

Tadiran Lithium Ion Rechargeable Battery Model TLI-1520A

1. Scope

This specification apply to the 1520 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: 20 mm Max.
 - 2.1.2. Diameter: 14.8 ±0.3 mm.
 - 2.1.3. Weight: 9 ± 0.2 gr. Max.
- 2.2. Electrical / Charge
 - 2.2.1. Charge Voltage: 4.1 V
 - 2.2.2. Charge Current: 25 mA Max.
 - 2.2.3. Charge Method: CCCV (Constant Current/Constant Voltage)
 - 2.2.4. End of Charge: 5 mA Max. per cell
- 2.2.5. Charge Temp. Range: -20

-20 to +50 °C Charge temperature can be extended to $-40 \div +85$ °C provided that the max. charge current is limited to 5 mA.

2.3. Electrical / Discharge

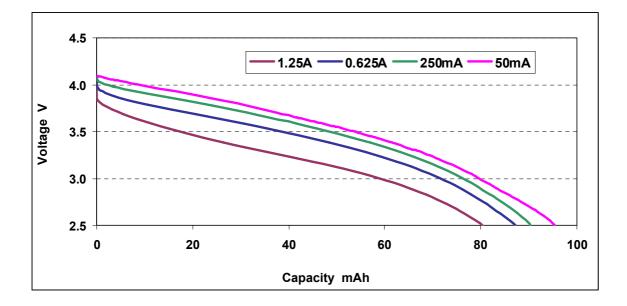
- 2.3.1. Nominal Current: 50 mA
- 2.3.2. End of Discharge: 2.5 V @ Room Temperature
- 2.3.3. Discharge Temp. Range: -40 to +85 °C
- 2.3.4. Performance Characteristics:

Item	Performance	Conditions
Battery Capacity	90 [mAh]	Discharge at 25 mA
	85 [mAh]	Discharge at 250 mA
Charge Discharge Cycles	85 [mAh]	After 100 cycles Discharge at 50 mA
Temperature	80 [mAh]	Discharge at -20 °C at 50 mA
	90 [mAh]	Discharge at 60 °C at 50 mA
Charge Retention	80 [mAh]	After 5 years at RT,
(reversible)		Discharge at 50 mA
Impedance	Less than 250 mohm	Impedance at 1 KHz

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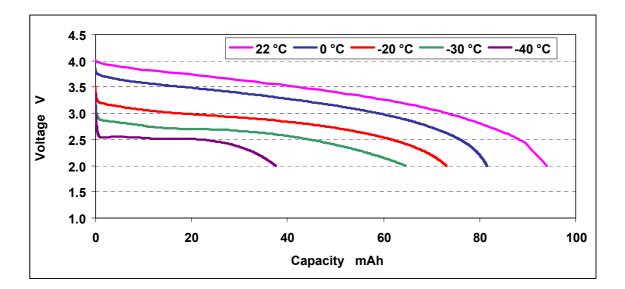
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Discharge curves at Room Temperature

Discharge Curves at Several Temperatures, @ 0.5 A

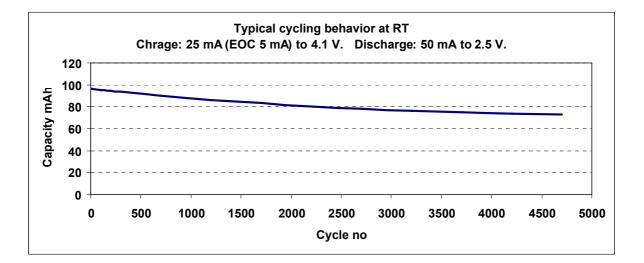


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Charge/ Discharge Cycling Performance



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 125 mA, 12 V.
- Over discharge (300%) up to 0.5 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 50 mA for the whole pack.

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