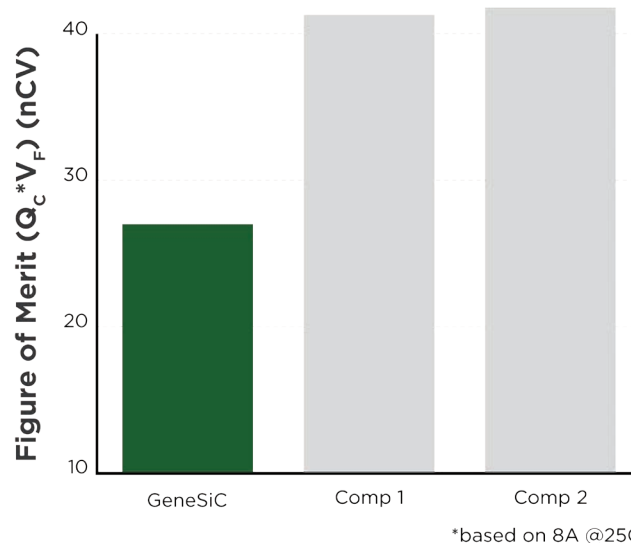
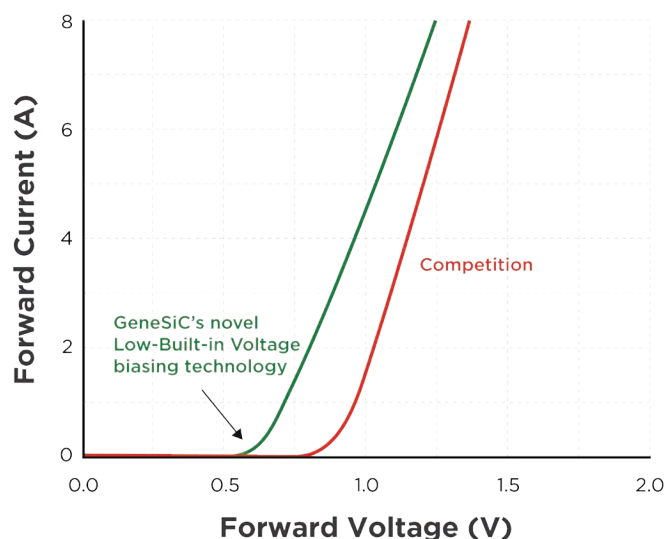
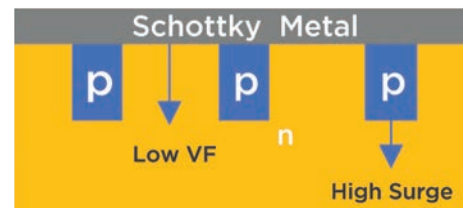


GeneSiC's new 5th-generation 650 V Merged-PiN Schottky (MPS™) diodes integrate a unique PiN-Schottky structure, delivering 'low-built-in Voltage-Biasing' ("low knee") for highest efficiency across all load conditions with superior robustness. Applications include PFC in server/telecom power supplies, industrial motor drives, solar inverters, LCD/LED TVs, and lighting.

Merged-PiN Schottky (MPS™) with Low-Built-In Voltage-Biasing Technology

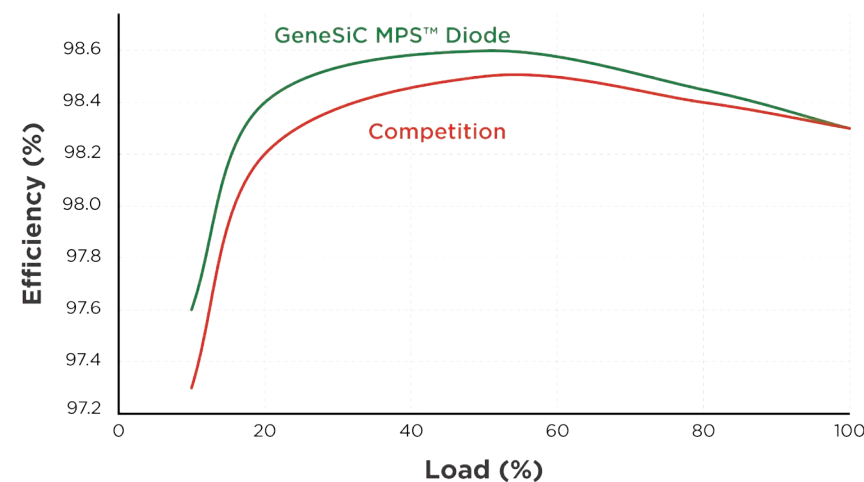
A novel GeneSiC merged-PiN Schottky design combines the best features from both PiN and Schottky diode structures, producing the lowest forward voltage drop (V_F), high surge-current capability (I_{FSM}), and minimized temperature-independent switching losses. Proprietary thin-chip technology further reduces V_F and improves thermal dissipation for cooler operation.



