

HIGH RELIABILITY RADIATION HARDENED MULTI OUTPUT DC-DC CONVERTER

WITH HIGH-POWER PULSED LOAD CAPABILITY

DESCRIPTION

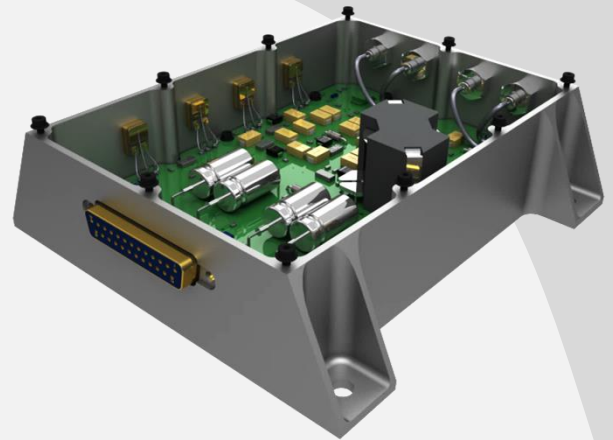
The actual isolated DC-DC converter is a low to medium power radiation hardened device of high reliability designed for hostile radiation environments, such as those encountered by LEO satellites.

All components are fully derated to meet the requirements of EEE-INST-002 (NASA) and ECSS-Q-ST-30-11 (ESA).

The DC/DC converter has four positive outputs (more outputs could be added, or replaced by negative outputs). Each one is independently regulated via linear post regulators. The outputs are sequenced during turn-on and turn-off, so that the main output is available only after the other outputs have been established and goes off before the other outputs have decreased. The converter incorporates a fixed frequency power converter and internal EMI filter that meet the requirements of most major satellite power buses. The converter includes input under voltage shut-down functionality.

Due to the linear post regulation of the outputs, the converter is well suited for RF-applications where low noise, high output voltage accuracy and high CS attenuation is required. In addition, the converter can feed high-power pulsed loads, as radar RF power stages with excellent output voltage ripple.

The board outline is LxWxH: 144 mm x 134 mm x 41 mm.



FEATURES

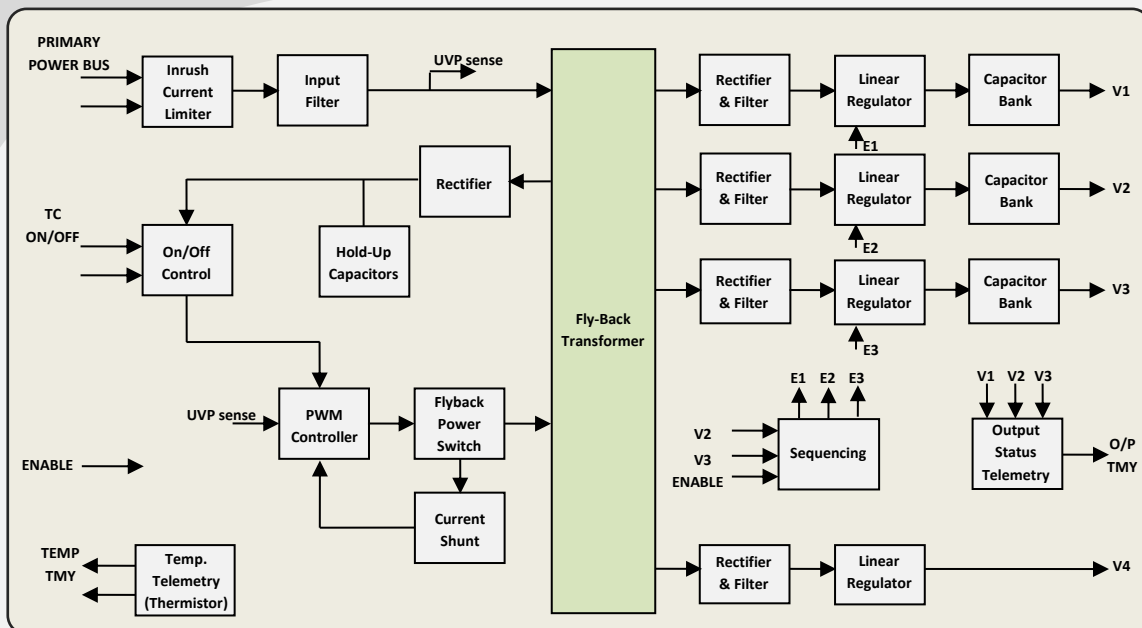
- Total dose > 100 krad (Si).
- SEE > 75 MeV cm²/mg.
- DC Input range can be accommodated for standard buses of +28V and +50V.
- O/P 1: +36V (up to 1200mA).
- O/P 2: +5V (up to 1000mA).
- O/P 3: +12V (up to 100mA).
- O/P 4: +5V (up to 1000mA).
- Output ripple < 1mVrms (100Hz – 50MHz).
- 10MΩ @ 100VDC isolation.
- Input under-voltage protection.
- Meets conducted emissions requirements per MIL-STD-461.
- Short circuit and overload protection.
- Meets derating requirements of EEE-INST-002 and ECSS-Q-ST-30-11.
- Isolated enable with sequenced outputs.
- Isolated On/Off control (optional).
- Sync Input (optional).
- On/Off status telemetry (optional).
- Output status telemetry, bilevel (optional).
- Temperature telemetry (thermistor).
- Workmanship per IPC-A610.

APPLICATIONS

- Low to Medium Power RF Systems (like Receivers, Beacons, Up and Down Frequency Converters and TR Modules).
- Satellite Platform General Equipment.
- Airborne Equipment.



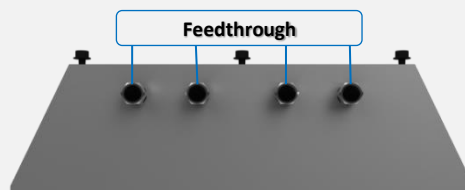
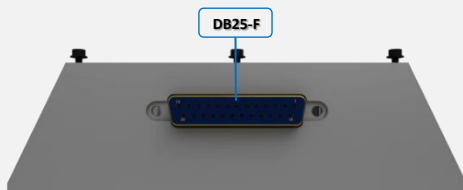
ELECTRICAL PERFORMANCE CHARACTERISTICS



SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS		RECOMMENDED OPERATING CONDITIONS	
Input voltage range	40V	Input voltage range	+Min rated to +Max rated
Output power	30W, 50W, 100W	Output power	0 to Max. Rated
Operating mounting point temperature	-55°C to +100°C	Operating mounting point temperature	-40°C to +75°C
Storage temperature	-55°C to +125°C	Cold start temperature	-55°C

CONNECTORS



MECHANICAL OUTLINE

