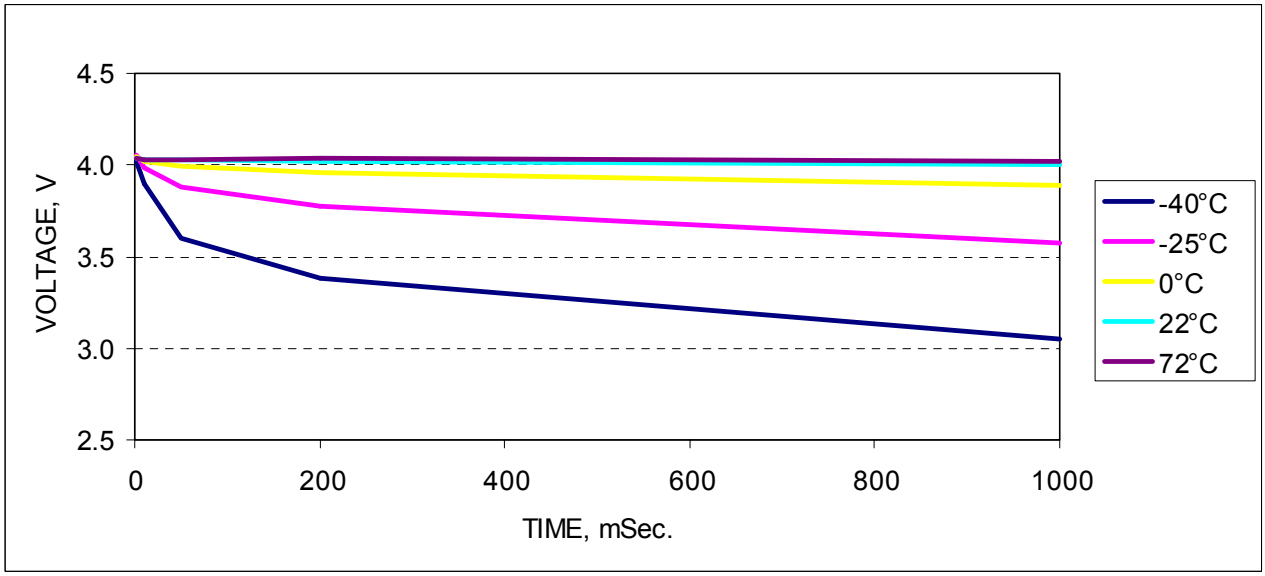
* Performance at 85ºC is close to that at 72ºC

Discharge capability @ 0.5A at several temperatures



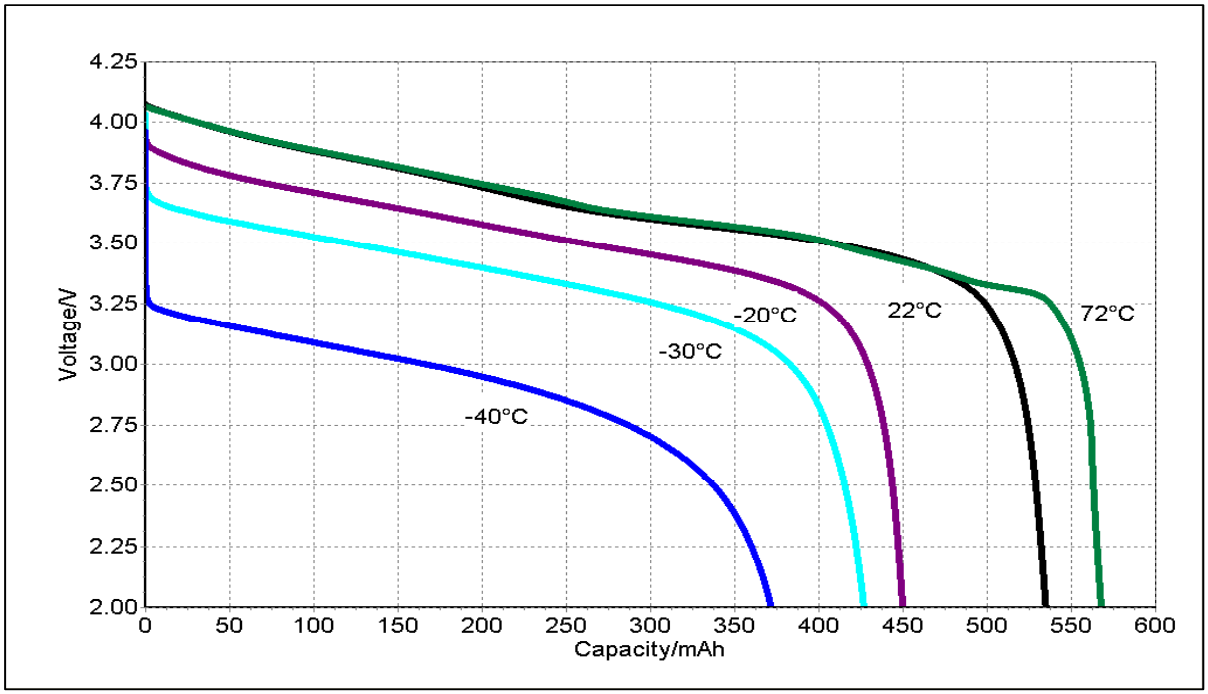
* Performance at 85ºC is close to that at 72ºC

