

Trench-Assisted Planar SiC MOSFET Technology

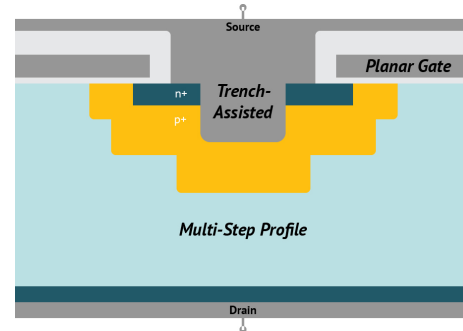
Navitas' SiC MOSFETs enabled by GeneSiC™ proprietary 'trench-assisted planar' technology provides world-leading efficiency performance over temperature, resulting in low power losses across the complete operating range. This advanced design delivers a "no-compromise" solution, balancing performance, manufacturability, and reliability in a way that traditional planar or trench SiC designs often struggle to achieve.

Over 20 Years of SiC Innovation Leadership

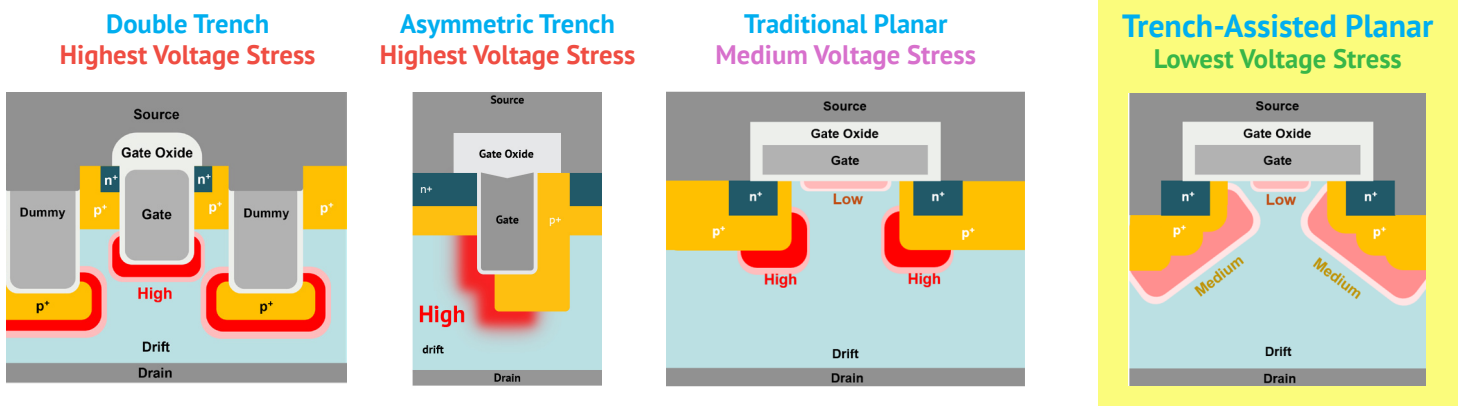
Up to 20% lower $R_{DS(ON)}$ at elevated temperature
Enables lower conduction losses and cooler performance.

Up to 15% lower switching losses
Faster & efficient high frequency switching for higher power density.

Unparalleled reliability
In high-voltage, high temperature, high humidity, high dV/dt

