SiCPAK™ - Unparalleled Reliability & Efficient High-Temperature Performance

Navitas
Electrify Our World™

Navitas' SiCPAK™ SiC power modules with **epoxy-resin potting technology** powered by Navitas' GeneSiC™ **trench-assisted planar technology** have been rigorously designed and validated for the most demanding high-power environments, prioritizing reliability and high-temperature performance.

GeneSiC™ SiCPAK™ F Series

GeneSiC™ SiCPAK™ G Series

High Endurance: Epoxy-Resin Potting Technology

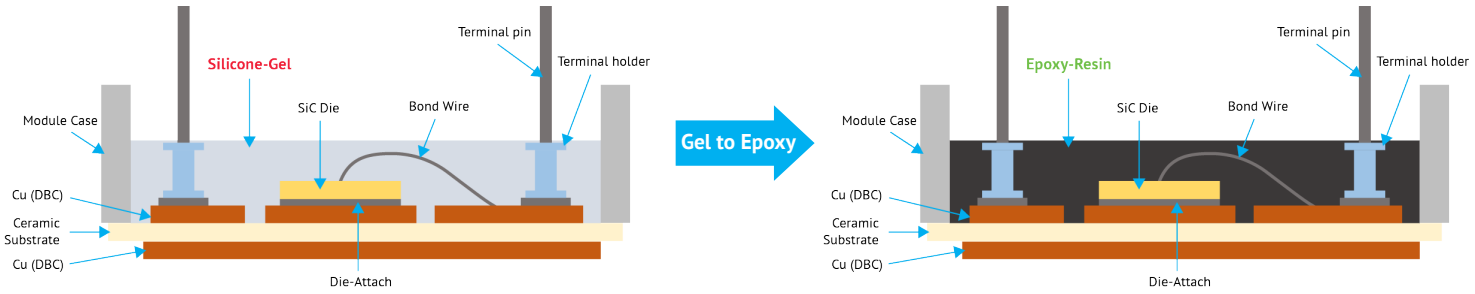
- >10x improvement in temperature cycling reliability
- Superior stability in power module thermal resistance
- Protected against humidity ingression in harsh environments

Efficient Performance: Trench-Assisted Planar Technology

- Up to 20% lower on-resistance at elevated temperatures
- Up to 15% lower switching losses
- Unparalleled SiC reliability under high-temperature, high-humidity, high-voltage, and high dV/dt conditions

Applications

- EV DC Fast Charger (DCFC)
- Industrial Motor Drive
- Uninterrupted Power Supply (UPS)
- Solar Inverter and Power Optimizer
- Energy Storage System (ESS)
- Industrial Welding
- Induction Heating



Silicone-Gel Potting

Problem: Temperature cycling

- Extension and bending of DBC with temperature variation, causing conchoidal fractures

Problem: Humidity ingression

- Silicone-gel absorbs moisture and contaminants from the environment, leading to short circuit and/or reliability failures

Epoxy-Resin Potting

Reduces expansion stresses due to higher thermal conductivity

- Epoxy-resin provides 10x higher thermal conductivity over silicone-gel to enable improved heat spreading

Limits extension and bending of overall structure

- Epoxy-resin limits extension and bending of DBC to reduce conchoidal fractures

Prevents humidity ingression

- Epoxy-resin prevents absorption of moisture and contaminants from the environment into the module potting

