BAT-6

Integrated 3 to 6 cell Li-Ion Battery System

For Micro- and Nano-Satellites

Features

- 3, 4, 5, or 6 Li-Ion 18650 cells
- Automatic Cell balancing
- Short-circuit protection
- Over- and under-voltage protection
- Always-on ultra-low-power Real Time Clock
- Microcontroller for housekeeping and control
- CAN bus with CSP protocol
- Heater with automatic control
- High-reliability Micro-D connectors
- 2 Battery Bus connectors
- 2 inhibit connectors for either insert-before-flight or separation switches:
    - High-side and low-side raw battery
    - High-side and low-side MOSFET with external control lines
- Reliability
    - Radiation total dose tested EEE parts
    - Vibration rated for all launch vehicles
    - Redundant inhibit MOSFETs
- High-quality Enclosure
    - Min. 1.5 mm Al Shielding in all directions
    - PC-104 compatible mounting holes

Description

The BAT-6 is a 3 to 6 cell Lithium-Ion battery system designed for battery life-time, easy integration, and safety. With a total of 8 different battery configurations and up to 59 Wh capacity, the BAT-6 is both flexible enough and sufficiently powerful for most nano- and small-satellite missions.

The automatic balancing circuit maximizes battery lifetime, and the automatic heater ensures optimal operational battery environment at all times. Short-circuit and over/under voltage detection circuits protects the batteries from damage. To accommodate different launch vehicle requirements, each module has connectors for both soft and hard inhibits.

The BAT-6 comes in a rugged and modular 1.5 mm Al enclosure, which both acts as on-orbit radiation mitigation as well as a practical short-circuit protection during satellite assembly.

An always-on ultra-low-power Real Time Clock provides timer-continuity during satellite shutdown.