

FOR IMMEDIATE RELEASE

Cactus Materials Inc. Expands Silicon Carbide Portfolio with 3.3 kV High-Power, High-Temperature Semiconductor Devices

TEMPE, AZ — Nov 1, 2025 — Cactus Materials Inc., novice in advanced high-power Silicon Carbide (SiC) and Gallium Arsenide (GaAs) photonic device manufacturing, today announced the expansion of its SiC product portfolio with the launch of new 3.3 kV high-power, high-temperature MOSFETs and power components engineered for demanding applications, including grid systems, STATCOMs, data centers, defense, and industrial power.

The new 3.3 kV family is optimized for high efficiency, low loss, and long-term reliability in extreme operating environments, ranging from grid-connected converters and solid-state circuit breakers to renewable energy inverters and heavy-duty electric vehicles.

“As systems advance towards higher voltages, our customers are seeking power solutions that deliver uncompromising performance and reliability at medium voltages,” said Marc Papageorge, VP of Business Development at Cactus Materials Inc. “The rollout of our first 3.3 kV platform marks an important step forward in supporting our customers' needs in STATCOM development, enabling Cactus to enter the future SST market while combining best-in-class metrics with robust high-temperature operation and scalable packaging and module options.”

Key Performance Highlights:

- 3.3 kV devices available in wafer, die, and various packaged formats
- Ultra-low RDS(on) of 70 mΩ, enabling exceptional efficiency
- Best-in-class RDS(on) figure of merit for fast, low-loss switching
- Low leakage on both gate and drain for enhanced reliability
- Low-creepage packages designed for compact, high-voltage assemblies
- Multiple package options: TO-247 (3L / 4L), TOLL, D2PAK, and other TO variants
- Ag-sintered die-attach for superior thermal and electrical performance
- High-temperature molding compounds rated for 175 °C, 200 °C, and 230 °C

With these advancements, Cactus Materials is expanding its SiC products into power devices and mission-critical power electronics, enabling higher system power density, faster switching speeds, and greater thermal resilience, even in radiation-rich or high-altitude conditions.

About Cactus Materials Inc.

Cactus Materials Inc., headquartered in Tempe, Arizona, operates a 40,000 ft² fabrication facility and specializes in device manufacturing and product development in Gallium Arsenide photonics, Silicon, and Silicon Carbide (SiC) power devices, with a roadmap for expansion into wide-bandgap (WBG) semiconductor technologies. The company's expertise encompasses device fabrication, packaging, and modules supporting applications in power electronics, optical sensing, detection, and photonics. Cactus Materials' devices and products are designed and fabricated in the USA, promoting next-generation efficiency, ruggedness, and reliability across energy, industrial, and defense sectors.