Product Data Sheet

Li-Ion Rechargeable Battery
ABSL 8s3p 28V 4.5Ah

The 8s3p 4.5Ah battery was originally built for use in the Korean Space Launch Vehicle (KSLV). Since the original design, the battery has also been qualified for use in spacecraft. Due to the size of the battery, it has shown to be popular in the small satellite market.

The original design has a number of variants, some of which have been qualified for manned space flight to be used as part of the Commercial Crew Transportation System. The battery does not require cell balancing electronics.

Over 15 flight batteries have been built and delivered.

Facts at a Glance

ABSL™ Cell	18650HCM
Configuration	8s3p
Nameplate Capacity	4.5 Ah
Energy	129.6 Wh
Mass	1.6 kg
Footprint	176 x 96 mm
Height	98 mm
Nominal Voltage	28V
Voltage Range	20 – 33.6V

Celebrating customer success with over 1.5 billion cell hours of in-orbit heritage using ABSL 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	10g
500	40g
2,500	150g
4,000	465g
8,000	465g

Note: Via Similarity

Cell Level Radiation Exposure

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

Random Vibration

Frequency (Hz)	Qualification*
20	0.02 g^2/Hz
30	0.10 g^2/Hz
40	0.10 g^2/Hz
50	0.90 g^2/Hz
60	0.90 g^2/Hz
80	0.08 g^2/Hz
500	0.08 g^2/Hz
2000	0.02 g^2/Hz
Overall G_{RMS}	11.26 G_{RMS}
Duration	1 min/axis

*Notching utilized within profile

Notable Missions

Mission	Customer	Launch Date
KSLV-1 Launcher	KARI	August 2009 June 2010 January 2013
CYGNSS	Southwest Research Institute	December 2013
Oculus-ASR	Michigan Tech University	Planned 2017/2018 Launch

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EnerSys®
Power/Full Solutions

EnerSys World Headquarters
2366 Bernville Road
Reading, PA 19605, USA
Tel: +1-610-208-1991 /
+1-800-538-3627

ABSL US Office
1751 S. Fordham Street,
Suite 100
Longmont CO 80503
Tel: 303-848-8081

ABSL UK Office
Building F4, Culham Science Centre
Abingdon, England OX14 3ED
Tel: +1-44-1865-408-710 /
+1-44-7968-707-561