

Product Specification

500W DC-DC step-up converter

Key Product Features

- High efficiency, 97% at full load
- Parallel operating for higher power
- Ruggedized and reliable
- Fully sealed
- 10-20V input voltage range
- Epoxy resin sealing, IP67
- Operating temperature -40° to 70°C

Applications

- Automotive/RV/military
- Marine and other rugged environments
- Mobile communication (TV and radio vans)
- Base-station power
- Industrial controls
- Emergency backup power
- Solar and alternative power systems

DPCD500 Series

500W DC-DC Step-Up Converter



Description

The DPCD500 500W DC-DC converter has a wide-range DC input voltage, from 10 to 20 volts, making it ideal for vehicle mounted systems, tactical and non-tactical, fixed and mobile communications and security systems.

The DPCD500 low-profile units have an ultra-high efficiency of typically 96% at full load and can operate over an ambient temperature range of -40° to 70°C. They are small-sized, high stability, long life and have a high degree of protection, making them an ideal choice for step-up, non-isolated converters for vehicle systems.

Fully sealed encapsulation, IP67 protection class, withstand exposure to harsh environments. Guaranteed operation in complex environments with high reliability.

Designed to enable equipment for use with 24V/28VDC military vehicle electrical systems to be deployed on platforms with a nominal 12VDC electrical system.

The DPCD500 delivers a steady, regulated 24/28VDC output at 500W designed to enable equipment for use with military vehicle electrical systems to be deployed on platforms with a nominal 12VDC electrical system meet MIL-STD 1275D requirements.

The power module has a built-in thermal sensing device including thermal shutdown and automatic recovery, reverse input protection, over-temperature shut down, current limit protection, short circuit protection, input under-voltage shut down and overvoltage protection. It is possible to connect several units in parallel to achieve higher power.

Electrical Specifications

Input

Input Voltage (DC)	10 to 20VDC
Max. Input Current	54A
Min. Input Voltage	9.8V
Max. Input Noise	<50mV

Output

Output Voltage (Nominal) *	24VDC
Max. Output Current Output	20A
Ripple Noise	<50mV
Line & Load Regulation	±0.5%
Frequency	100KHz
Efficiency	96% typical

Protection

Overload/Short Circuit	Auto Recovery
Over Voltage	130% Latch Shut Down
Over Temperature	Shut Down, Auto Recovery
Under Voltage	9.8±0.2V Shut Down
Reverse Polarity	Not Function
Input Protection	Up to 100V

Environment

Operation Temperature	-40 to 70°C
Storage	-40 to 85°C
Cooling	Free Convection-Base Plate
Humidity	Up to 95% RH Non-Condensing
Shock	Peak Acceleration 20GPK max
Vibration	Random Vibration, 10Hz to 1KHz, 3 axis 1.9grms max
Altitude	Operating 10,000 ft. Non-Operating 40,000 ft.
Surge Protection	Meets MIL-STD-1275A

* Other output voltages can be customized

Safety Regulatory & EMC Specification

	FCC PART 15 CLASS A, CISPR 22 CLASS 1, EN55022 CLASS A
EN6000-4-2	ESD +8KV AIR + 4KV contact discharge, performance criteria B
EN61000-4-3	Radiated Immunity: 80-1000 MHz 3V/m, AM 80% (1KHz), criteria A
EN61000-4-4	Fast Transient: 0.5 on DC power port, performance criteria B
EN61000-4-5	Surge: 1KV line to Ground and 0.5KV line to line
EN61000-4-6	3VRMS, 80% A.M. BY 1kHz
EN61000-4-8	3A /m at 50Hz, performance criteria A

Mechanical Dimensions

Size (L,H,D)	149 x 27 x 119mm (5.87" x 1.06" x 4.69")
Weight	750g, 1.65lb
IP rated	IP 67

Outline Drawing

