



Automotive-Compliant Silicon Carbide MOSFETs from Diodes Incorporated Enhance Automotive Subsystems Efficiency

Plano, Texas – June 27, 2023 – Diodes Incorporated (Diodes) (Nasdaq: DIOD) today announced a further enhancement of its wide-bandgap product offering with the release of the [DMWSH120H90SM4Q](#) and [DMWSH120H28SM4Q](#) automotive-compliant Silicon Carbide (SiC) MOSFETs. These N-channel MOSFETs respond to the increasing market demand for SiC solutions that enable better efficiency and higher power density in electric and hybrid-electric vehicle (EV/HEV) automotive subsystems like battery chargers, on-board chargers (OBC), high-efficiency DC-DC converters, motor drivers, and traction inverters.

The DMWSH120H90SM4Q operates safely and reliably up to $1200V_{DS}$ with a gate-source voltage (V_{gs}) of +15/-4V and has an $R_{DS(ON)}$ of 75m Ω (typical) at 15V $_{gs}$. This device is designed for OBCs, automotive motor drivers, DC-DC converters in EV/HEV, and battery charging systems.

The DMWSH120H28SM4Q operates at up to $1200V_{DS}$, +15/-4V $_{gs}$, and has a lower $R_{DS(ON)}$ of 20 m Ω (typical) at 15V $_{gs}$. This MOSFET has been designed for motor drivers, EV traction inverters, and DC-DC converters in other EV/HEV subsystems. Low $R_{DS(ON)}$ enables these MOSFETs to run cooler in applications that require high power density.

Both products have low thermal conductivity ($R_{\theta JC}=0.6^{\circ}C/W$), enabling drain currents up to 40A in the DMWSH120H90SM4Q and 100A in the DMWSH120H28SM4Q. They also have fast intrinsic and robust body diodes with low reverse recovery charge (Q_{rr}) of 108.52nC in the DMWSH120H90SM4Q and 317.93nC in the DMWSH120H28SM4Q. This enables them to perform fast switching with reduced power losses.

By using the planar manufacturing process, Diodes has created new MOSFETs that offer more robust and reliable performance in automotive applications—and with increased drain current, breakdown voltage, junction temperature, and power rings as compared to previously released versions. The devices are available in a TO247-4 (Type WH) package, which offers an additional Kelvin sense pin. This can be connected to the source to optimize switching performance, enabling even higher power densities.

The DMWSH120H90SM4Q and DMWSH120H28SM4Q are AEC-Q101 qualified, manufactured in IATF 16949 certified facilities, and support PPAP documentation. The [DMWSH120H90SM4Q](#) is available at \$18 in 1,000 piece quantities, and the [DMWSH120H28SM4Q](#) is available at \$38 in 1,000 piece quantities.

About Diodes Incorporated

Diodes Incorporated (Nasdaq: DIOD), a Standard and Poor's SmallCap 600 and Russell 3000 Index company, delivers high-quality semiconductor products to the world's leading companies in the automotive, industrial, computing, consumer electronics, and communications markets. We leverage our expanded product portfolio of discrete, analog, and mixed-signal products and leading-edge packaging technology to meet customers' needs. Our broad range of application-specific solutions and solutions-focused sales, coupled with worldwide operations of 32 sites, including engineering, testing, manufacturing, and customer service, enables us to be a premier provider for high-volume, high-growth markets. For more information visit www.diodes.com.

The Diodes logo is a registered trademark of Diodes Incorporated in the United States and other countries.

All other trademarks are the property of their respective owners.

© 2023 Diodes Incorporated. All Rights Reserved.

Company Contact:

Gurmeet Dhaliwal
Head of Corporate Marketing & Investor Relations
Diodes Incorporated
+1 408-232-9003
[Contact Us](#)