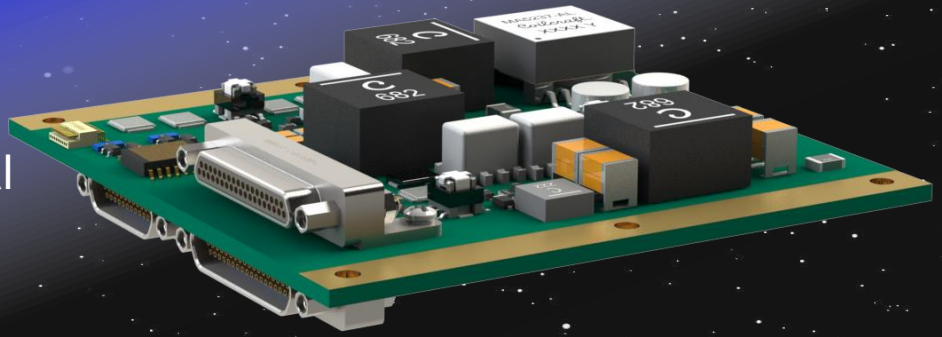




150W CubeSat Electrical Power System (EPS)

FACT SHEET



OVERVIEW

Cubic Aerospace's 150W CubeSat Electric Power Subsystem (EPS) is a radiation tolerant, flexible peak power tracking solution capable of efficient solar array power conversion and battery charging. The EPS card provides regulated power at +3.3V, +5.0V, and +12.0V, as well as unregulated battery power through switchable and un-switched, current-limited outputs. The system accepts commands and provides telemetry via an I²C interface. The EPS includes under/over-voltage, over-current, and over-temperature protection in addition to both an internal, EPS watchdog and external, configurable C&DH watchdog timer.

FEATURES

Power Generation

- 150W maximum input power (18-40V)
- Solar array peak power tracking

Charging

- 16.8V max charge voltage
- 5A max charge current
- Supports external battery charging

Outputs

- +5.0V regulated bus (5A)
- +3.3V regulated bus (3A)
- +12.0V regulated bus (3A)
- Unregulated battery bus (20A)
- 8x switched outputs
- 4x un-switched outputs

C&DH

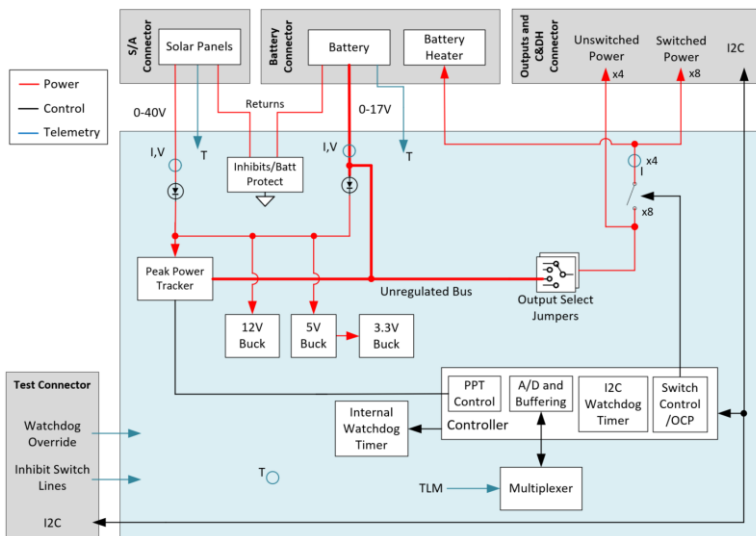
- I²C @ 400kbps
- System configuration, telemetry, and output control

Built-In Protection

- Under/Over-voltage
- Over-current
- Over-temperature
- Watchdog timer
- Output latching current limiters

INQUIRIES

Abigail Davidson
ahd@cubicaerospace.com



SPECIFICATIONS

Overall Dimensions	93 x 93 x 21	mm
Mass	150	g
S/A Conversion Efficiency ₁	> 94	%
5V Output Conversion Efficiency ₁	> 92	%
12V Output Conversion Efficiency ₁	> 94	%
3.3V Output Conversion Efficiency ₁	> 87	%
Quiescent Power Consumption	< 2	W
Operating Temperature	-40 to +105	°C
Single Event Effects	Operate through: LET > 37 Survive: LET > 55	MeV-cm ² /mg
Total Ionizing Dose	30	kRad (Si)

1. Typical Efficiency at >50% load