

# **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

53 mm Max. 2.1.1. Length: 2.1.2. Diameter:  $14.8 \pm 0.3 \text{ mm}.$ 2 1 3 Weight:  $20 \pm 0.2$  gr. Max.

2.2. Electrical / Charge

2 2 1 Charge Voltage: 41 V

2.2.2. Charge Current: 100 mA Max.

CCCV (Constant Current/Constant Voltage) 2.2.3. Charge Method:

2.2.4. End of Charge: 20 mA Max. per cell

2 2 5 Charge Temp. Range:  $-20 \text{ to } +50 \,^{\circ}\text{C}$ 

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

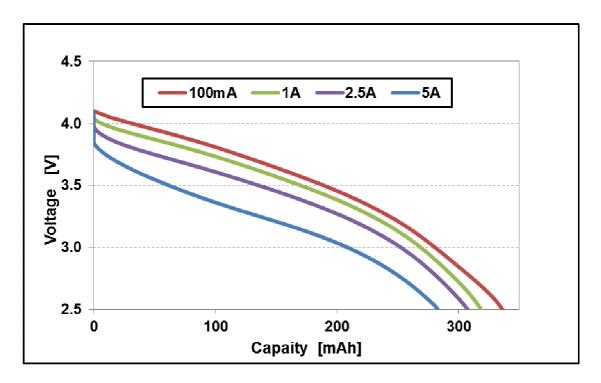
2.3.3. Discharge Temp. Range:  $-40 \text{ to } +85 \,^{\circ}\text{C}$ 

Performance Characteristics: 2.3.4.

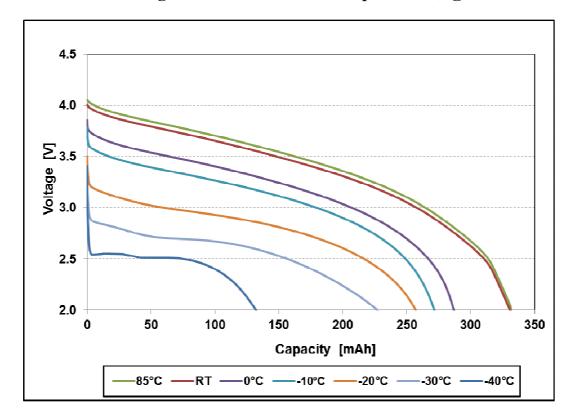
Item	Performance	Conditions
Battery Capacity	330 [mAh]	Discharge at 100 mA
	310 [mAh]	Discharge at 1000 mA
Charge Discharge Cycles	310 [mAh]	After 100 cycles Discharge at 250 mA
Temperature	285 [mAh]	Discharge at -20 °C at 250 mA
	330 [mAh]	Discharge at 60 °C at 250 mA
Charge Retention	285 [mAh]	After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



# **Discharge curves at Room Temperature**



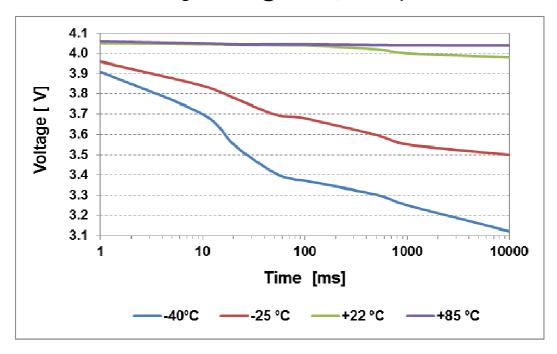
# Discharge Curves at Several Temperatures, @ 2 A



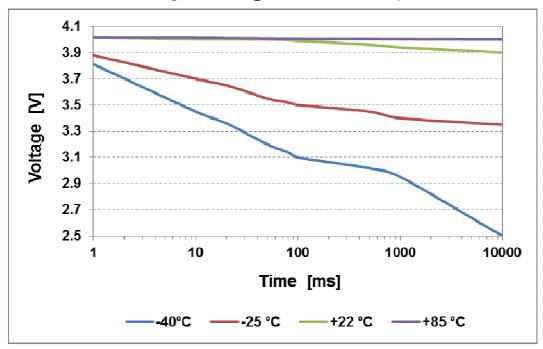
Rev E, October 2013 (ECN 6102112)



### Voltage curves @ 750 mA, 10 sec pulse

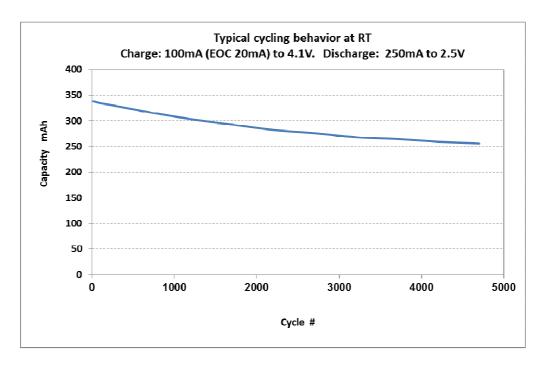


### Voltage curves @ 1200 mA, 10 sec pulse





# **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.