

Tadiran Lithium Ion Rechargeable Battery

Model TLI-1550A

1. Scope

This data sheet apply to the AA size Lithium Ion Rechargeable battery supplied by Tadiran Batteries Ltd.

Notice: Charging circuit and application load profile have to be approved by Tadiran prior to the use of this cell.

2. Characteristics

2.1. Physical

- 2.1.1. Length: 53 mm Max.
- 2.1.2. Diameter: 14.8 $\pm$ 0.3 mm.
- 2.1.3. Weight: 20 $\pm$ 0.2 gr. Max.

2.2. Electrical / Charge

- 2.2.1. Charge Voltage: 4.1 V
- 2.2.2. Charge Current: 100 mA Max.
- 2.2.3. Charge Method: CCCV (Constant Current/Constant Voltage)
- 2.2.4. End of Charge: 20 mA Max. per cell
- 2.2.5. Charge Temp. Range: -20 to +50 °C

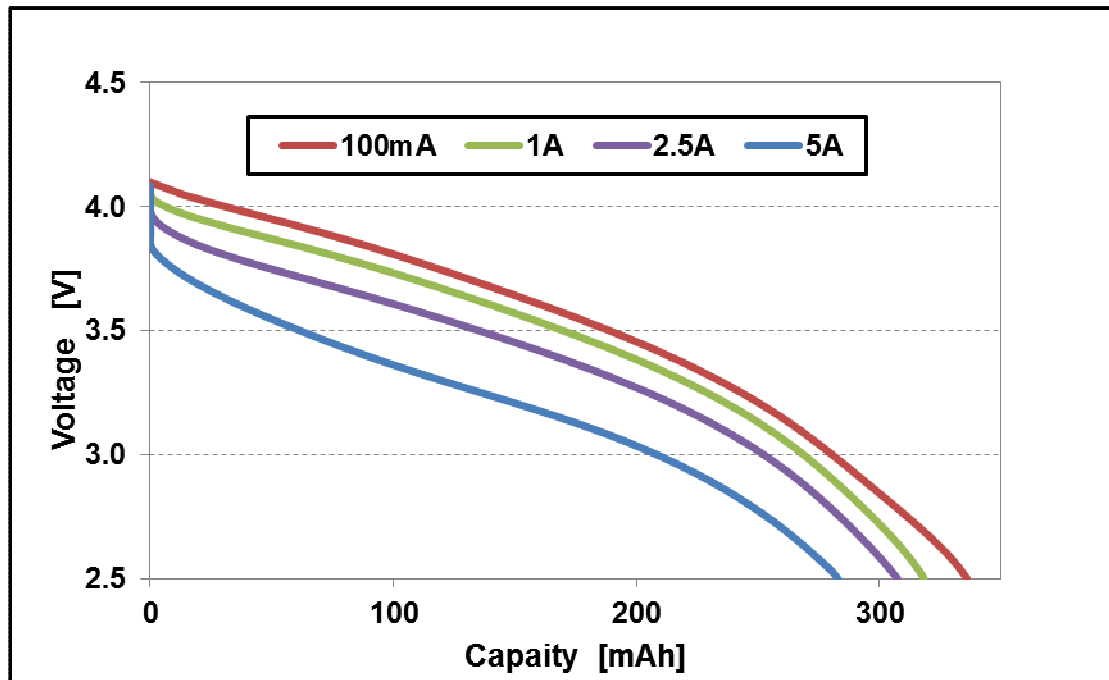
Charge temperature can be extended to -40 $\div$ +85 °C provided that the max. charge current is limited to 20 mA.

