

250V-600V-650V MDmesh M9



Super-junction Power MOSFETs for best efficiency



Industry's best figure of merit ($R_{DS(on)} \times Q_g$) enables increased power levels and higher power density for more compact solutions

Thanks to their extremely low on-state resistance ($R_{DS(on)}$) and gate charge (Q_g), the high-voltage super-junction STPOWER MDmesh M9* series enables designers to increase the power density for more compact system solutions in SOT223-2, TO-LL, HU3PAK and HV PowerFLAT packages.

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

KEY FEATURES & BENEFITS

- Best Figure of Merit ($R_{DS(on)} \times Q_g$) on the market
- Industry's best $R_{DS(on)}$ for 650V voltage range
- Lowest Q_g
- Higher 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
- High switching speed
- Increased robustness and reliability for more compact designs

KEY APPLICATIONS

- Telecom servers and data centers
- 5G Power stations
- Flat TV panels and PC SMPS
- Fast chargers
- Solar microinverters

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MDmesh M9 super-junction Power MOSFETs

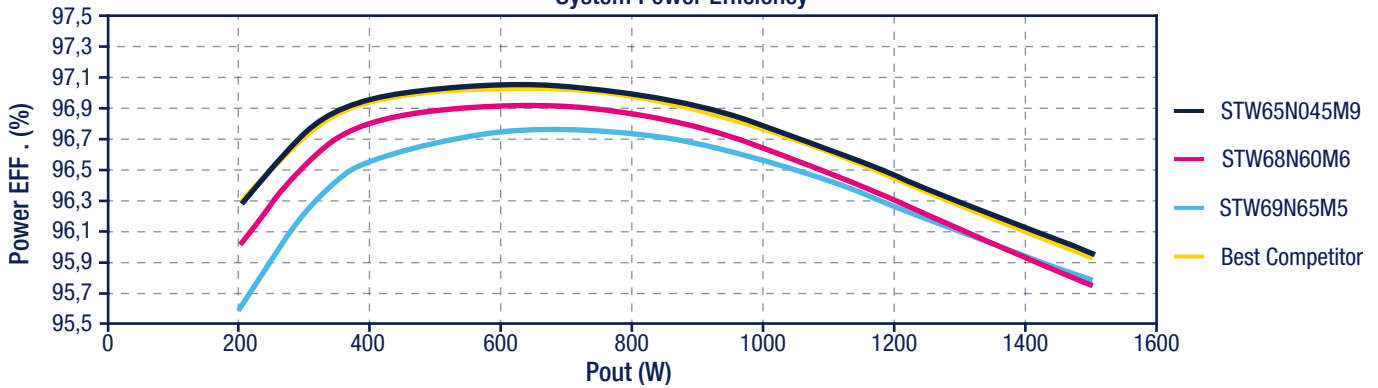
250 to 650 V_{DS} rated

ST's latest super-junction power MOSFET technology tailored for both hard and soft switching topologies and with the best figure of merit (FoM) on the market, MDmesh M9 devices ensure the best efficiency across the whole load range.

With a breakdown voltage range of 250 V to 650 V, these super-junction STPOWER MOSFETs are available in a wide range of packages from TO-247 to the most innovative SMD packages including TO-LL (leadless) and HV PowerFLAT (5x6 mm or 8x8 mm).

Application focus: Test and Analysis

System Power Efficiency



250 V, 600 V and 650 V MDmesh M9 product plan



V _{DS} [V]	R _{DS(on)} [mΩ]	Id* max [A]	SOT223-2	DPAK	5x6 HV	8x8 HV	TO-LL	D2PAK	HU3PAK	TO-220/FP	TO-247 LL	TO247-4	MAX 247	
250V	18/19	56					STO25N019M9	STB25N018M9		STP25N018M9				
	17	114									STWA60N017M9	STW60N017M9-4		
	21	99									STWA60N021M9	STW60N021M9-4		
	26/30	74					STO60N030M9				STWA60N026M9	STW60N026M9-4		
	35/38	63					STO60N038M9				STWA60N035M9	STW60N035M9-4		
600V	40/45	50				ST8L60N040M9	STO60N045M9	STB60N040M9						
	55/58/60	40				ST8L60N060M9	STO60N058M9	STB60N055M9		STF60N055M9	STWA60N055M9			
	85/90/94	30				ST8L60N094M9	STO60N090M9	STB60N085M9		STP/F60N085M9	STWA60N085M9			
	110/118/120	22			ST6L60N120M9	ST8L60N120M9	STO60N118M9	STB60N110M9		STP/F60N110M9				
	135/149	20		STD60N135M9		ST8L60N149M9		STB60N135M9		STP/F60N135M9				
	180/195/200	16		STD60N180M9	ST6L60N200M9	ST8L60N195M9				STP60N180M9				
	330/365	10	STN60N330M9	STD60N330M9	ST6L60N365M9									
	530/580	7	STN60N530M9	STD60N530M9	ST6L60N580M9									
	650V	12	147											STY65N012M9
		19	102									STWA65N019M9	STW65N019M9-4	
23		95									STWA65N023M9**	STW65N023M9-4**		
30/33/34		68					STO65N033M9	STB65N034M9			STWA65N030M9	STW65N030M9-4		
40/42/44		59				ST8L65N044M9	STO65N042M9					STW65N040M9-4		
45		55					STO65N045M9	STB65N045M9	STHU65N045M9	STP/F65N045M9**	STWA65N045M9**	STW65N045M9-4**		
62/65/67		42				ST8L65N067M9	STO65N065M9			STP/F65N062M9				
95/99/103		28				ST8L65N103M9	STO65N099M9	STB65N095M9		STP/F65N095M9				
120/128/130		23			ST6L65N130M9	ST8L65N130M9	STO65N128M9	STB65N120M9		STP/F65N120M9				
150/159/160/163		20		STD65N160M9**		ST8L65N163M9	STO65N159M9	STB65N150M9		STP/F65N150M9**				
195/199/215	15		STD65N195M9	ST6L65N215M9	ST8L65N210M9	STO65N199M9			STP/F65N195M9					

* referred to through hole package

** in production



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