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300-V Rad-Hard GaN FET Supports Higher-Voltage Satellite Power Buses

EPC Space's EPC7030MSH is a radiation-hardened 300-V GaN FET that is said to deliver unmatched performance for high-voltage, high-power space applications, including next-generation satellite power plants and electric propulsion systems. As satellite platforms require higher voltage buses to support growing power demands and advanced solar array technologies, the EPC7030MSH addresses a critical need for efficient, compact, and robust front-end power conversion.

With the lowest $R_{DS(ON)}$ and gate charge in its class, according to the company, the EPC7030MSH is said to offer the highest power current rating among all 300-V rad-hard GaN FETs currently on the market. This makes it well suited for front-end dc-dc converters that must operate under stringent thermal and radiation constraints. The device is compatible with existing GaN gate drivers.

Housed in an FSMD-M hermetic surface-mount package optimized for conduction cooling and increased creepage distance, the EPC7030MSH is rated for 300-V operation at a LET of 63 MeV, and 250 V at a LET of 84.6 MeV (see the figure).

"The EPC7030MSH 300V RH GaN FET delivers high current and rad-hard reliability, meeting the rigorous demands of higher-voltage space power architectures and simplifying thermal design for our customers," said Bel Lazar, CEO of EPC Space.

For 500-unit quantities, engineering models are priced at $236 U.S., and rad-hard space-qualified models are priced at $349 U.S. For more details, see the EPC7030MSH page.

Figure. The EPC7030MSH is a 300-V, 35-mΩ rad-hard eGaN FET in a surface-mount FSMD-M hermetic package.