2.3. Electrical / Discharge

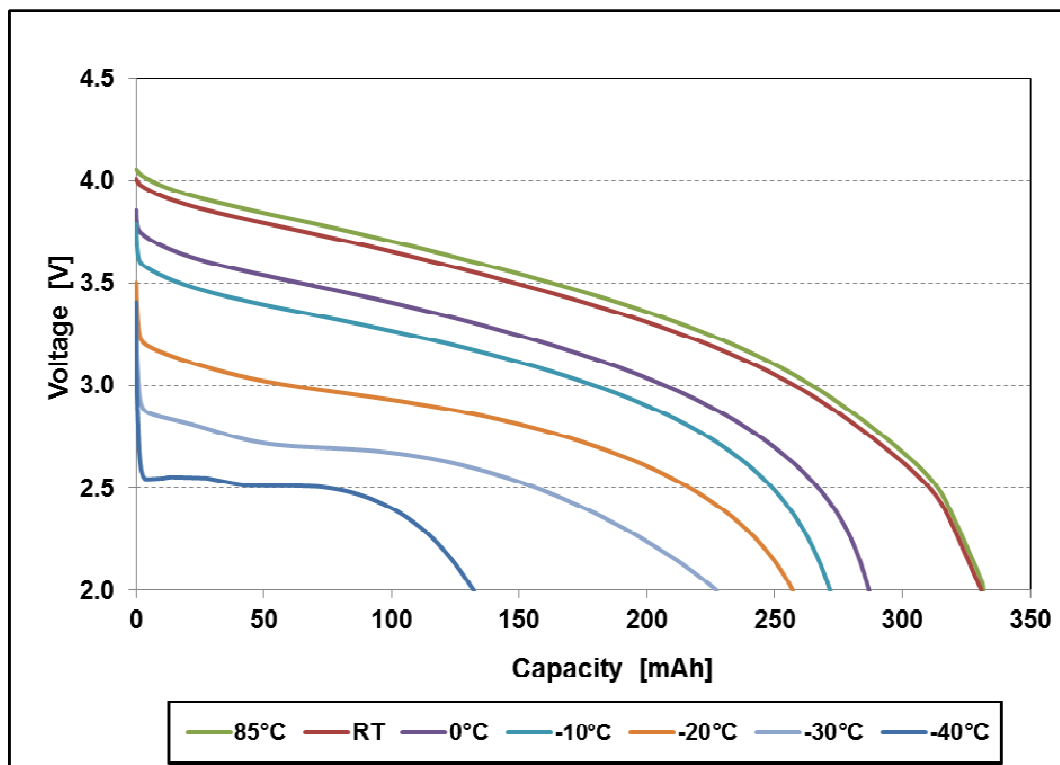
- 2.3.1. Nominal Current: 250 mA
- 2.3.2. End of Discharge: 2.5 V @ Room Temperature
- 2.3.3. Discharge Temp. Range: -40 to +85 °C
- 2.3.4. Performance Characteristics:

Item	Performance	Conditions
Battery Capacity	330 [mAh]	Discharge at 100 mA
	310 [mAh]	Discharge at 1000 mA
Charge Discharge Cycles	310 [mAh]	After 100 cycles Discharge at 250 mA
Temperature	285 [mAh]	Discharge at -20 °C at 250 mA
	330 [mAh]	Discharge at 60 °C at 250 mA
Charge Retention (reversible)	285 [mAh]	After 5 years at RT, Discharge at 250 mA
Impedance	Less than 100 mohm	Impedance at 1 KHz