Pulse capability @ 0.5A at several temperatures



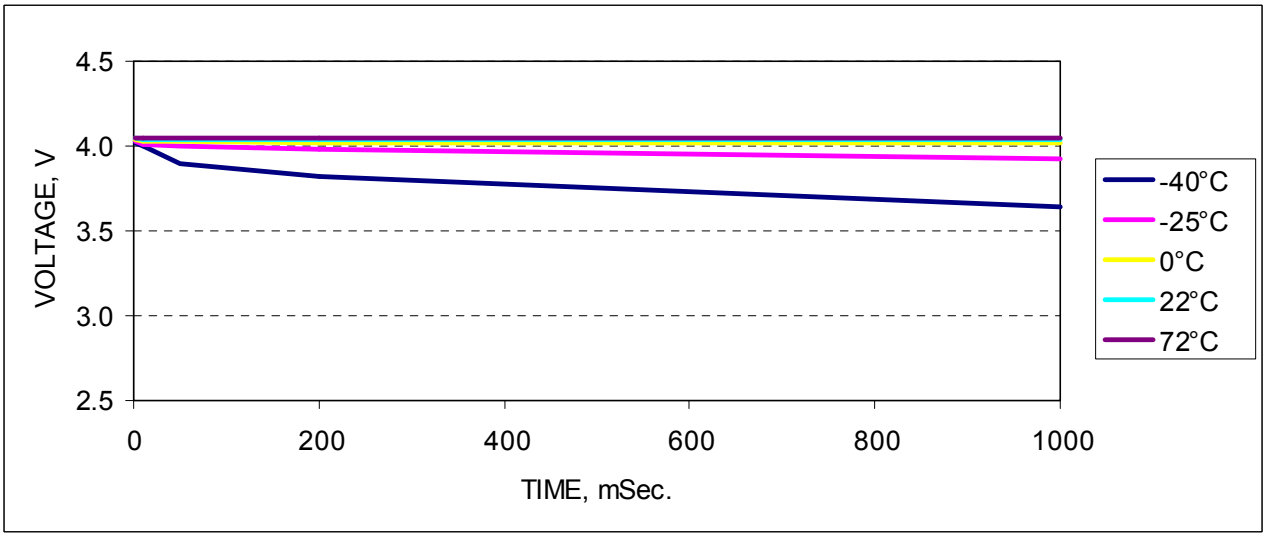
* Performance at 85ºC is close to that at 72ºC

Discharge capability @ 0.1A at several temperatures



* Performance at 85ºC is close to that at 72ºC

Pulse capability @ 0.1A at several temperatures

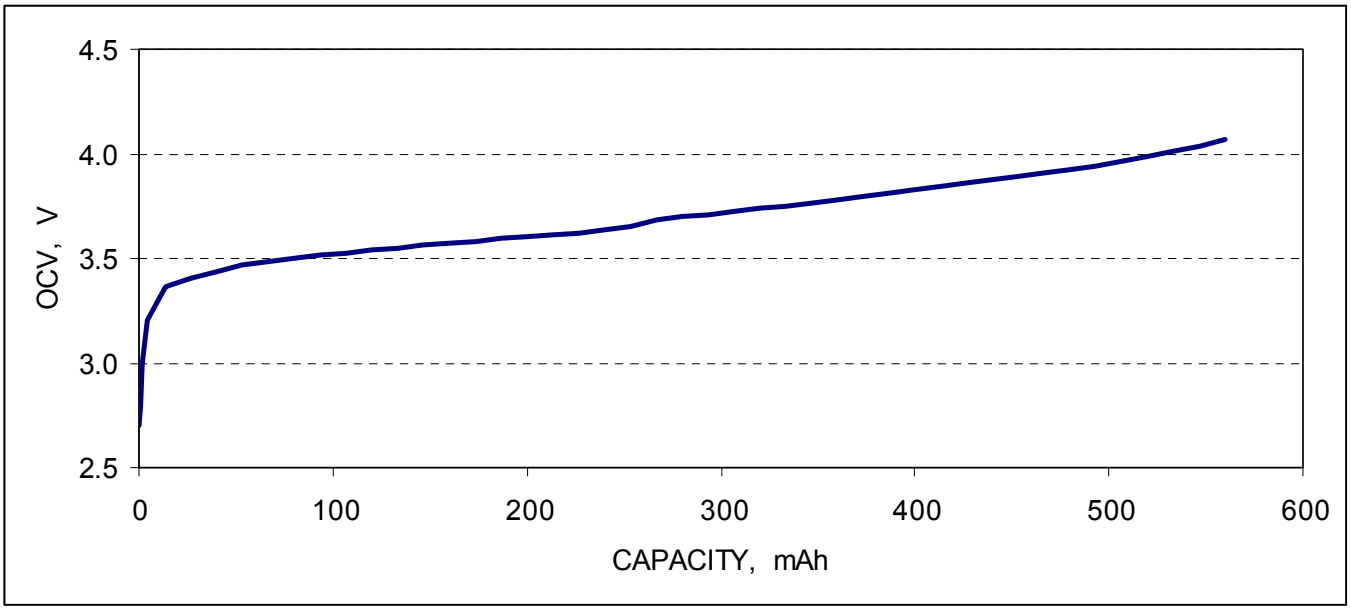


* Performance at 85ºC is close to that at 72ºC

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 succesfuly passed the folowing safety tests:

- Short circuit at RT and at 55°C
- Oven at 150°C
- Impact
- Nail penatration
- Over charge and over discharge