



Product Data Sheet

Li-ion Rechargeable Battery ABS L 8s84p 28V 126Ah

The 8s84p 126Ah battery was originally qualified for NASA's Lunar Reconnaissance Orbiter (LRO). Since qualification, the design has been utilized for a variety of civilian applications. The battery does not require cell balancing electronics and can be provided with or without switching relays.

Switching relays internal to the battery are an added safety feature that can be utilized leading up to launch without the added mass of an additional box.

Multiple flight batteries have been built and delivered.

Facts at a Glance

ABS L™ Cell	18650HCM
Configuration	8s84p
Nameplate Capacity	126 Ah
Energy	3628.8 Wh
Mass	41 kg*
Footprint	676 x 306 mm
Height	168 mm
Nominal Voltage	28V
Voltage Range	20 - 33.6V

*Mass with switching relays

**Celebrating customer success with over 2.5 billion cell hours of in-orbit heritage
using ABS L Li-ion cell technology**



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Qualification and Flight History

Temperature

Non-Operating	Operating
-20°C to 60°C	Discharge: 0°C to 40°C
	Charge: 0°C to 40°C

Shock

Frequency (Hz)	PF SRS Level Test Q = 10
100	60 g
500	350 g
1,000	900 g
5,000	8,000 g
8,000	8,500 g
10,000	6,000 g

Pulse Test

Rate (A)	Time
80 A	15 min

Cell Level Radiation Exposure

Dosage	Effects
< 1Mrad	Negligible
Up to 18Mrad	~5% of Capacity

Random Vibration

Frequency (Hz)	Qualification*
20	0.010 g ² /Hz
50 - 800	0.033 g ² /Hz
2000	0.010 g ² /Hz
Overall G _{RMS}	6.84 G _{RMS}
Duration	2 min/axis

*Notching utilized within profile

Sine Burst/Sweep

Frequency (Hz)	Acceleration Level
80 A	15 min
5 - 70 Hz	8.0 g @ 2 octaves/min

Notable Missions

Mission	Customer	Launch Date
LRO	NASA GSFC	June 2009
GPM	NASA GSFC	February 2014
JPSS-1	Ball Aerospace	September 2017

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