



New SiHK045N60E Fourth-Generation 600 V E Series MOSFET Provides Industry-Low $R_{DS(ON)} * Q_g$ FOM of $2.8 \Omega * nC$, Lowers Conduction and Switching Losses, Increases Efficiency and Thermal Capability in Telecom, Server, and Datacenter Applications

Product Benefits:

- Ultra low on-resistance and gate charge reduce conduction and switching losses to save energy
- Gate charge times on-resistance figure of merit (FOM) of $2.8 \Omega * nC$
- Low effective output capacitance $C_{o(er)}$ of 117 pF improves switching performance
- Low thermal resistance R_{thJC} provides a higher thermal capability
- Offered in the PowerPAK® 10x12 package
- RoHS-compliant and halogen-free
- Designed to withstand overvoltage transients in avalanche mode with guaranteed limits through 100 % UIS testing



Market Applications:

- Power factor correction and hard-switched AC/DC converter topologies for telecom, server, and datacenter power systems

The News:

Vishay Intertechnology introduces the latest device in its fourth generation of 600 V E Series power MOSFETs. Providing high efficiency for telecom, server, and datacenter power supply applications, the Vishay Siliconix n-channel SiHK045N60E offers the industry's lowest gate charge times on-resistance for devices in the same class, a key figure of merit (FOM) for 600 V MOSFETs used in power conversion applications.

- Built on Vishay's latest energy-efficient E Series superjunction technology
- Slashes on-resistance by 27 % compared with previous-generation 600 V E Series MOSFETs, while delivering 60 % lower gate charge
- FOM of $2.8 \Omega * nC$ is 3.4 % lower than the closest competing MOSFET in the same class
- Thermal resistance R_{thJC} of $0.45 \text{ }^\circ\text{C/W}$ is 11.8 % lower than the closest competing device
- Vishay offers a broad line of MOSFET technologies that support all stages of the power conversion process, from high voltage inputs to the low voltage outputs required by the latest electronic systems. With the SiHK045N60E and upcoming devices in the fourth-generation 600 V E Series family, the company is addressing the need for efficiency and power density improvements in the first stages of the power system architecture — power factor correction and hard-switched DC/DC converter topologies

The Key Specifications:

- Drain-source voltage: 600 V
- Typical on-resistance at 10 V: 0.043Ω
- Typical gate charge at 10 V: 65 nC
- Effective output capacitance, energy related: 117 pF



NEW PRODUCT INFORMATION

Product Group: Vishay Siliconix, MOSFETs / February 2022



- Thermal resistance: 0.45 °C/W
- Package: PowerPAK 10x12

Availability:

Samples and production quantities of the SiHK045N60E are available now, with lead times of 52 weeks.

To access the product datasheet on the Vishay Website, go to <http://www.vishay.com/ppg?92386> (SIHK045N60E)

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