



Product Data Sheet

Li-ion Rechargeable Battery ABSLS 8s3p 28V 8.4Ah

ABSLS 8s3p battery was originally designed and built for use in the Korean Space Launch Vehicle (KSLV). Since then, the battery has been qualified for use and flown in numerous spacecraft. The 8s3p 8.4 Ah battery is the newest variant of ABSLS signature small battery design. The small physical envelope of this battery makes it ideal for the small satellite market.

More than 100 flight 8s3p batteries have been built and delivered.

This battery does not require cell balancing electronics.

Facts at a Glance

| | |
|--|-------------|
| ABSLS™ Cell | 18650 I28 |
| Configuration | 8s3p |
| Nameplate Capacity | 8.4 Ah |
| Nameplate Energy | 248.6 Wh |
| Nominal Discharge Current (continuous) | 8.4 A |
| Nominal Mass | 1.66 kg |
| Footprint | 176 x 96 mm |
| Height | 98 mm |
| Nominal Voltage | 29V |
| Voltage Range | 24 - 33.6V |

Leading the industry without failure for over 20 years of continuous in-orbit heritage using ABSLS Li-ion battery technology

Qualification

Temperature

| Non-Operating | Operating |
|---------------|------------------------|
| -10°C to 55°C | Discharge: 0°C to 45°C |
| | Charge: 0°C to 45°C |

Shock

| Frequency (Hz) | PF SRS Level Test $Q = 10$ |
|----------------|-------------------------------|
| 100 | 100g |
| 1,000 | 3,000g |
| 10,000 | 3,000g |

Note: via similarity

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 | June 2019 |

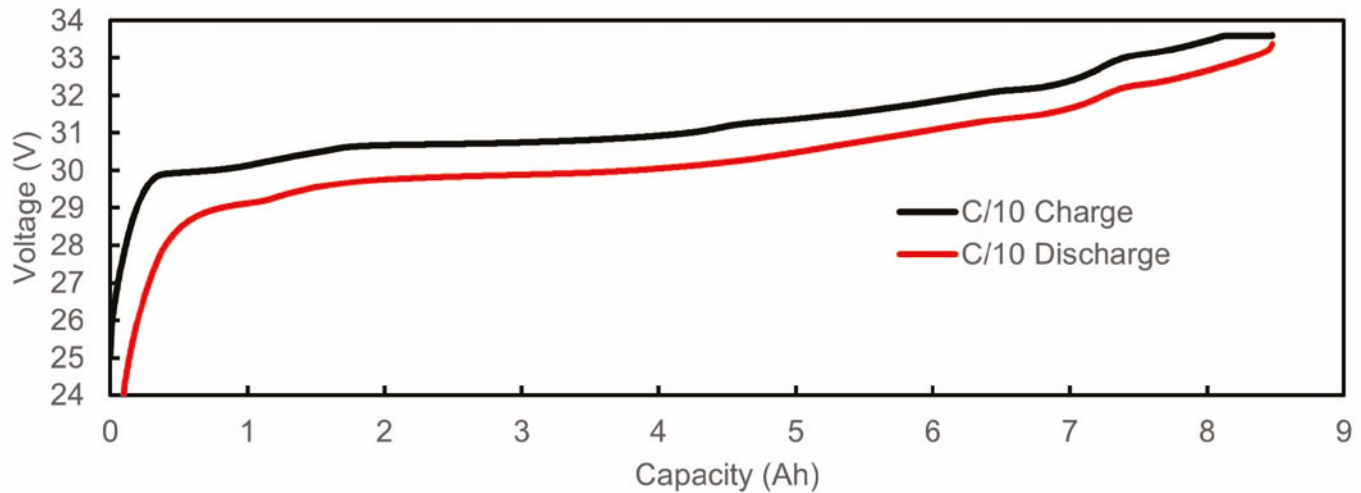
Cell Level Radiation Exposure

| Dosage | Effects |
|--------------|-------------------|
| < 1Mrad | Negligible |
| Up to 18Mrad | <1% capacity loss |

Random Vibration

| Frequency (Hz) | ASD (g^2/Hz) |
|-------------------|------------------|
| 20 | 0.024 |
| 80 | 0.300 |
| 250 | 0.300 |
| 300 | 0.220 |
| 700 | 0.220 |
| 2,000 | 0.032 |
| Overall G_{RMS} | 16.4 |
| Duration | 1 min/axis |

20°C Charge and Discharge Voltage Profiles



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