

Rad Hard GaN Power Transistors Span 40 V To 300 V

[EPC Space's](#) family of rad hard enhancement-mode power transistors span a range of 40 V to 300 V, and 4 A to 30 A. According to the company, these power transistors demonstrate significant performance advantages over competitive silicon-based rad hard power MOSFETs. EPC Space technology produces devices that are smaller, have lower resistance, and have many times superior switching performance compared to silicon solutions.

Critical spaceborne applications that benefit from this newly available performance include power supplies for satellites and mission equipment, light detection and ranging (lidar) for robotics and autonomous navigation and rendezvous docking, motor drives for robotics and instrumentation, and ion thrusters for satellite orientation and positioning as well as interplanetary propulsion of low-mass robotic vehicles.

Beyond the performance improvement, these devices offer superior radiation hardness under heavy ions (SEE) and gamma radiation (TID). SEE immunity is guaranteed at the wafer level and EPC Space devices are manufactured in an AS9100D certified facility in the greater Boston area.

"EPC Space is excited to bring the tremendous performance and reliability of GaN technology to the markets of defense and aerospace," said Bel Lazar, CEO. "We are able to offer designers a superior technology with significant space heritage as thousands of our rad hard GaN devices have been in orbit since January of 2019."

For more information, see the [website](#).

Table. Key specifications for EPC' Space's rad hard GaN packaged discretes.

Part Number	Voltage (V)	I _D (A)	Max R _{DS(ON)} (mΩ)	Max Q _G (nC)	Package size (mm)
FBG04N08A	40	8	24	2.8	3.4 x 3.4
FBG04N30B	40	30	6	11.4	5.7 x 3.9
FBG10N30B	100	30	9	11	5.7 x 3.9
FBG10N05A	100	5	38	2.2	3.4 x 3.4
FBG20N04A	200	4	102	3	3.4 x 3.4
FBG20N18B	200	18	26	6	5.7 x 3.9
FBG30N04C	300	4	404	2.6	4.4 x 4.4