

POWER MOSFETS

FEATURES

- Extremely Low RDS(On)
- Super High Density Cell Design
- Exceptional On-Resistance
- Maximum DC Current Capability
- Faster Switching Speeds
- Designed for TID, DD and SEU
- Full Military Temperature Range (-55°C to +125°C)

APPLICATIONS

- Space Equipment & Systems
- Military & High-Reliability Systems
- Medical Instruments
- Power Supply
- Solar Inverters
- High Power DC-DC Converters

Radiation-Hard Power MOSFETs Suitable for Space-Grade DC-DC Converter Applications



ISOCOM's extensive range of radiation-hard power MOSFETs are available in various circuit configurations and package styles, offered in both N-Channel and P-Channel. In 2019, they introduced their first combined dual channel MOSFET based on the proprietary N-Channel and P-Channel SR technology – ISMD06CL0-1.

The harsh environments encountered in space applications are especially hostile towards electronics. Power switches, laser drivers, hybrid circuits and DC-DC converters in space systems are all examples of integrated circuit technology which are vulnerable to severe conditions.

Using DMOS technology, ISOCOM have challenged this with their power MOSFET devices, ranging between 30V – 800V, which are specifically designed to improve the overall efficiency of DC-DC Converters. This can be done using either synchronous or conventional switching PWM controllers.

Extremely low $R_{DS(On)}$ (as low as 5.5m Ω), Exceptionally low on-state resistance and fast switching speeds make these components a suitable alternative to traditional devices.

MOSFETs are offered in a variety of package styles including TO, UB, SMD and LCC. Additionally, both SMD and LCC low profile packages have a lightweight and compact design, helping to reduce board space and weight.

ISOCOM MOSFETs are suitable for radiation testing including total ionisation and displacement damage to ensure full radiation-hardness.

The MOSFETs are optimised for use in "Class K" modules for LEO, MEO and GEO satellite applications, as well as other deep spacecraft such as launch vehicles and planetary rovers.

UK manufacturer, ISOCOM Limited, design, manufacture and test their power MOSFETs devices in their 18,000 sq ft clean room facility based in Peterlee, County Durham. Parts are screened in accordance with MIL-PRF-38534 and MIL-PRF-19500 to ensure consistent operation when used in high-reliability applications.

ISOCOM Limited are well-known for their niche electronic product range and innovative technological advancements in the development of optocouplers. ISOCOM produced Europe's very first 4-pin hermetic ceramic optocoupler, CSM100, suitable for high-reliability.

ISOCOM will continue to invest in their research, development and testing capabilities to keep expanding their electronic product range.