

MDmesh V power MOSFETs

Extended high-voltage (550 V and 650 V @ 25 °C)
power MOSFET family featuring worldwide best $R_{DS(on)}$ * area



With its higher electrical efficiency, our new extended family of high-voltage (550 V and 650 V @ 25 °C) power MOSFETs features the best $R_{DS(on)}$ * area on the market. The improvement in $R_{DS(on)}$ achieved with MDmesh V significantly reduces losses in line-voltage PFC circuits and power supplies. This in turn enables new generations of electronic products offering greater energy savings, superior power density, and more compact applications. This new technology will help product designers tackle emerging challenges such as the high-efficiency targets of new eco-design directives, and will also benefit the renewable energy sector by saving vital watts normally lost in power-control modules.

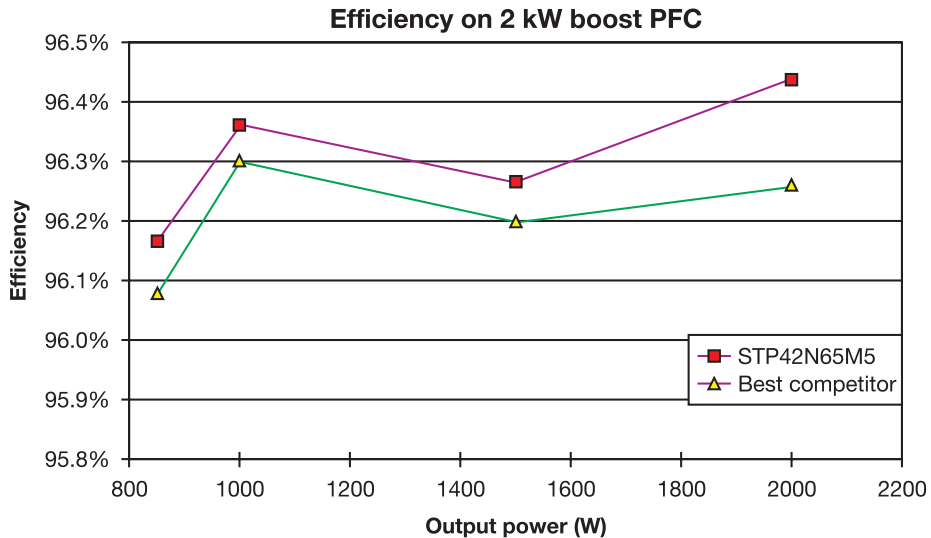
MDmesh V is a new silicon-based 550 V and 650 V cutting-edge technology, which combines an innovative proprietary vertical technology and process with the company's well-known PowerMESH™ horizontal layout. This technology achieves up to 40% better $R_{DS(on)}$ versus the previous MDmesh II technology and establishes a new milestone in the power switch arena, becoming the world's best $R_{DS(on)}$ * area (with 550 V and 650 V at 25 °C breakdown voltage) in TO-220, TO-220FP, I²PAK, D²PAK, DPAK, IPAK, TO-247 and Max247 packages. The fast switching and extremely low $R_{DS(on)}$ obtained via MDmesh V yields elevated energy savings, fast switching, high electrical efficiency, more compact and superior high power density. As a result, the device is more reliable and long lasting for SMPS, solar-converter, lighting and display applications.

Key features

- Worldwide best $R_{DS(on)}$ * area in TO-220, TO-220FP, I²PAK, D²PAK, DPAK, IPAK, TO-247 and Max247 packages
- Fast switching
- Higher V_{DSS} rating
- High dv/dt capability
- Easy to drive
- 100% avalanche tested

Main applications

- SMPS (computers, very high efficiency adapters and telecom)
- Lighting (electronic ballast, HID)
- Displays (TVs, monitors)
- Solar converters



MDmesh V STP42N65M5 at turn-off in 2 kW boost PFC

MDmesh V extended product range

V_{DSS} (V)	$R_{DS(on)}$ (max) (Ω)	Part number	I_d (A)	Package	Application
650	0.022	STY112N65M5 ¹	96	Max247	PV inverters, servers, UPS
	0.038	STW77N65M5	69	T0-247	PV inverters, servers, UPS
	0.079	STx42N65M5	33	T0-220/T0-220FP/D ² PAK/I ² PAK/T0-247	PV inverters, SMPS for servers, telecom power supplies
	0.059	STW60N65M5 ¹	45	T0-3PF/T0-247	PV inverters, servers, UPS
	0.098	STx35N65M5	27	T0-220/T0-220FP/T0-247/D ² PAK/I ² PAK	SMPS for servers, telecom power supplies
	0.119	STx32N65M5	24	T0-220/T0-220FP/T0-247/D ² PAK/I ² PAK	SMPS for servers
	0.139	STx30N65M5	21	T0-220/T0-220FP/T0-247/D ² PAK/I ² PAK	SMPS for servers
	0.199	STx21N65M5	17.5	T0-220/T0-220FP/T0-247/D ² PAK/I ² PAK	General SMPS, HID
	0.299	STx16N65M5	12	T0-220/T0-220FP/I ² PAK/DPAK/IPAK	HID, general SMPS, adapters
	0.430	STx12N65M5	8.5	T0-220/T0-220FP/I ² PAK/DPAK/IPAK	Fluorescent ballasts, HID, general SMPS, adapters
0.600	STx8N65M5 ¹	7	T0-220/T0-220FP/I ² PAK/DPAK/IPAK	Fluorescent ballasts, HID, general SMPS, adapters	
550	0.085	STx34N55M5 ¹	29	T0-220/T0-220FP/D ² PAK/I ² PAK/T0-247	SMPS for servers
	0.105	STx32N55M5 ¹	25	T0-220/T0-220FP/D ² PAK/I ² PAK/T0-247	SMPS for servers
	0.240	STx18N55M5	14	T0-220/T0-220FP/D ² PAK/DPAK	HID, general SMPS

1. Coming soon



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