Superior Figure-of-Merit (FoM) Drives High Efficiency

Gen-5 MPS Diodes are ideal in PFC circuits in continuous-current mode (CCM) due to excellent figure of merit, comprising of a low V_F of 1.3 V, minimized capacitive charge (Q_C). In Addition, zero reverse recovery charge improves PFC MOSFET turn-on performance. The result is a cooler, more reliable system.

3 kW Interleaved Boost PFC



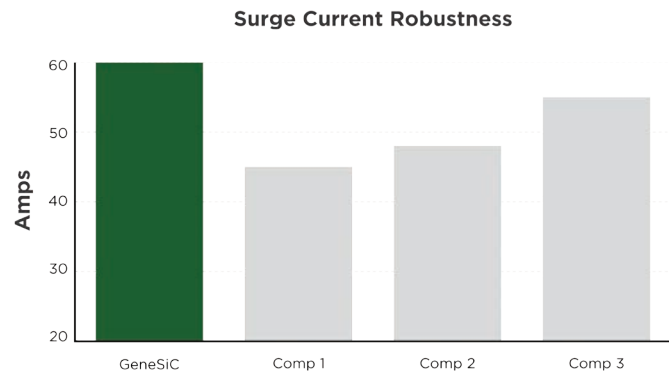
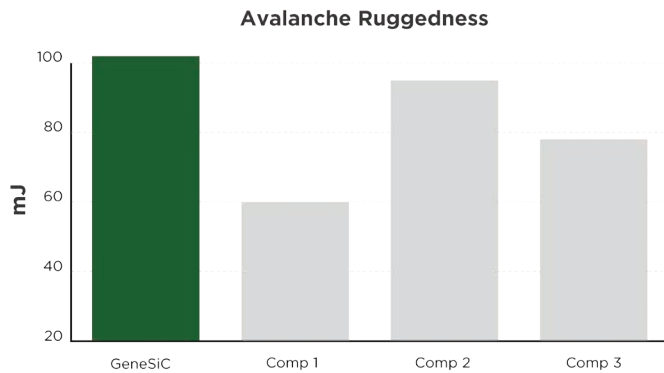
At light load, $T_j = 25^\circ\text{C}$, at full load, $T_j = 125^\circ\text{C}$

Features
• Low V_F (1.3 V) conduction losses
• Excellent FoM ($V_F \cdot Q_C$)
• 100% avalanche (UIL) tested
• Exceptional dV/dt ruggedness
• Lowest reverse leakage current
• Low thermal resistance

Benefits
• High system efficiency
• Very high frequency operation
• Reduced EMI
• Superior robustness
• Excellent reliability
• Reduced cooling requirements

Built to the Highest Level of Reliability

Gen-5, 650 V MPS diodes offer best-in-class robustness and ruggedness for applications demanding high surge current and avalanche capability, critical for fail-safe designs. All GeneSiC devices are 100% avalanche (UIL) production tested to ensure the highest level of ruggedness in over-voltage conditions.



Typical Application Circuits

Boost (Solar Inverter)		Boost converters are used in Solar inverters to generate a fixed, higher DC voltage. SiC diodes in QFN8x8 and TO-252 offering highest efficiencies for <3 kW microinverters.
CCM PFC		For PFC applications such as continuous-current mode (CCM) that require fastest reverse recovery to minimize switching losses and increase system efficiency, the TO-220-2 offer excellent performance with high thermal dissipation.
Interleaved PFC		The TO-247-3 package offers great flexibility for higher power density and BOM reduction in applications like the interleaved power factor correction (PFC) that shares a common cathode between two diodes.

Portfolio

V_{RRM} (V)	I_F (A)	PQFN 8x8	TO-252-2 DPAK	TO-220-2	TO-247-3
650	1				
	4	GE04MPS06Q	GE04MPS06E	GE04MPS06A	
	6	GE06MPS06Q	GE06MPS06E	GE06MPS06A	
	8	GE08MPS06Q	GE08MPS06E	GE08MPS06A	
	10	GE10MPS06Q	GE10MPS06E	GE10MPS06A	
	12	GE12MPS06Q	GE12MPS06E	GE12MPS06A	
	16				GE2X8MPS06D
	20				GE2X10MPS06D
24				GE2X12MPS06D	

With production lead times as low as 20 weeks, please contact your local field sales engineer at: www.rellpower.com/locations