

600 to 700 V MDmesh™ M6

High-voltage, SJ MOSFETs

To boost the efficiency



MDmesh™ M6 technology offers improved PFC and LLC efficiency especially at light load conditions for increased power density

Shrink Your Design and Boost Efficiency with the MDmesh™ M6 power MOSFET series.

Combining an optimized capacitance profile and low gate charge (Qg), the MDmesh™ M6 MOSFET series is today's reference for resonant topologies.

Our new high-voltage, super-junction MDmesh™ M6 series opens the door to power converter designers for new scenarios targeting high efficiency and power density.

KEY FEATURES

- Optimized threshold voltage for soft switching.
- Extremely low Qg and optimized capacitance profile for light load conditions.
- Low gate charge for operation at high frequencies

KEY BENEFITS

- Good switching behavior for hard and soft switching
- Extremely high efficiency performance to increase power density
- Targets high efficiency in new topologies for power conversion applications

KEY APPLICATIONS

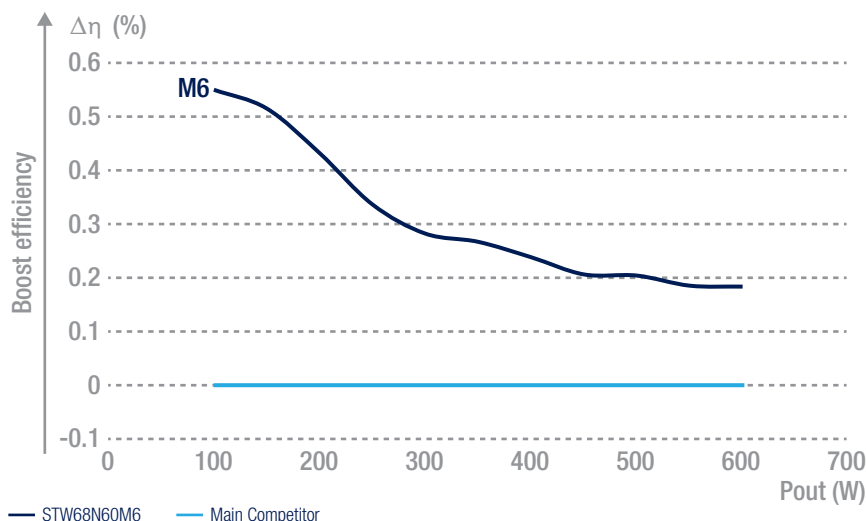
- Chargers
- Adapters
- Silver box modules
- LED lighting
- Telecom
- Servers
- Solar inverters

MDMESH™ M6 SERIES

600 V - 650 V - 700 V BV_{dss} rated

ST's latest super-junction technology optimized for resonant topologies. With a breakdown voltage ranging from 600 to 700 V, MDmesh™ M6 MOSFETs are available in a wide range of package options including a TO-Leadless (TOLL) package solution, allowing efficient thermal management.

Efficiency test performed in open loop 700 W LLC system



LIST OF AVAILABLE POWER TRANSISTORS IN OUR HIGH-VOLTAGE, SUPER-JUNCTION MDmesh™ M6 SERIES

| BV _{dss} (V) | Max RDS (Ω) | Max ID (A) | Qg (nC) | Sales Type | Packages | | | | | | | | | | | | |
|-----------------------|-------------------|-------------|------------|-------------|--------------------|------|--------------------|----------------------|--------|----------|--------|-----------|---------|------------------|------------------|------|---|
| | | | | | D ² PAK | DPAK | I ² PAK | H ² PAK-8 | TO-220 | TO-220FP | TO-247 | TO-247 LL | TO247-4 | PowerFLAT 5x6 HV | PowerFLAT 8x8 HV | TOLL | |
| 600 | 0.280 | 13 | 16 | STx18N60M6 | • | • | | | • | • | | | | | • | | |
| | 0.238 | 15 | 19 | STx22N60M6 | • | | | | • | • | | | | | • | | |
| | 0.190/ 0.210** | 17/ 15** | 23 | STx24N60M6 | • | | • | | • | • | • | | | | | • | |
| | 0.125/ 0.135** | 25 | 33.4 | STx33N60M6 | | | | | • | • | • | | | | | • | • |
| | 0.099/ 0.110** | 30/ 25** | 44 | STx36N60M6 | • | | • | • | • | • | • | | | | | • | • |
| | 0.080/ 0.082* | 36 | 50 | STx47N60M6 | | | | | | | | | | | | • | • |
| | 0.080 | 32 | 51 | STx46N60M6* | • | | | | • | • | | | | | | | |
| | 0.069 | 39 | 57 | STx48N60M6 | | | | | | | | • | • | • | | | |
| | 0.049 | 47 | 80 | STx67N60M6* | | | | | | | | | • | | | | • |
| | 0.041 | 63 | 106 | STx68N60M6 | | | | | | | | • | • | • | | | |
| 0.036 | 72 | 110 | STx75N60M6 | | | | | | | | • | • | • | | | | |

Note: * In development

** Referred to PowerFLAT™ 8x8 HV only



To explore the complete MDmesh™ M6 product portfolio, visit www.st.com or use our ST-MOSFET-Finder mobile app for Android and iOS



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