



Vishay Intertechnology 30 V N-Channel MOSFET With Source Flip Technology Delivers Best in Class RDS(ON) Down to 0.71 mΩ in PowerPAK® 1212-F

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Device Offers High Power Density and Improved Thermal Performance in 3.3 mm x 3.3 mm PowerPAK® 1212-F Package With Center Gate Design

MALVERN, Pa., Feb. 14, 2024 (GLOBE NEWSWIRE) -- Vishay Intertechnology, Inc. (NYSE: VSH) today introduced a versatile new 30 V n-channel TrenchFET® Gen V power MOSFET that delivers increased power density and enhanced thermal performance for industrial, computer, consumer, and telecom applications. Featuring source flip technology in the 3.3 mm by 3.3 mm PowerPAK® 1212-F package, the Vishay Siliconix [SiSD5300DN](#) provides best in class on-resistance of 0.71 mΩ at 10 V and on-resistance times gate charge — a critical figure of merit (FOM) for MOSFETs used in switching applications — of 42 mΩ*nC.

Occupying the same footprint as the PowerPAK 1212-8S, the device released today offers 18 % lower on-resistance to increase power density, while its source flip technology reduces thermal resistance by 63 °C/W to 56 °C/W. In addition, the SiSD5300DN's FOM represents a 35 % improvement over previous-generation devices, which translates into reduced conduction and switching losses to save energy in power conversion applications.

PowerPAK 1212-F source flip technology reverses the usual proportions of the ground and source pads, extending the area of the ground pad to provide a more efficient thermal dissipation path and thus promoting cooler operation. At the same time, the PowerPAK 1212-F minimizes the extent of the switching area, which helps to reduce the impact of trace noise. In the PowerPAK 1212-F package specifically, the source pad dimension increases by a factor of 10, from 0.36 mm² to 4.13 mm², enabling a commensurate improvement in thermal performance. The PowerPAK 1212-F's center gate design also simplifies parallelization of multiple devices on a single-layer PCB.

The source flip PowerPAK 1212-F package of the SiSD5300DN is especially suitable for applications such as secondary rectification, active clamp battery management systems (BMS), buck and BLDC converters, OR-ing FETs, motor drives, and load switches. Typical end products include welding equipment and power tools; servers, edge devices, supercomputers, and tablets; lawnmowers and cleaning robots; and radio base stations.

The device is 100 % R_G- and UIS-tested, RoHS-compliant, and halogen-free.

Key Specification Table:

PowerPAK 1212-F	PowerPAK 1212-8S
Package size: 3.3 mm x 3.3 mm	Package size: 3.3 mm x 3.3 mm
Source pad dimension: 4.13 mm ²	Source pad dimension: 0.36 mm ²
Thermal resistance: 56 °C/W	Thermal resistance: 63 °C/W
Lowest available on-resistance in Gen V technology: SiSD5300DN: 0.87 mΩ (maximum)	Lowest available on-resistance in Gen V technology: SiSS54DN: 1.06 mΩ (maximum)

Samples and production quantities of the SiSD5300DN are available now, with lead times of 26 weeks.

Vishay manufactures one of the world's largest portfolios of discrete semiconductors and passive electronic components that are essential to innovative designs in the automotive, industrial, computing, consumer, telecommunications, military, aerospace, and medical markets. Serving customers worldwide, Vishay is **The DNA of tech**®. Vishay Intertechnology, Inc. is a Fortune 1,000 Company listed on the NYSE (VSH). More on Vishay at www.Vishay.com.

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Links to product datasheet:

<http://www.vishay.com/ppg?622220> (SiSD5300DN)

Link to product photo:

<https://www.flickr.com/photos/vishay/albums/72177720314591460>

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