New Product Info

Product Group: Vishay Siliconix, MOSFETs / **September** 2015

Author: Philip Zuk
Tel: 1 408-970-5298
E-mail: philip.zuk@vishay.com

New 600 V E Series MOSFETs in PowerPAK® 8x8 Feature Kelvin Connections to Reduce Gate Drive Inductance

Product Benefits:

- Offered in space-saving, surface-mount PowerPAK® 8x8 package
- All feature large drain terminal for low thermal resistance and Kelvin source connection that can increase efficiency by improving gate drive signal
- RoHS-compliant, halogen-free and 100 % lead (Pb)-free
- Space-saving alternative to conventional TO-220 and TO-263 solutions, with similar thermals as TO-263 (D^2PAK)
- Low on-resistance and gate charge reduce conduction and switching losses to save energy
- Withstand high energy pulses in the avalanche and commutation modes with guaranteed limits through 100 % UIS testing

Market Applications:

- Power factor correction, flyback converters, and two-switch forward converters for server and telecom power supplies, HID and fluorescent ballast lighting, consumer and computing power adaptors, motor drives, solar PV inverters, induction heating, and welding equipment

The News:

Vishay Intertechnology is now offering its 600 V E Series power MOSFETs in the compact PowerPAK® 8x8 package.

- The new Vishay Siliconix SiHH26N60E, SiHH21N60E, SiHH14N60E, and SiHH11N60E all feature a large drain terminal for low thermal resistance and a Kelvin source connection that can increase efficiency by improving the gate drive signal.
- This new low-profile surface-mount power package is RoHS compliant, halogen free and 100% lead (Pb)-free and provides a space-saving alternative to conventional TO-220 and TO-263 solutions.
- The SiHH26N60E, SiHH21N60E, SiHH14N60E, and SiHH11N60E feature low on-resistance down to 0.135 Ω at 10 V, ultra-low gate charge down to 31 nC, and low gate charge times on-resistance, a key figure of merit (FOM) for MOSFETs used in power conversion applications
- These values translate into extremely low conduction and switching losses to save energy

The Perspective:

The construction of the PowerPAK® 8x8 package allows one of the source pins to be arranged as a dedicated Kelvin source connection that separates the gate drive return path from the main current-carrying source

terminals. This prevents the L x di / dt voltage drop in the high-current path from reducing the gate drive voltage that is applied to the E Series MOSFETs. This leads to faster switching and more noise immunity in power supply designs for telecom, server, computing, lighting, and industrial applications.

The Key Specifications:

Part number	V_{DS} (V)	V_{GS} (V)	I_D (A) @ 25 °C	$R_{DS(ON)}$ (Ω) @ 10 V (max.)	Q_g (nC) @ 10 V (typ.)	C_{ISS} typ. (pF)
SiHH26N60E	600	± 30	25	0.135	77	2815
SiHH21N60E	600	± 30	20	0.176	55	2015
SiHH14N60E	600	± 30	16	0.228	41	1416
SiHH11N60E	600	± 30	11	0.339	31	1076

Availability: Samples and production quantities of the SiHH26N60E, SiHH21N60E, SiHH14N60E, and SiHH11N60E are available now, with lead times of 16 weeks for larger orders.

To access the product datasheets on the Vishay Website, go to
http://www.vishay.com/ppg?91650 (SiHH14N60E)
http://www.vishay.com/ppg?91651 (SiHH11N60E)
http://www.vishay.com/ppg?91584 (SiHH21N60E)
http://www.vishay.com/ppg?91578 (SiHH26N60E)

Contact Information:

The Americas
Vishay Americas
One Greenwich Place
Shelton, CT 06484
HVM_Americas@vishay.com

Europe
Vishay Electronic GmbH
Geheimrat-Rosenthal-Strasse 100
95100 Selb, Germany
HVM_Europe@vishay.com

Asia
Vishay Intertechnology Asia Pte Ltd.
37A Tampines Street 92 #07-00
Singapore 528886
HVM_Asia@vishay.com