

## 600-V Superjunction MOSFETs Enable High Power Density

[Infineon Technologies'](#) has expanded its CoolMOS portfolio of superjunction MOSFETs with the PFD7 product family. The devices are suitable for ultrahigh power-density designs such as chargers and adapters as well as for low-power drives and specific lighting applications. The new devices promise robustness and reliability gains together with increased efficiency, minimized switching losses and improved thermal behavior (see the figure).

The CoolMOS PFD7 series devices are optimized for high efficiency, especially at light-load conditions yet still are able to fulfill EMI requirements. These switches are said to offer best-in-class figures-of-merit  $R_{DS(ON)} \times Q_{RR}$ . In addition, excellent commutation ruggedness is enabled by the integrated fast body diode. The implemented Zener diode supports ESD protection up to 2 kV. Infineon offers  $R_{DS(ON)}$  values ranging from 125 m $\Omega$  to 2000 m $\Omega$ .

The CoolMOS PFD7 series is now available. For more information, see the [website](#).



*Figure. According to Infineon, its CoolMOS PFD7 product family of superjunction MOSFETs offers up to 1.17% greater efficiency versus its CoolMOS P7 product family, leading to a power density increase of 1.8 W/in<sup>3</sup>. CoolMOS PFD7 pushes the SJ MOSFET technology to lower conduction and charge/discharge losses as well as reduced turn-off and gate-driving losses.*