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New Additions to 600 V N-Channel E Series Power MOSFETs Feature On-Resistance Down to 39 mΩ

Vishay Intertechnology, Inc. (NYSE: VSH) is adding to its E series of 600 V n-channel power MOSFETs with new devices featuring ultra-low maximum on resistance and a wide range of current ratings. Based on Vishay's next generation of Super Junction Technology, the E Series MOSFETs offer ultra-low gate charge and low gate charge times on-resistance, a key figure of merit (FOM) for MOSFETs used in power conversion applications.

Product Benefits:

- Ultra-low maximum on resistance from 39 mΩ to 600 mΩ at 10 V
 - Saves energy in high-power, high-performance switch mode applications
- Low gate charge and gate charge times on-resistance FOM
- Wide range of current ratings from 7 A to 73 A
- E Series Super Junction Technology
 - Reduces on-resistance by 30 % compared to previous-generation devices for increased efficiency and power density
 - Lower input capacitance
 - Better light-load efficiency than S Series
 - Increased switching speeds
- Offered in TO-220, TO-220 FullPAK, TO-247AC, TO-247AD, TO-252 (DPAK), TO-251 (IPAK) and TO-263 (D²PAK) packages
- Withstand high energy pulse in the avalanche and commutation mode
- Compliant to RoHS Directive 2002/95/EC
- Avalanche (UIS) rated for reliable operation



Market Applications:

- Switch mode applications, including power factor correction, server and telecom power systems, welding, battery chargers, uninterruptible power supplies (UPS), LED lighting, semiconductor capital equipment, adaptors, and solar inverters.



The Key Specifications:

Part number	V _{BRDSS} (V)	I _D @ 25 °C (A)	R _{DS(ON)} max. @ V _{gs} = 10 V (mΩ)	Q _g typ @ V _{gs} = 10V (nC)	Package
SiHP7N60E	600	7	600	20	TO-220
SiHF7N60E	600	7	600	20	TO-220 FullPAK
SiHD7N60E	600	7	600	20	DPAK/TO-252
SiHU7N60E	600	7	600	20	IPAK/TO-251
SiHP12N60E	600	12	380	29	TO-220
SiHF12N60E	600	12	380	29	TO-220 FullPAK
SiHB12N60E	600	12	380	29	D ² PAK/TO-263
SiHP15N60E	600	15	280	38	TO-220
SiHF15N60E	600	15	280	38	TO-220 FullPAK
SiHB15N60E	600	15	280	38	D ² PAK/TO-263
SiHP22N60E	600	22	180	57	TO-220
SiHB22N60E	600	22	180	57	D ² PAK/TO-263
SiHF22N60E	600	22	180	57	TO-220 FullPAK
SiHG22N60E	600	22	180	57	TO-247AC
SiHP30N60E	600	30	125	85	TO-220
SiHB30N60E	600	30	125	85	D ² PAK/TO-263
SiHF30N60E	600	30	125	85	TO-220 FullPAK
SiHG30N60E	600	30	125	85	TO-247AC
SiHW30N60E	600	30	125	85	TO-247AD
SiHB33N60E	600	33	99	100	D ² PAK/TO-263
SiHP33N60E	600	33	99	100	TO-220
SiHG33N60E	600	33	99	100	TO-247AC
SiHW33N60E	600	33	99	100	TO-247AD
SiHG47N60E	600	47	99	147	TO-247AC
SiHW47N60E	600	47	64	147	TO-247AD
SiHG73N60E	600	73	64	241	TO-247AC
SiHW73N60E	600	73	39	241	TO-247AD

To access the product datasheets on the Vishay Web site, go to <http://www.vishay.com/mosfets/e-series-high-voltage-super-junction/>

The Perspective:

Featuring new Super Junction Technology, Vishay's new E Series 600 V n-channel power MOSFETs achieve new levels of efficiency and power density, while offering lower input capacitance and increased switching speeds over a wide range of current ratings. The MOSFETs provide ultra-low maximum on-resistance from 39 mΩ to 600 mΩ at 10 V, which is 30 % lower than previous-generation S Series devices for the same die size. This low on-resistance translates into extremely low conduction losses to save energy in high-power, high-performance switch mode applications. Available in the TO-220, TO-220 FullPAK, TO-247AC, TO-247AD, TO-252 (DPAK), TO-251 (IPAK) and TO-263 (D²PAK) packages, the E Series offers ultra-low gate charge and low gate charge times on-resistance FOM for power conversion applications.

Availability: Samples of these new power MOSFETs are available today, with lead times of 16 to 17 weeks for production orders.



New Product Info



Product Group: Vishay Siliconix, MOSFETs / **October 2012**

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