

ECLIPSE 500

MODULAR POWER SUPPLY

Modular power for lunar surface and beyond

L3Harris' ECLIPSE 500 delivers 500 watts per 3U module and is capable of surviving the harsh environment of the lunar surface. Each module can be **paralleled to provide kilowatts** of output power and offers interchangeability and field replaceability.

The L3Harris ECLIPSE 500 modular power supply is designed to meet the economic and time-sensitive demands of the "new space" commercial sector while ensuring durability and performance for extended deep space ventures and human-rated missions. Each module delivers 500 watts in a vacuum, adhering to component derating standards. Multiple modules can be combined to provide kilowatts of power, making them versatile for a range of applications. The systems' scalability allows users to parallel multiple modules without using a Share Bus.

The modular format and field replaceability of the ECLIPSE 500 enhance its practicality. Packaged in a 3U VPX form factor, these plug-in modules are interchangeable and can be field-replaced, particularly benefiting applications like space stations and crewed missions by eliminating the need for whole PCDU replacements, thus saving costs and reducing mass.

Compatible with the increasingly popular 120-volt bus, the ECLIPSE 500 offers reduced input current and cable harness mass. These modules achieve over 90% efficiency using GaN FETs and synchronous rectification, making them both powerful and efficient. They feature a MIL-STD-461G EMI filter and offer various

part grades to meet different radiation and screening needs, from high assurance NASA standards to cost-effective automotive-grade components.

PART GRADE SELECTABILITY

- > **NASA Grade/Level 1:** Highest assurance class with no changes to board or mechanical package
- > **NASA Grade/Level 2:** Standard configuration using rad/SEE-hard parts (100 krad, 75 MeV)
- > **Level 2 ICs with Automotive Parts:** Minimizes cost and lead time while maintaining form/fit/function of Level 1 and Level 2 designs
- > **Automotive Qualified Parts Only:** Lowest cost and fastest lead time, form/fit/function compatible with Level 1 and Level 2 designs

RADIATION & SINGLE EVENT EFFECTS (SEE) HARDNESS SELECTABILITY

- > **Rad/SEE-hard:** 100 krad, 75 MeV. Standard configuration
- > **Rad/SEE-tolerant:** 30 krad, 43 MeV. Reduced cost and lead time
- > **No radiation requirement:** Lowest cost, fastest lead time option



FEATURES

- > Module parallelizability to create multiple kilowatts of output power
- > >90% efficiency
- > 3U VPX form factor modules for interchangeability
- > Standard input voltage of 120 V, with configurability
- > Standard output voltage of 28 V, with configurability
- > Individual field replaceability
- > MIL-STD-461G EMI/EMC compliance
- > Shock and vibration tolerance

APPLICATIONS AND ENVIRONMENTS

- > Bus voltage conversion
- > Isolation of power buses
- > Power conditioning and distribution units
- > Deep space missions requiring maximum reliability and radiation hardness
- > Launch vehicle power systems requiring high reliability, but reduced radiation hardness
- > The ECLIPSE 500 is designed to tolerate radiation and thermal cycles required by satellite orbits
- > Lunar and Martian environments
- > Satellite power systems

Notes: Product currently in development. Specifications are estimates and subject to change. Additional Eclipse 500 product configurations and custom requests available upon inquiry. Export classifications may vary.

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