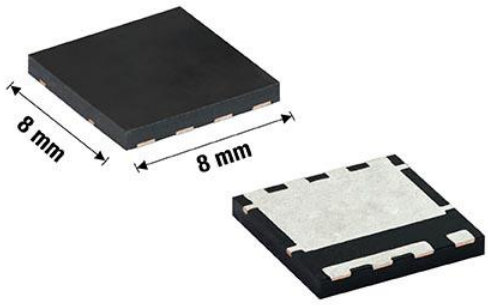
Space-Saving 80 V MOSFET in PowerPAK® 8x8SW Package Offers Best in Class $R_{DS(ON)}$ of 0.88 mΩ to Increase Efficiency, Offers Low Max. R_{thJC} of 0.36 °C/W and Wettable Flanks to Improve Thermal Performance and Solderability in Industrial Applications

Product Benefits:

- Offered in the space-saving PowerPAK® 8x8SW bond wireless (BWL) package with an ultra low profile of 1 mm
  - BWL design minimizes parasitic inductance, while maximizing current capability
- Low on-resistance down to 0.88 mΩ typical at 10 V minimizes power losses from conduction to increase efficiency
- Low maximum R_{thJC} of 0.36 °C/W improves thermal performance
- High temperature operation to +175 °C
- Implements fused lead to increase source PAD solderable area and enable a more robust design
- Wettable flanks enhance solderability, while making it easier to visually inspect the reliability of solder joints
- RoHS-compliant and halogen-free
- 100 % Rg and UIS tested



Market Applications:

- Synchronous rectification and OR-ing functionality in motor drive controls, power tools, welding equipment, plasma cutting machines, battery management systems, robotics, and 3D printers

The News:

To provide higher efficiency for industrial applications, Vishay Intertechnology introduces a new 80 V TrenchFET® Gen IV n-channel power MOSFET in the PowerPAK 8x8SW bond wireless (BWL) package with best in class on-resistance.

- Compared to competing devices in the same footprint, the SiEH4800EW offers 15 % lower on-resistance, while reducing R_{thJC} by 18 %
- With its 8 mm by 8 mm footprint, the device occupies 50 % less PCB space than MOSFETs in the TO-263 package
- High current density and temperatures result in copper electro-migration through the soldering material that can impact solder joint reliability and result in a solder crack at the MOSFET and PCB interface. The SiEH4800EW implements a fused lead to increase the source PAD solderable area to 3.35 mm^2, which is four times higher than a traditional PIN solder area. This decreases the current density between the MOSFET and PCB, reducing the risk of electro-migration risk

The Key Specifications:

Part number		SUM60020E	SiJH5800E	SiEH4800EW
Package		TO-263	PowerPAK 8x8L	PowerPAK 8x8SW
Dimensions (mm)		16 x 10	8.0 x 8.0 *	8.0 x 8.0 *
Hight (mm)		4.8	1.7	1.0 *
V_{DS} (V)		80	80	80
V_{GS} (V)		± 20	± 20	± 20
Configuration		Single	Single	Single
V_{GSth} (V)	**Min.**	2.0	2.0	2.0
$R_{DS(on)}$ (mΩ) @ 10 V_{GS}	**Typ.**	1.75	0.97	0.88 *
	Max.	2.1	1.35	1.15 *
I_D (A)	**Max.**	150	302	608 *
R_{thJC} (C/W)	**Max.**	0.4	0.45	0.36 *
Fused lead implement		No	No	Yes

Best in class (*)

Availability:
Samples and production quantities of the SiEH4800EW are available now, with lead times of 13 weeks.

To access the product datasheet on the Vishay Website, go to
http://www.vishay.com/ppg?61532 (SiEH4800EW)

Contact Information:

The Americas
Vishay Americas
LVM_Americas@vishay.com

Europe
Vishay Electronic GmbH
LVM_Europe@vishay.com

Asia
Vishay Intertechnology Asia Pte Ltd.
LVM_Asia@vishay.com