

650-V SiC Schottky Diodes Feature Low Built-In Voltage For High Efficiency

[GeneSiC Semiconductor's](#) fifth-generation GE*** series SiC Schottky MPS rectifiers are said to offer a superior price-performance index, industry-leading surge current and avalanche robustness, and high-quality manufacturing. These 650-V SiC Schottkys are available with current ratings ranging from 4 to 12 A in TO-252 and TO-220 packages (see the figure). In addition to these single-diode devices, the series includes dual, common-cathode models rated at 8 A and 10 A in TO-247 packages. The table below lists the various models with links to the datasheets.

According to the vendors, the GE*** series' low built-in voltage enables lowest conduction losses across all load conditions. These devices are 100% Avalanche (UIL) Tested and feature low thermal resistance, zero forward and reverse recovery, temperature independent fast switching and a positive temperature coefficient of V_F .

"After more than a decade of supplying high-performance and high-quality SiC rectifiers in the industry, we are excited to release our 5th generation of SiC Schottky MPS (Merged-PiN-Schottky) diodes that offer industry-leading performance in all aspects to meet the high efficiency and power density goals in applications like server/telecom power supplies and battery chargers," said Siddarth Sundaresan, VP of technology at GeneSiC Semiconductor. For datasheet and other resources, see the "SiC Schottky MPS" [page](#) or the datasheets linked to in the table.

Table. Models in the GE*** series of 650-V Gen5 SiC Schottky MPS rectifiers.

Model	Continuous forward current rating (A)	Package
GE04MPS06E	4	TO-252-2
GE06MPS06E	6	
GE08MPS06E	8	
GE10MPS06E	10	
GE04MPS06A	4	TO-220-2
GE06MPS06A	6	
GE08MPS06A	8	
GE10MPS06A	10	
GE12MPS06A	12	
GE2X8MPS06D	2x8	TO-247-3
GE2X10MPS06D	2x10	

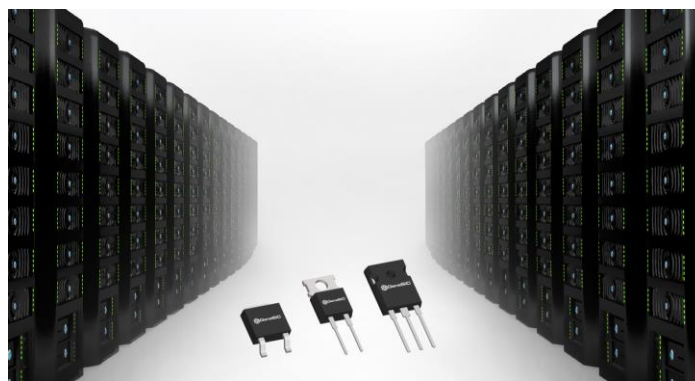


Figure. "The revolutionary feature that makes our 5th Generation (GE*** series) SiC Schottky MPS diodes stand out among its peers is the low built-in voltage (also known as knee-voltage); it enables lowest diode conduction losses at all load conditions—crucial for applications demanding high-efficiency energy usage. In contrast to other competitor SiC diodes also designed to offer low-knee characteristics, an additional feature of our Gen5 diode designs is that they still maintain that the high level of avalanche (UIL) ruggedness that our customers have come to expect from GeneSiC's Gen3 and Gen4 SiC Schottky MPS," said Siddarth Sundaresan, VP of technology at GeneSiC Semiconductor.