

AEC-Q101 STripFET™ F7 MOSFETs for Automotive



The STripFET™ F7 , the new automotive-grade power MOSFETs technology, show an excellent dynamic behavior thanks to the new gate structure

The STripFET™ F7 power MOSFETs allow the customers to use in their automotive applications devices with an excellent body diode performance. The Low Crss/Ciss ratio makes the MOSFET less sensitive to Miller effect thus lowering EMI issues and downscaling the filtering passive components. Furthermore, the lower $R_{DS(on)}$ allows the power density increase on the customer's boards. The automotive grade STripFET™ F7 Product portfolio is available in a wide range of package options including DPAK , H²PAK-2, H²PAK-6, single/double island and DSC* PowerFLAT™ 5x6 with wettable flanks TO-220 and bare die. New packages (TO-LL and LPAK) are under development.

(*) Dual Side Cooling

APPLICATIONS

Automotive power conversion and motor control with special focus on high current systems in power-train, body & chassis, safety and HEV/EV segments

KEY FEATURES

- AEC-Q101 qualified
- Low on-resistance
- Excellent figure of merit (FoM)
- Low Crss/Ciss ratio for EMI immunity
- High avalanche ruggedness



STH410N4F7-6AG

Housed in H²PAK, offers an extremely low on-resistance (less than 1.1 mΩ), very efficient intrinsic body diode and optimized capacity ratio and softness.

MOSFET SELECTION GUIDELINES

- Best trade off On-resistance/thermal resistance based on voltage class
- High current capability
- Low thermal resistance packages

HEV/EV



PRODUCT SELECTOR

Part number	VDSS (V)	Drain Current (Dc) (A) max	Total Gate Charge (nC) typ	R _{DS(on)} (@VGS = 10 V) max (mΩ)	R _{DS(on)} (@4.5 or 5V) max (mΩ)	Package
STH205N12F7-2AG (*)	120	180	103	4.3	-	H ² PAK-2
STH315N10F7-6	100	180	180	2.3	-	H ² PAK-6/H ² PAK-2
STP315N10F7	100	180	180	2.7	-	T0-220
STD105N10F7AG	100	80	61	8	-	DPAK
STD100N10LF7AG	100	80	73	9	11	DPAK
STL92N10F7AG	100	16	45	9.5	-	PowerFLAT™ 5x6 WF
STD85N10F7AG	100	70	45	10	-	DPAK
STH80N10LF7-2AG (*)	100	80	28	10	16	H ² PAK-2
STL80N10LF7AG (*)	100	80	20	10	16	PowerFLAT™ 5x6 WF
STD47N10F7AG	100	45	25	16	-	DPAK
STH275N8F7-6AG	80	180	193	2.1	-	H ² PAK-6/H ² PAK-2
STL135N8F7AG	80	130	103	3.6	-	PowerFLAT™ 5x6 WF
STH145N8F7-2AG	80	90	96	4	-	H ² PAK-2
STL125N8F7AG (*)	80	120	75	4.5	-	PowerFLAT™ 5x6 WF
STL225N6F7AG	60	120	100	1.4	-	PowerFLAT™ 5x6 WF
STH272N6F7-6AG	60	180	170	1.5	-	H ² PAK-6
STL38DN6F7AG (*)	60	10	9	27	-	PowerFLAT™ 5x6 D.I.WF
STH410N4F7-6AG	40	200	141	1.1	-	H ² PAK-6/H ² PAK-2
STL285N4F7AG	40	120	67	1.1	-	PowerFLAT™ 5x6 WF
STLD257N4F7AG (*)	40	120	150	1.1	-	PowerFLAT™ 5x6 WF DSC
STL210N4F7AG	40	120	43	1.6	-	PowerFLAT™ 5x6 WF
STL190N4F7AG	40	120	41	2	-	PowerFLAT™ 5x6 WF
STD203N4F7AG (*)	40	120	110	2.1	-	DPAK
STL140N4F7AG	40	120	29	2.5	-	PowerFLAT™ 5x6 WF
STL117N4LF7AG	40	119	33	3.5	5	PowerFLAT™ 5x6 WF
STL110N4F7AG	40	108	15	4	-	PowerFLAT™ 5x6 WF
STL105N4LF7AG	40	105	26	4.5	8	PowerFLAT™ 5x6 WF
STL105DN4LF7AG	40	40	24	4.5	8	PowerFLAT™ 5x6 WF
STL76DN4LF7AG	40	40	17	6	12	PowerFLAT™ 5x6 D.I.WF
STL64N4F7AG	40	64	17	8.5	-	PowerFLAT™ 5x6 WF
STL64DN4F7AG	40	40	17	8.5	-	PowerFLAT™ 5x6 D.I.WF
STL52N4LF7AG (*)	40	18	12	16	20	PowerFLAT™ 5x6 WF
STL52DN4LF7AG	40	18	12	16	20	PowerFLAT™ 5x6 D.I.WF

(*) In development

For a complete STripFET™ F7 product portfolio visit www.st.com/stripfet7 or consult the APP ST-MOSFET-Finder



© STMicroelectronics - October 2018 - Printed in United Kingdom - All rights reserved
The STMicroelectronics corporate logo is a registered trademark of the STMicroelectronics group of companies
All other names are the property of their respective owners

