



Navitas' Latest SiCPAK™ Power Modules Set a New Standard for Unparalleled Reliability & Efficient High-Temperature Performance

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Advanced low-cost epoxy-resin potting technology enables 5x lower thermal resistance shift for extended system lifetime

TORRANCE, Calif., April 17, 2025 (GLOBE NEWSWIRE) -- [Navitas Semiconductor](#) (Nasdaq: NVTs), the only pure-play, next-generation power semiconductor company and industry leader in gallium nitride (GaN) power ICs and silicon carbide (SiC) technology, announces the release of its latest SiCPAK™ power modules with epoxy-resin potting technology, powered by proprietary trench-assisted planar SiC MOSFET technology, that have been rigorously designed and validated for the most demanding high-power environments, prioritizing reliability and high-temperature performance. Target markets include EV DC fast chargers (DCFC), industrial motor drives, interruptible power supplies (UPS), solar inverters and power optimizers, energy storage systems (ESS), industrial welding, and induction heating.

The new portfolio of 1200V SiCPAK™ power modules, enabled by advanced epoxy-resin potting technology, are engineered to withstand high-humidity environments by preventing moisture ingress and enable stable thermal performance by reducing degradation from power and temperature variations.

Navitas' SiCPAK™ modules demonstrated 5x lower thermal resistance increase following 1000 cycles of thermal shock testing (-40 C to + 125 C) compared to conventional silicone-gel-filled case-type modules. Furthermore, all silicone-gel-filled modules failed isolation tests while SiCPAK™ epoxy-resin potted modules maintained acceptable isolation levels.

Enabled by over 20 years of SiC innovation leadership, Navitas' GeneSiC™ [‘trench-assisted planar SiC MOSFET technology’](#) provides industry-leading performance over temperature, enabling up to 20% lower losses, cooler operation, and superior robustness to support long-term system reliability.

The ‘trench-assisted planar’ technology enables an extremely low $R_{DS(ON)}$ increase versus temperature, which results in the lowest power losses across a wider operating range and offers up to 20% lower $R_{DS(ON)}$ under in-circuit operation at high temperatures compared to competition. Additionally, all GeneSiC™ SiC MOSFETs have the highest-published 100%-tested avalanche capability, up to 30% better short-circuit withstand energy, and tight threshold voltage distributions for easy paralleling.

The 1200V SiCPAK™ power modules have built-in NTC thermistors and are available from 4.6 mΩ to 18.5 mΩ ratings in half-bridge, full-bridge, and 3L-T-NPC circuit configurations. They are pin-to-pin compatible with industry-standard press-fit modules. Additionally, optional pre-applied Thermal Interface Material (TIM) for simplified assembly is available.

Modules are released and immediately available for mass production. Datasheets can be found [here](#) or by visiting www.navitassemi.com. For more information, please contact info@navitassemi.com.

About Navitas

[Navitas Semiconductor](#) (Nasdaq: NVTs) is the only pure-play, next-generation power-semiconductor company, celebrating [10 years](#) of power innovation founded in 2014. [GaNFast™ power ICs](#) integrate gallium nitride (GaN) power and drive, with control, sensing, and protection to enable faster charging, higher power density, and greater energy savings. Complementary [GeneSiC™ power](#) devices are optimized high-power, high-voltage, and high-reliability silicon carbide (SiC) solutions. Focus markets include AI data centers, EV, solar, energy storage, home appliance / industrial, mobile, and consumer. Over 300 Navitas patents are issued or pending, with the industry's first and only [20-year GaNFast warranty](#). Navitas was the world's first semiconductor company to be [CarbonNeutral®-certified](#).

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A photo accompanying this announcement is available at <https://www.globenewswire.com/NewsRoom/AttachmentNg/6e63ec79-7ffa-44ed-b53f-3b9af2e5c138>



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Source: Navitas Semiconductor Corporation