250V-600V-650V MDmesh M9

Superjunction Power MOSFETs for high-efficiency applications

Very low Figure of merit (R_{DSon} x Q_g) enables increased power levels and higher power density for more compact solutions

Thanks to their very low on-state resistance (R_{DSon}) (30% reduction in on-state resistance compared to the previous technology) and gate charge (Q_g), the high-voltage superjunction STPOWER MDmesh M9* series enables designers to increase the power density for more compact system solutions in TO-LL and HV PowerFLAT packages.

With very low figure of merit, the MDmesh M9 silicon Power MOSFET series ensures higher power levels and increased efficiency with respect to the previous technologies.

KEY FEATURES AND BENEFITS

- Very low Figure of merit (R_{DSon} x Q_g)
- High reverse diode dv/dt and MOSFET dv/dt ruggedness
- Higher power levels
- Increased power density and lower conduction losses
- High efficiency and low switching power losses
- Increased robustness and reliability for more compact designs

KEY APPLICATIONS

- AI servers
- Telecom power & data center
- EV charging station
- Solar microinverters

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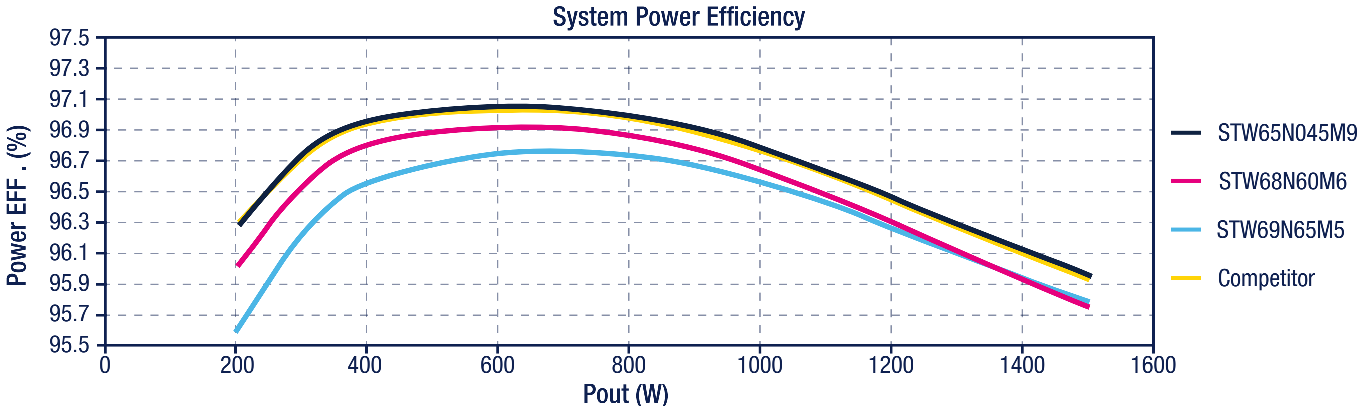
MDmesh M9 superjunction Power MOSFETs

250 to 650 V_{DS} rated

The MDmesh M9 superjunction power MOSFET technology is tailored for both hard and soft switching topologies and delivers excellent efficiency performance across the whole load range.
With a breakdown voltage range of 250 V to 650 V, these superjunction STPOWER MOSFETs are available in a wide range of packages from TO-247 to the innovative TO-LL (leadless) and HV PowerFLAT (8x8 mm) surface mount packages with dedicated Kelvin source connection improving gate driving for increased MOSFET efficiency.

System efficiency benchmark



Test condition:
- PFC working in continuous mode
- Input AC Voltage 145 VAC
- Output Voltage 400 VDC
- Output Power 1500 W
- Switching frequency 80 kHz

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