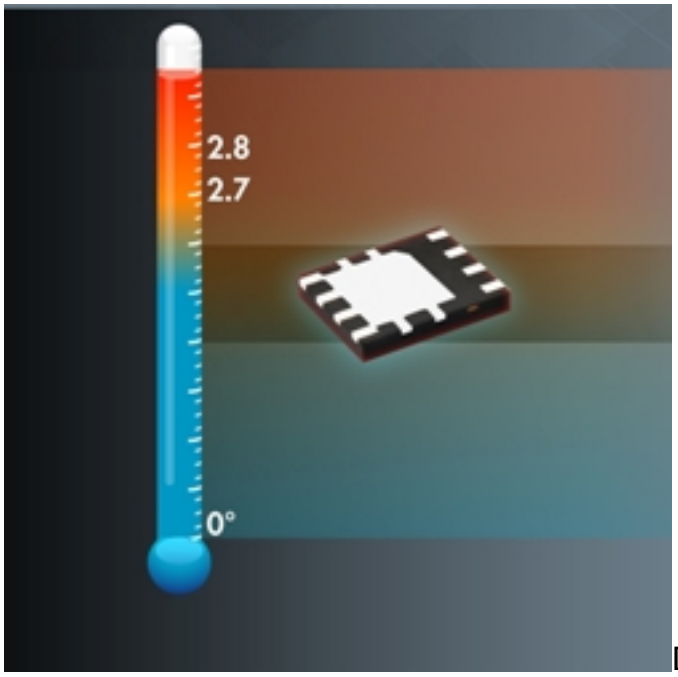
PowerTrench MOSFET Addresses Conduction and Switching Losses



Designers of DC-DC power supplies, motor control, hot swap and load switch applications, as well as secondary synchronous rectification for servers, need a MOSFET with lower conduction and switching losses in order to raise efficiency in their designs.

To meet this demand, Fairchild Semiconductor, a leading global supplier of high performance power and mobile products, developed the FDMS86500L N-Channel, PowerTrench MOSFET. The device is designed specifically to minimize conduction loss, switch node ringing, and to improve the overall efficiency of DC-DC converters.

Through an advanced package and silicon combination, the FDMS86500L provides significantly lower RDS(ON) (2.5m? @ VGS = 10V, ID=25A), enabling lower conduction losses in an industry-standard 5mm x 6mm Power 56 package.

Additionally, the FDMS86500L, using shielded-gate MOSFET technology, provides very low switching losses (Qgd 14.6 nC Typ.). When combined with the device’s low conduction losses, this provides designers the improved power density they need.

The FDMS86500L offers a better figure of merit (RDS(ON) * QG), delivering high efficiency and lower power dissipation in order to meet efficiency standards and regulations.

Other features of the FDMS86500L include next-generation enhanced body diode technology engineered for soft recovery, MSL1 robust package design, 100 percent UIL tested and RoHS compliance.

The FDMS86500L is the first Fairchild device in a portfolio of new 60V MOSFETs. The addition of these new 60V devices enhances the company's mid-voltage MOSFET portfolio. Fairchild has the broadest MOSFET portfolio in the industry, allowing designers the ability to choose between multiple technologies and select the right MOSFET for their application. By understanding the demands for higher current DC-DC power supplies in smaller footprints for space constrained applications, as well as understanding our customers and the markets they serve, Fairchild Semiconductor can tailor its unique combination of functional, process and packaging innovation into solutions that make a difference in electronic designs.

Price: US $0.90 in 1,000 quantity pieces

Availability: Samples available now
Delivery: 8-10 weeks ARO

For information on other products, design tools and sales contacts, please visit: http://www.fairchildsemi.com [1].

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