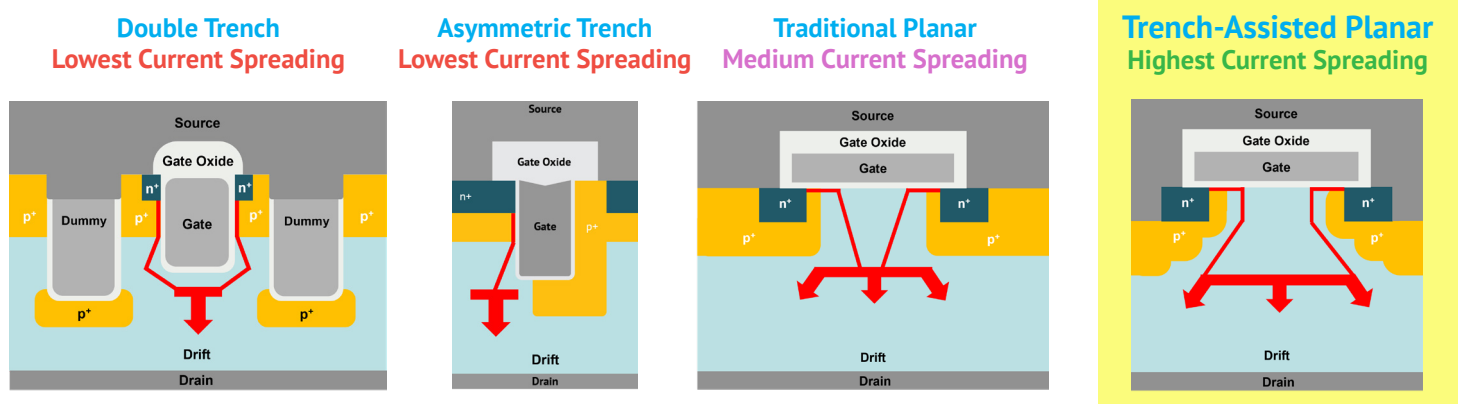


Optimized Electric Field Distribution for Enhanced Reliability and Robustness



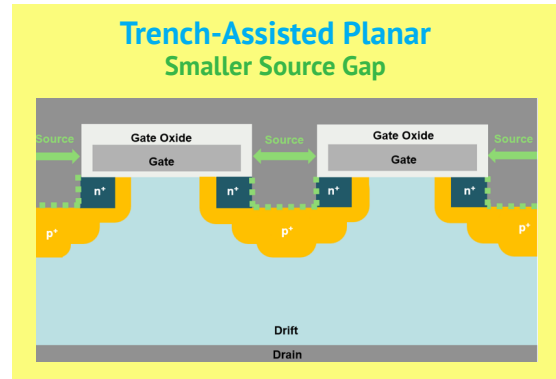
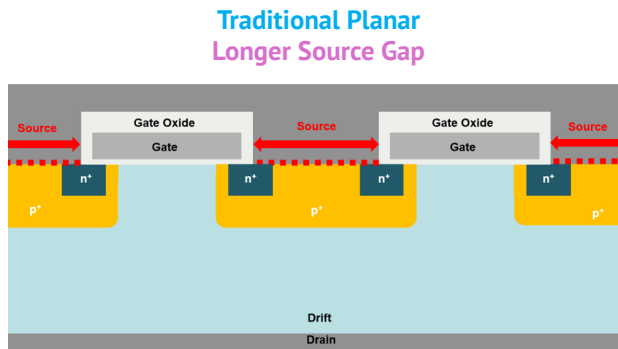
The multi-step profile in trench-assisted planar technology helps to smooth out and control the electric field peaks that can occur at corners or junctions. It lowers the stress on the gate oxide and voltage across the device, resulting in long-term reliability in high-voltage, high-temperature, high-dV/dt conditions.

Optimized Current Spreading and Reduced On-Resistance at High-Temperature



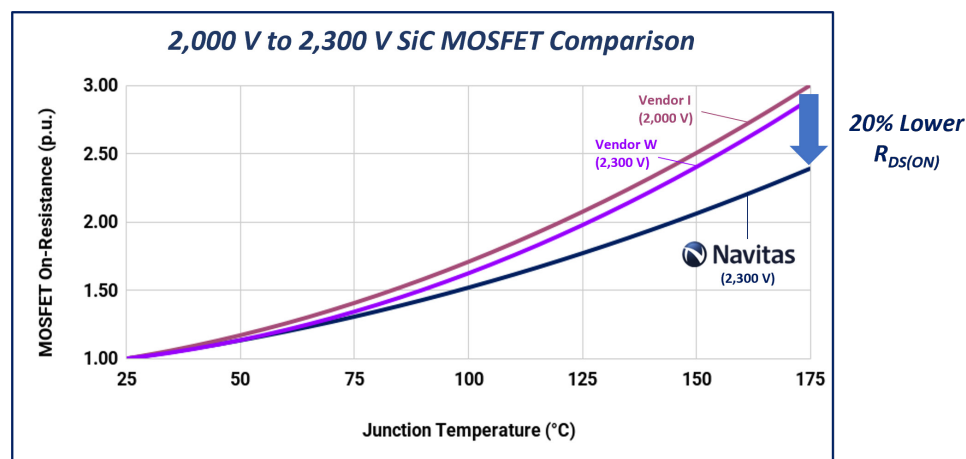
Trench-assisted planar technology demonstrates superior current spreading, a benefit attributed to the multi-step profile enabled by the trench-assist feature, resulting in lower on-resistance.

Novel Source Contact Enables Smaller Cell-Pitch and Increased Power Density



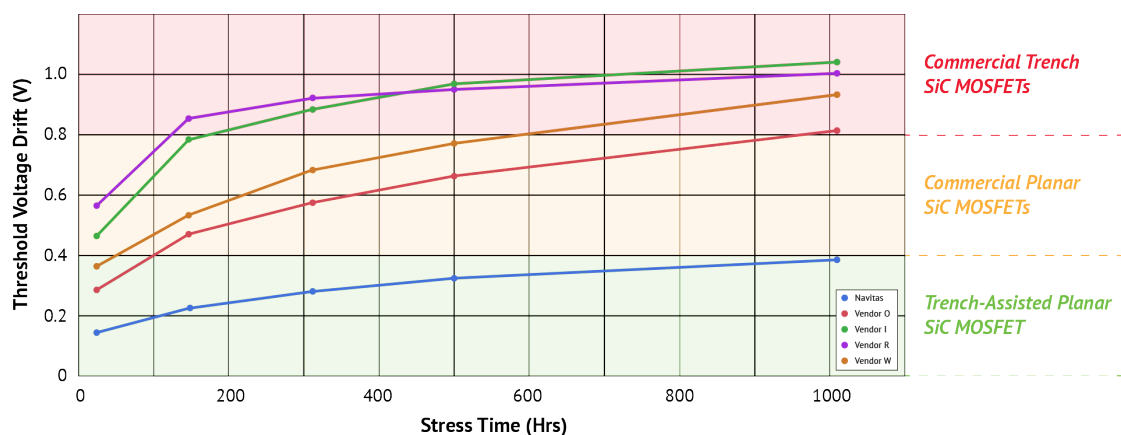
The shallow trench in the source region of trench assisted-planar design provides enough surface to have an appropriate metallization in a smaller gap, allowing for a lower cell-pitch, lowering R_{ON-SP} and $R_{ON} \times Q_G$.

Trench-Assisted Planar Technology Enables Industry's Lowest $R_{DS(ON)}$ Shift vs Temperature



20% lower compared to Vendor I (2,000 V) and 17% lower than Vendor W (2,300 V)

Trench-Assisted Planar Technology Enables Industry's Lowest $V_{GS(th)}$ Shift vs Lifetime



Navitas delivers best-in-class V_{TH} stability, supporting long-term robustness and reliability for mission-critical applications requiring consistent performance over time.