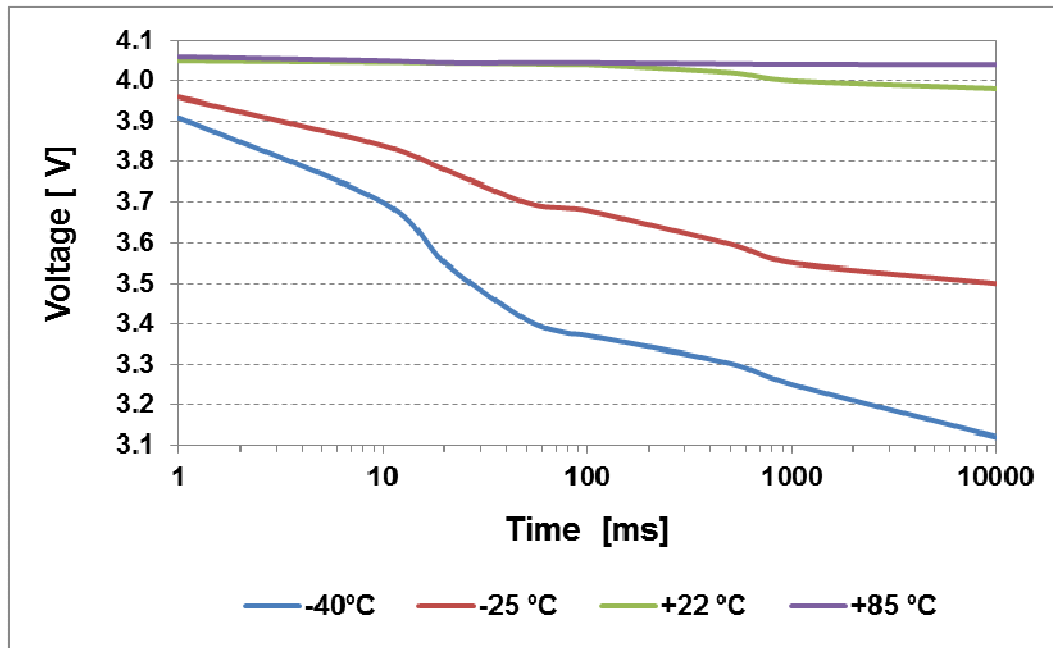
Discharge curves at Room Temperature



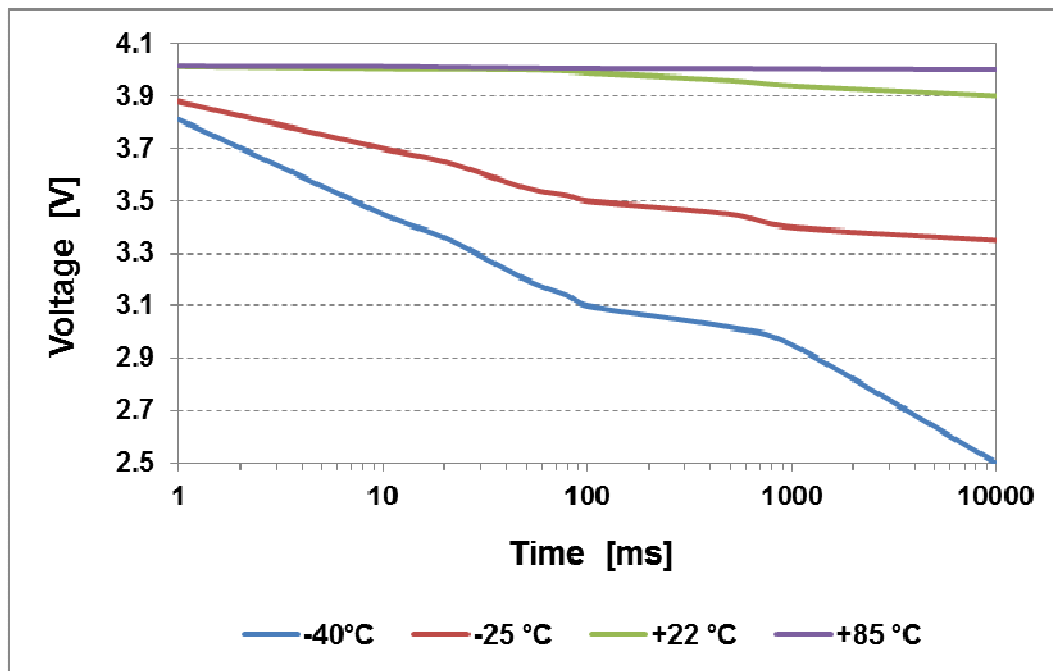
Discharge Curves at Several Temperatures, @ 2 A



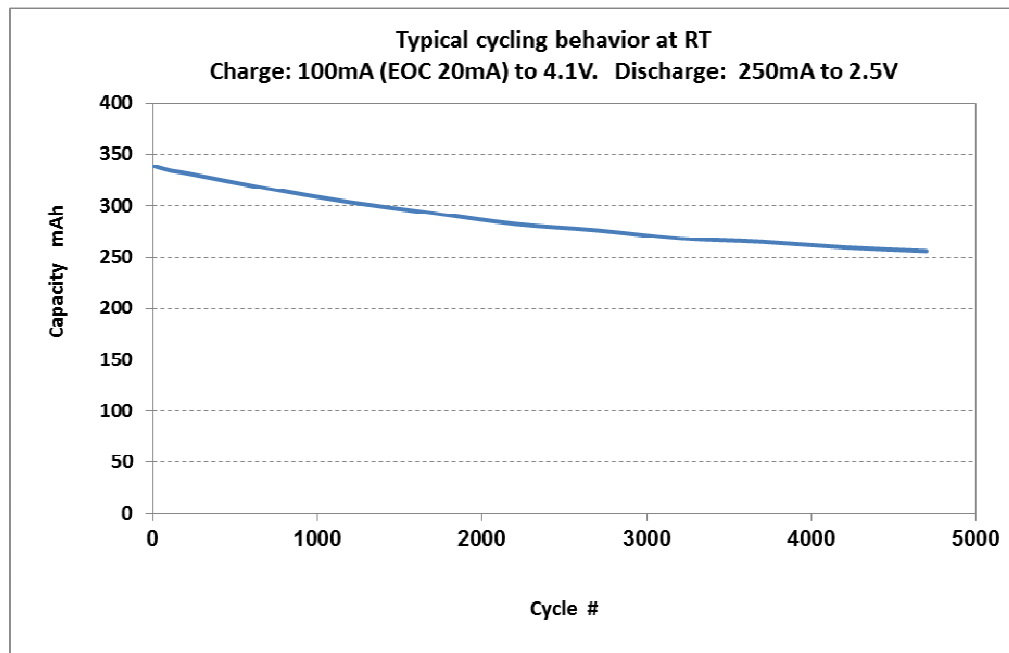
Voltage curves @ 750 mA, 10 sec pulse



Voltage curves @ 1200 mA, 10 sec pulse



Charge/ Discharge Cycling Performance



2.4. Cell / Battery Protection (to be applied by the user)

Item	Specifications
Over charge protection	Cell voltage should not be higher than 4.2 V
Over discharge protection	Cell voltage should not be lower than 2.4 V

2.5. Safety Characteristics

The cells successfully passed the following safety tests:

- Short circuit at RT, 55 °C and 85 °C.
- Temperature test up to 170 °C.
- Crush.
- Impact.
- Nail penetration.
- Over charge up to 0.5 A, 12 V.
- Over discharge (300%) up to 2 A.

2.6. Battery pack assembly and usage considerations

- For 2 cells or more in series, voltage shall be monitored on each cell.
- For more than 2 cells in parallel, maximum charge current shall be limited to 250 mA for the whole pack.