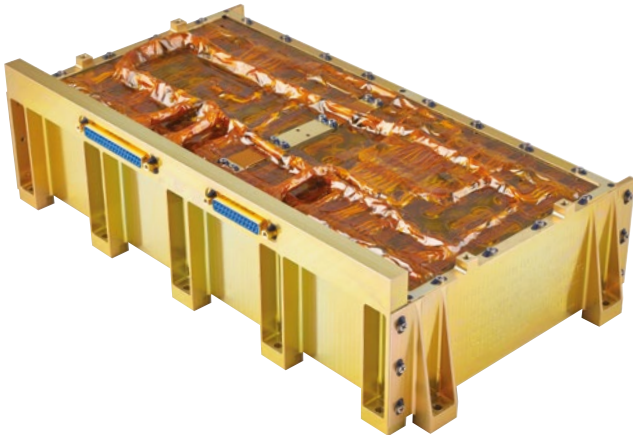


Product Data Sheet

Li-ion Rechargeable Battery ABS L 8s16p 28V 24Ah



Facts at a Glance

ABS L™ Cell	18650HCM
Configuration	8s16p
Nameplate Capacity	24 Ah
Energy	691 Wh
Mass	6.8 kg
Footprint	358 x 198 mm
Height	98 mm
Nominal Voltage	28V
Voltage Range	20 - 33.6V

The 8s16p 24Ah battery was originally qualified for the NASA Goddard Space Flight Center. Since qualification, the design has been utilized for a variety of applications including civilian, military and other commercial applications. This battery does not require cell balancing electronics and is currently operating in both LEO and GEO orbits.

More than 60 flight batteries have been built and delivered.

**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: -5°C to 40°C
	Charge: -5°C to 40°C

Shock

Frequency (Hz)	PF SRS Level Test Q = 10
100	47 g
1,250	1,907 g
10,000	1,907 g

High Level Sine

Frequency (Hz)	Acceleration Level
5 to 10.4	1" Displacement
10.5 - 100	11.1 g

Cell Level Radiation Exposure

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

Random Vibration

Frequency (Hz)	Perpendicular**	Parallel**
20	0.011 g ² /Hz	0.011 g ² /Hz
20 - 80	+5.8 dB/Oct	+4.3 dB/Oct
80 - 450	0.16 g ² /Hz	0.08 g ² /Hz
450 - 2000	-6.25 dB/Oct	-6 dB/Oct
2000	0.0072 g ² /Hz	0.0072 g ² /Hz
Overall G _{RMS}	10.8 G _{RMS}	8.2 G _{RMS}
Duration	1 min/axis	1 min/axis

*In respect to mounting plane

**Notching utilized within profile

Notable Missions

Mission	Customer	Launch Date
NASA JPL KEPLER	Ball Aerospace	March 2009
NASA LCROSS	Northrop Grumman	June 2009
NuSTAR	Orbital Sciences Corporation	June 2012
LADEE	NASA Ames Research Center	September 2013
TESS	Orbital ATK	April 2018

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