

TLI-1550ES



AA Size High Power High Energy Rechargeable Lithium Battery

Notice: The application load profile has to be approved by Tadiran.

Charging circuits and protections have to be designed in line with Tadiran guidelines.



Physical Characteristics

Length	53 mm. max
Diameter	15.1 mm. max
Weight	22 gr. max

Electrical Characteristics (for batteries stored at RT for 1 year or less)

Charge

Maximum Charge Voltage	4.0 V
Charge Method	CCCV (Constant Current/Constant Voltage)
Maximum Charge Current @ -20 to +50 °C	100 mA
Maximum Charge Current @ -40 to +85 °C	50 mA

Discharge

Maximum Discharge Current @ 20 °C	
Continuous to 2.0 V (without PTC)	5 A
1 second pulse to 2.0 V	10 A
Charge / Discharge operating temperature	-40 to +85 °C
Storage Temperature Range	-55 to +85 °C
Cell impedance	< 100 mΩ at 1 kHz

Performance

Item	Value	Conditions
Maximum Capacity when charged to 4.0 V	1200 mAh	Discharge at 5 mA to 2.0 V at 20 °C
	>1000 mAh	Discharge at 1 A to 2.0 V at 20 °C
	>650 mAh	Discharge at 1 A to 2.0 V at -40 °C
Charge / Discharge Cycles	75	*Charge 100 mA to 4.0 V EOC 20 mA, Discharge at 350 mA to 3.0 V at 20 °C
Capacity Retention after 75* cycles (reversible)	70%	Discharge at 350 mA at 20 °C
Capacity Retention after 5 years (reversible)	91 %	Discharge at 50 mA at 20 °C

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

Item	Specification
Over charge protection	Cell voltage should not be higher than 4.3 V
Over discharge protection	Cell voltage should not be lower than 2.0 V

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.

Safety Considerations

The cells successfully passed the following tests:

Altitude simulation
Shock & Vibration
Short Circuit at RT & +57 °C
Heating at 130 °C
Forced Discharge
Crush
Temperature Cycling
Overcharge

Key Features

- High Power - 750 W/kg / 1.79 kW/l Continuous
- Hermetically sealed (glass-to-metal)
- Wide operating temperature range
- Low self discharge
- High output current
- High homogeneity
- End of life indication capability
- High reliability
- Lightweight
- Safe design
- Assembled in custom packs (per request)

Main Applications

- Emergency & Medical Devices
- Telemetry
- Navigation systems
- Device for immobilizing an attacker
- Electronical Grid Monitoring
- Wireless sensors
- Energy Harvesting
- Automotive
- Asset, Container & Cargo Tracking
- Internet of things (IoT)

Ordering P/N:

TLI-1550ES/S	61-1579-22000
TLI-1550ES/T	61-1579-22150
TLI-1550ES/TP	61-1579-22250
TLI-1550ES/Z2/T *	61-1579-14250

* Z2 indicates that the cell is equipped with PTC SRP 200

WARNING:

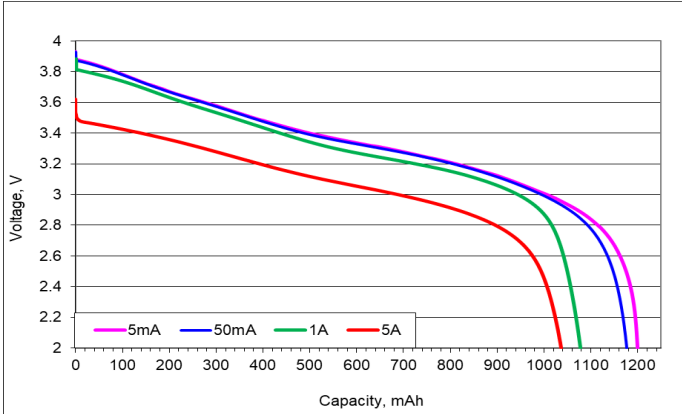
Fire, Explosion, And Severe Burn hazards.
Do Not Crush, Disassemble, Heat Above 100°C, Short Circuit, Incinerate Or Expose Contents to water.

www.tadiranbatteries.com

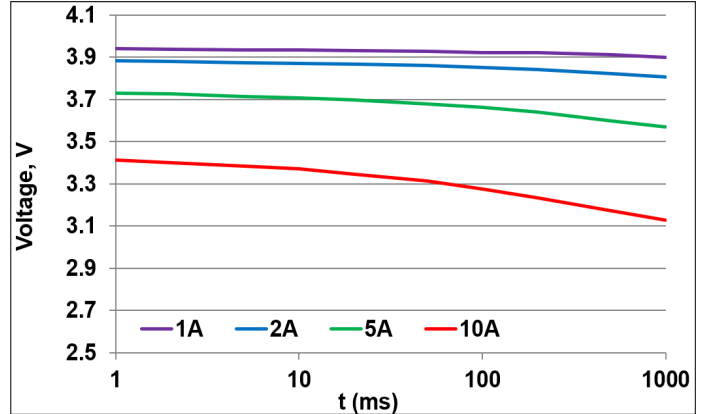
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Performance Data

