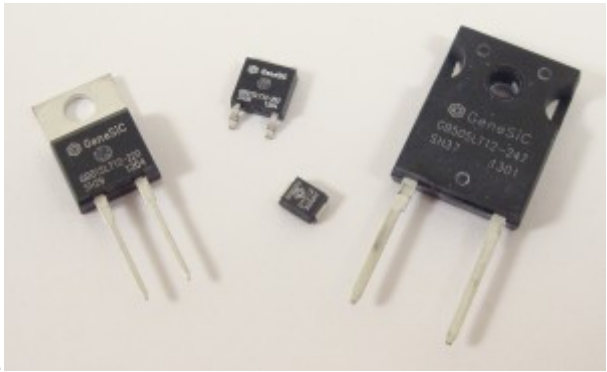
SiC Schottky Diodes in SMB (DO-214) packages offer smallest footprints

High Voltage, Reverse Recovery-free SiC Schottky Diodes to critically enable Solar Inverters and High Voltage assemblies by offering smallest form factor surface mount capabilities

Dulles, Virginia., Nov 19, 2013 — GeneSiC Semiconductor, a pioneer and global supplier of a broad range of Silicon Carbide (SiC) power semiconductors today announces the immediate availability of a family of Industry-standard SMB (JEDEC DO-214AA) packaged SiC Rectifiers in the 650 – 3300 V range. Incorporating these high voltage, reverse recovery-free, high frequency and high-temperature capable SiC Diodes will increase conversion efficiency and reduce the size/weight/volume of multi-kV assemblies. These products are targeted towards Micro-solar inverters as well as voltage multiplier circuits used in a wide range of X-Ray, Laser and particle generator power supplies.



(http://www.genesicsemi.com/commercial-sic/sic-schottky-rectifiers/)

Contemporary Micro-solar inverters and voltage multiplier circuits may suffer from low circuit efficiencies and large sizes because the reverse recovery currents from Silicon rectifiers. At higher rectifier junction temperatures, this situation becomes worse because the reverse recovery current in Silicon rectifiers increases with temperature. With thermally constraints high voltage assemblies, junction temperatures rise quite easily even when modest currents are passed. High Voltage SiC rectifiers offer unique characteristics that promises to revolutionize the micro-solar inverters and high voltage assemblies. GeneSiC's

650 V/1 A; 1200 V/2 A and 3300 V/0.3 A Schottky rectifiers feature zero reverse recovery current that does not change with temperature. The 3300 V-rated devices offer relatively high voltage in a single device allows a reduction in voltage multiplication stages required in typical high voltage generator circuits, through use of higher AC input voltages. The near-ideal switching characteristics allow the elimination/dramatic reduction of voltage balancing networks and snubber circuits. The SMB (DO-214AA) overmolded package features industry-standard form factor for surface mount assemblies.

“These product offerings come from years of sustained development efforts at GeneSiC towards offering compelling devices and packages. We believe the SMB form factor is a key differentiator for the Micro Solar Inverter and Voltage Multiplier market, and will allow significant benefits to our customers. GeneSiC’s low VF, low capacitance SiC Schottky Rectifiers and improved SMB packages enables this breakthrough product” said Dr. Ranbir Singh, President of GeneSiC Semiconductor.

1200 V/2 A SMB SiC Schottky Diode (GB02SLT12-214) Technical Highlights

- Typical VF = 1.5 V
- T_{jmax} = 175^{O}C
- Reverse Recover Charge = 14 nC.

3300 V/0.3 A SMB SiC Schottky Diode (GAP3SLT33-214) Technical Highlights

- Typical VF = 1.7 V
- T_{jmax} = 175^{O}C
- Reverse Recover Charge = 52 nC.

650 V/1 A SMB SiC Schottky Diode (GB01SLT06-214) Technical Highlights

- Typical VF = 1.5 V
- T_{jmax} = 175^{O}C
- Reverse Recover Charge = 7 nC.

All devices are 100% tested to full voltage/current ratings and housed in Halogen-Free, RoHS compliant SMB (DO-214AA) packages. Technical Support and SPICE circuit models are offered. The devices are immediately available from GeneSiC’s Authorized Distributors.

About GeneSiC Semiconductor Inc.

GeneSiC Semiconductor Inc. is a leading innovator in high-temperature, high-power and ultra-high-voltage silicon carbide (SiC) devices, and global supplier of a broad range of power semiconductors. Its portfolio of devices includes SiC-based rectifier, transistor, and thyristor products, as well as Silicon rectifier products. GeneSiC has developed extensive intellectual property and technical knowledge that encompasses the latest advancements in SiC power devices, with products targeted towards alternative energy, automotive, down ole oil drilling, motor control, power supply, transportation, and uninterruptible power supply applications. GeneSiC has obtained numerous research and development contracts from US Government agencies, including the ARPA-E, Department of Energy, Navy, Army, DARPA, DTRA, and the Department of Homeland Security, as well as major government prime contractors. In 2011, the company won the prestigious R&D100 award for commercializing ultra-high voltage SiC Thyristors.

For more information, please visit http://www.genesicsemi.com/index.php/sic-products/schottky

Tags: Junction (http://www.genesicsemi.com/tag/junction/), Rectifier (http://www.genesicsemi.com/tag/rectifier/), Schottky (http://www.genesicsemi.com/tag/schottky/), SiC (http://www.genesicsemi.com/tag/sic/), Silicon Carbide (http://www.genesicsemi.com/tag/silicon-carbide/), Solar (http://www.genesicsemi.com/tag/solar/), Transistor (http://www.genesicsemi.com/tag/transistor/)