Super-Junction MOSFETs add dedicated control input for increased switching efficiency

STMicroelectronics introduced the first MDmesh V Super-Junction MOSFET featuring a new package technology that increases the efficiency of power circuitry in equipment such as white goods, televisions, PCs, telecom, and server switched-mode power supplies. The new TO247-4 4-lead package provides a direct source connection used only for switching control, whereas conventional packages provide one connection for both switching and power. The extra lead increases switching efficiency, which reduces energy losses and allows higher-frequency operation for more compact power supplies. ST co-developed the package with Infineon, which is also introducing its own new Super-Junction devices, providing second-source flexibility for users. The TO247-4 package features an internal construction that implements a Kelvin connection to the source. This connection bypasses the common source inductance of the main power connection, enabling up to 60 percent of switching losses to be eliminated and allowing designers to use higher switching frequencies that require smaller filtering components, according to the company. The STW57N65M5-4 is expected to enable increased energy efficiency in active Power-Factor Correction (PFC) circuits and full-bridge or half-bridge power converters for a wide variety of consumer and industrial electronic products.

STMicroelectronics, www.st.com [1]

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