life.augmented

300-1200 V MDmesh

The most complete SJ MOSFETs offer for (H)EV power solutions

Enhanced power handling for AEC-Q101 Electro Mobility solutions thanks to ST's MDmesh* Super Junction technology

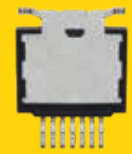
With a broad range of breakdown voltages from 300 to 1200 V, ST's Automotive-grade STPOWER MOSFET portfolio offers more efficient and less expensive power electronics solutions.
Thanks to a very low gate charge and low on-resistance combined with state of the art packaging, ST's MDmesh technology ensures an enhanced power handling capability, resulting in the ideal choice for all Automotive applications targeting very high efficiency and very impressive power density for super robust power conversion topologies.

KEY FEATURES & BENEFITS

- Fast recovery body diode
- Extremely high dV/dt ruggedness
- Low gate charge
- Widest portfolio 300 to 1200 V
- Higher efficiency with lower design complexity
- Especially targeted for Resonant Converter and ZVS topologies
- The only one-stop shop, including very high voltage AEC-Q101 rev. D1 qualified Power MOSFETs
- Wide package portfolio including the new Top side cooling option HU3PAK

KEY APPLICATIONS

- On-Board Chargers
- DC to DC Converters
- Battery Management Systems

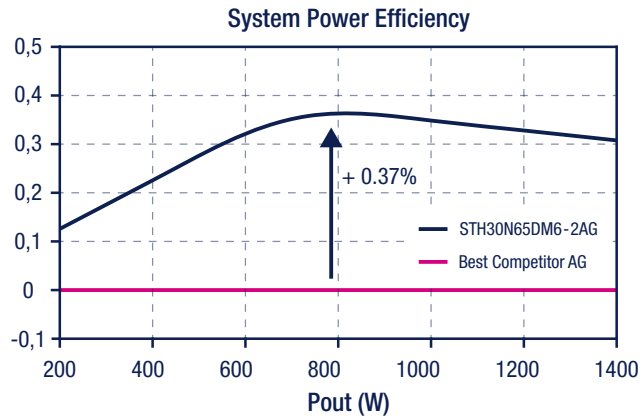


www.st.com/

MDmesh DM6 BENCHMARK

Optimized for full-bridge phase-shifted ZVS topologies, ST's MDmesh DM6 super-junction Power MOSFETs combine an optimized capacitance profile and lifetime killing process that results in a low gate charge (Qg), very low recovery charge (Qrr), low recovery time (trr) and an excellent improvement in RDS(on) per area.

Thanks to their optimized output capacitance profile and lower Qg, ST's Automotive-grade MDmesh DM6 Power MOSFETs show a Total System Efficiency aligned or even better than the best competitor (not Automotive Graded).



AEC-Q101 300 V-1200 V MDmesh SJ MOSFETs

Part number	Package	Grade	VDSS (V)	Rds(on)max (Ω)	Drain Current max (A)	PTOT max (W)	Qg typ (nC)
STB46N30M5	D2PAK	AEC-Q101	300	0,04	53	250	95
STB45N40DM2AG	D2PAK	AEC-Q101	400	0,072	38	250	56
STD13N50DM2AG	DPAK	AEC-Q101	500	0,36	11	110	11,7
STWA72N60DM2AG	TO-247 LL	AEC-Q101	600	0,042	66	446	121
STH47N60DM6-2AG	H2PAK-2	AEC-Q101	600	0,08	36	250	55
STB43N65M5	D2PAK	AEC-Q101	650	0,063	42	250	100
STW78N65M5	TO-247	AEC-Q101	650	0,032	69	450	203
STB30N65M2AG	D2PAK	AEC-Q101	650	0,18	20	180	30,08
STWA30N65DM6AG	TO-247 LL	AEC-Q101 rev.D	650	0,11	30	250	47
STL7LN65K5AG	PowerFLAT 5x6 VHV	AEC-Q101 rev.D	650	1,15	5	42	12
STW22N95K5	TO-247	AEC-Q101	950	0,33	17,5	250	48
STH13N120K5-2AG	H2PAK-2	AEC-Q101	1200	0,69	12	219	41,1
STHU36N60DM6AG*	HU3PAK	AEC-Q101 rev.D	600	0,099	29	210	46
STHU47N60DM6AG*	HU3PAK	AEC-Q101 rev.D	600	0,08	36	250	55
STWA68N65DM6AG	TO247 long leads	AEC-Q101 rev.D	650	0,039	72	480	118
STH10N80K5-2AG	H2PAK-2	AEC-Q101 rev.D	800	0,68	8	121	17

Note: *available from Q3 2021

GET IT ON Google Play

Download on the App Store

Wandoujia

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