

Benefits

- World's lightest rechargeable battery
- High volumetric energy density
- The ultra-high gravimetric energy density
- High voltage
- Flexible, customizable design
- Recommended for weight constraint applications

Key Features

- Excellent capacity retention and long cycle life
- High pulse charge rate
- High continuous discharge rate
- Great high-altitude performance
- Practical operating temperature range
- High cycling efficiency

Main Applications

- High-altitude drones
- Commercial drones
- Electric autonomous flying transportation
- Consumer electronics
- Power tools
- Small UPS
- Transportation

Hermes™ Trio Life

SES developed advanced high-energy lithium-metal (Li-Metal) rechargeable battery technology, which delivers best-in-class energy density characteristics and cycling performance. This product is ideally suited for applications requiring very high gravimetric and volumetric energy densities that have battery-weight and dimension constraints, such as aeronautics and space, consumer electronics, EVs, and eVTOLs.

Electrical Characteristics

Nominal Voltage	11.46V
Typical Capacity (0.1C, 25 °C)	3.75 Ah
Nominal Energy	42.97 Wh
Configuration	3S1P

Mechanical Characteristics

Height	72.5 mm
Width	52.0 mm
Thickness	22.6 mm (30% SOC)
Typical Weight	146g
Volume	0.085L (30% SOC)

Operating Conditions

Charge Method	Constant Current/ Constant Voltage
Charge Voltage	12.75V
Maximum Recommended Charge Current	0.56A (0.15C Rate)
Charge Temperature Range	5 °C to 45 °C
Charge Time at 25 °C	Function of the Charge Current 0.15C Rate → 6-7 Hrs 0.1C Rate → 10-11 Hrs
Maximum Continuous Discharge Rate	11.2A (3C Rate)
1kHz ACR, Ω (30% SOC, RT)	< 45 mΩ
Pulse Discharge Rate	Up to 37.5A (10C Rate)
Discharge Cut-off Voltage	9V
Discharge Temperature Range	-10 °C to 45 °C

*Electric protection circuits within battery packs may limit the maximum charge/discharge current available. Contact SES.

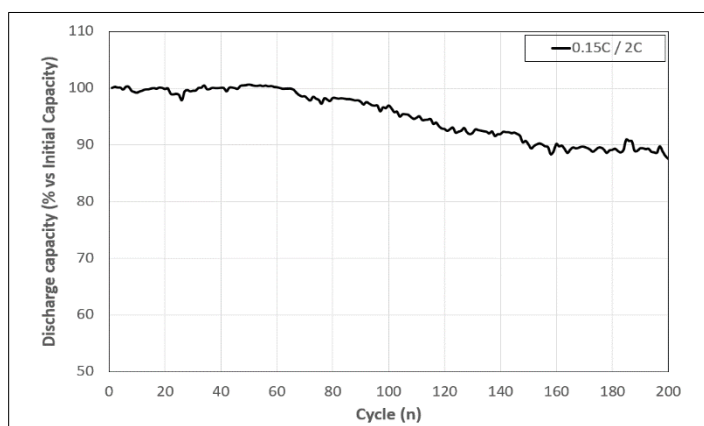
Performance Characteristics

Cycle Life Characteristics

Charge: CC-CV 0.15C 12.75V, 0.05C cut-off at 25 °C

Discharge: CC 2C, 9V cut-off at 25 °C

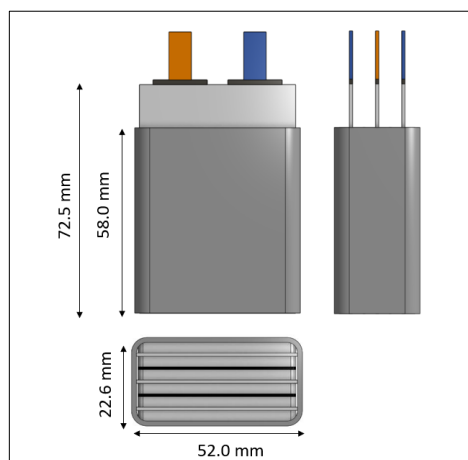
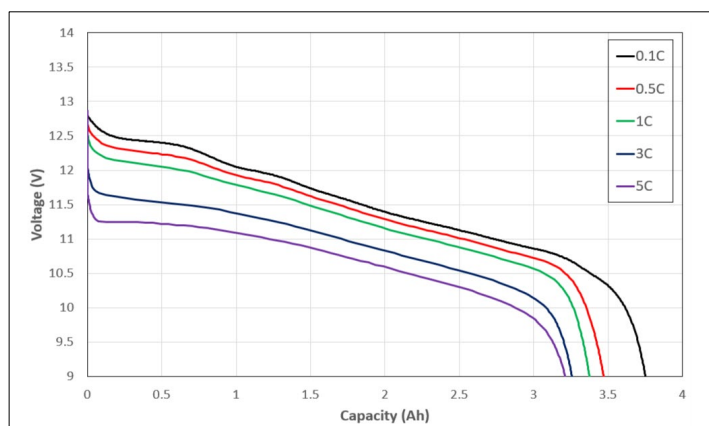
*Keep cell/ pack at $T \leq 45\text{ °C}$, full-charged cells $\Delta V < 10\text{mV}$



Discharge Rate Characteristics

Charge: CC-CV 0.1C 12.75V, 0.05C cut-off at 25 °C

Discharge: CC 0.1C/ 0.5C/ 1C/ 3C/ 5C, 9V cut-off at 25 °C



Use dimensions for reference only.
For your cell/battery needs please
contact SES's application
engineers.

Discharge Characteristics at 25°C	0.1C	0.5C	1C	3C	5C
Capacity, Ah	3.75	3.47	3.38	3.28	3.24
Capacity Retention, %	100	93	90	87	86
Energy, Wh	43.1	39.6	38.2	35.9	34.6

Technology

Ultra-thin lithium metal anode

Proprietary ultra-light anode current collector

High Ni content NMC cathode

Ceramic-filled separator

Solvent-in-salt electrolyte

High-strength, lightweight pack material

Storage and Handling

- Store in a dry place at room temperature (preferably $<30\text{°C}$)
- Do not disassemble or incinerate
- Do not short terminals
- For long-term storage, keep the cell within a 30% state of charge