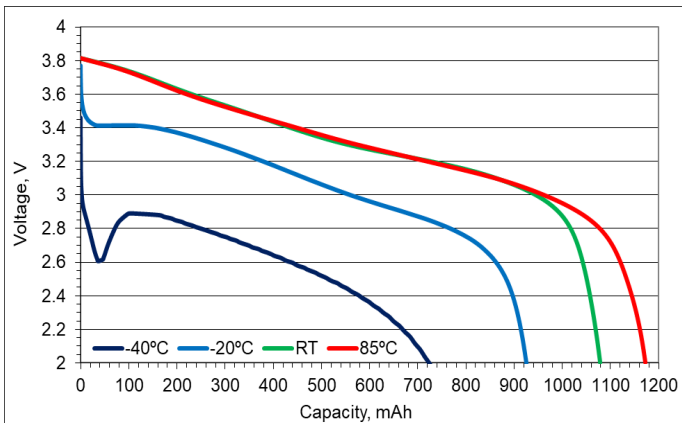
Discharge curves at Room Temperature



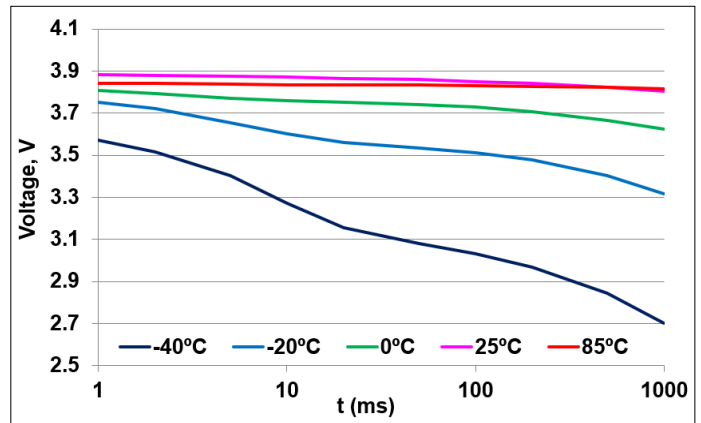
Pulse capability at Room Temperature



Discharge curves at 1 A

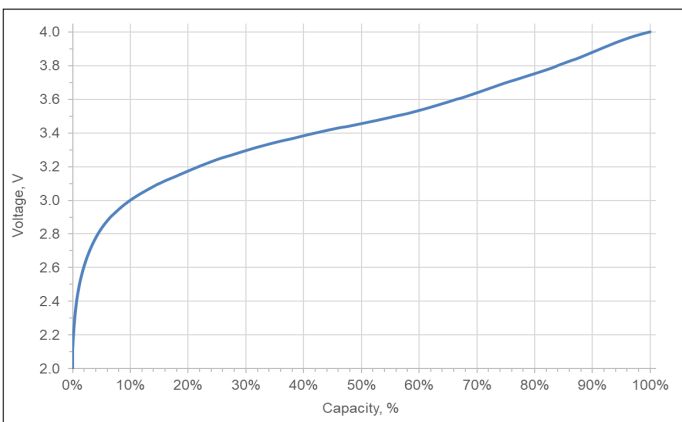


Pulse capability at 2 A



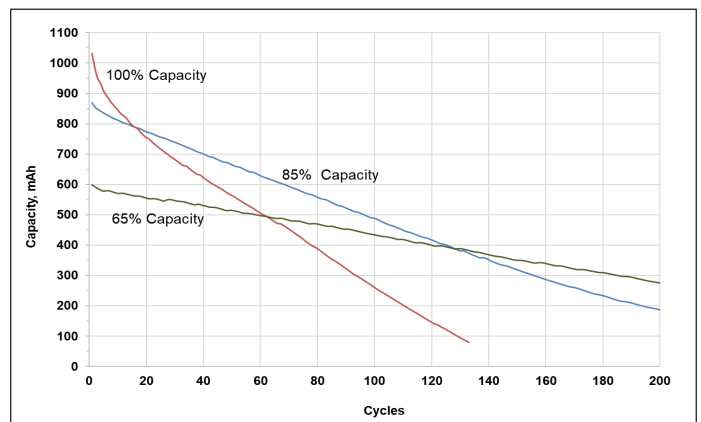
Capacity vs. OCV

OCV measurements can provide a good estimation for the remaining capacity as shown below:



Charge / Discharge Cycling

(100mA Charge; 350mA Discharge)



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