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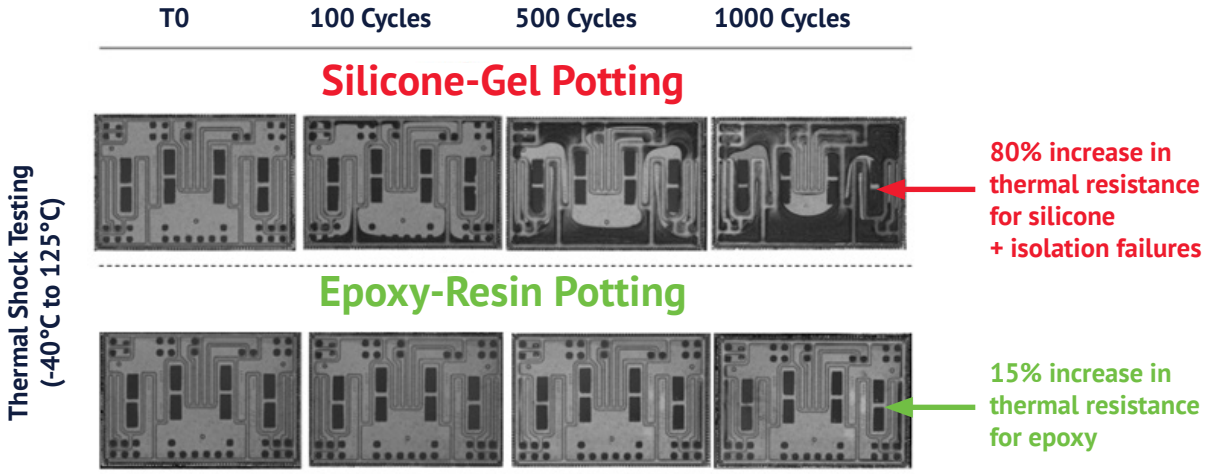
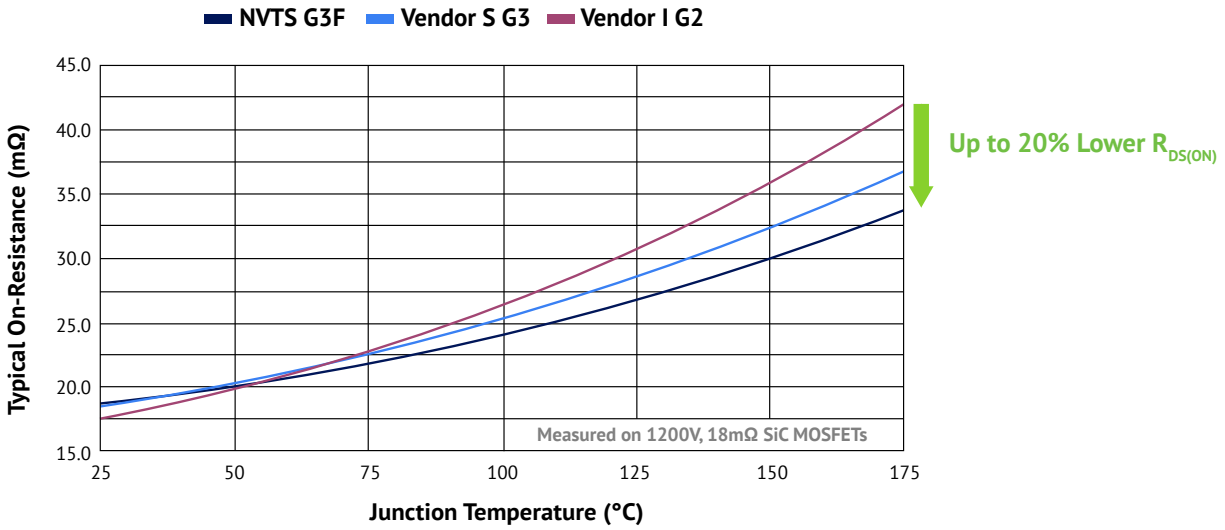
Unparalleled Reliability



Navitas' SiCPAK™ power modules with epoxy-resin potting technology dramatically reduce conchoidal fractures in the DBC, leading to stable thermal resistance and isolation-withstand capability.

Efficient High-Temperature Performance

Enabled by over 20 years of SiC innovation leadership, Navitas' GeneSiC™ **trench-assisted planar technology** provides industry-leading performance over temperature, delivering lower losses, cooler-operation, and superior robustness to support long-term system reliability.



Portfolio

Navitas' SiCPAK™ power modules are pin-to-pin compatible with industry-standard press-fit connections and built-in NTC thermistors.

Part #	Voltage (V)	$R_{DS(ON)}$ per switch @ 18V (mΩ)	Topology	Package
G3F09MT12FB2(-T)	1200	9.3	Half-Bridge	SiCPAK F (33.8mm x 65mm)
G3F17MT12FB2(-T)		17.0		
G3F18MT12FB4(-T)		18.5	Full-Bridge	
G3F05MT12GB2(-T)		4.6	Half-Bridge	SiCPAK G (56.7mm x 65mm)
G3F09MT12GB4(-T)		9.3	Full-Bridge	
G3F09MT12G3T(-T)		9.3	3L-T-NPC	

**(-T) Thermal Interface Material Option*

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