Product Brief

OptiMOS™ 300 V

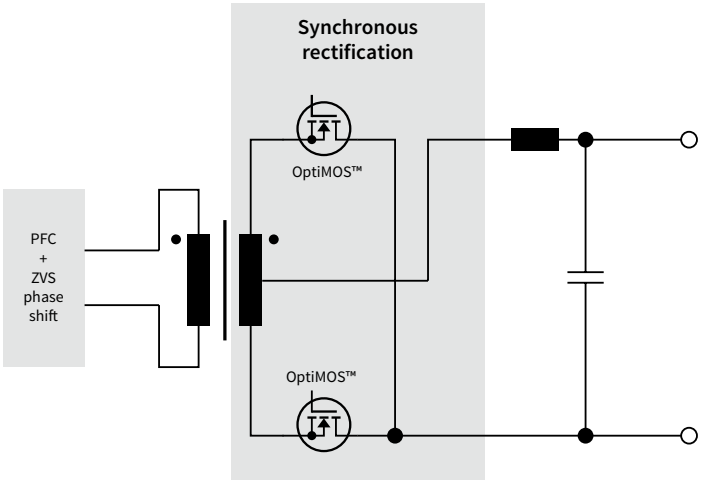
Performance and design possibilities in hard switching applications

OptiMOS™ 300 V MOSFETs from Infineon, incorporating fast diode technology, are especially optimized for body diode hard commutation. Infineon again sets a benchmark with this additional voltage class, extending the OptiMOS™ product portfolio from 20 V up to 300 V.

OptiMOS™ 300 V devices with excellent hard commutation ruggedness not only demonstrate impressive on-state resistance ($R_{DS(on)}$) and figure of merit (FOM), but also provide high system reliability through the lowest reverse recovery charge (Q_{rr}) available on the market. With the OptiMOS™ 300 V series, Infineon brings a new level of performance in hard switching applications such as telecom, uninterruptible power supplies (UPS), industrial power supplies, DC-AC inverters and motor control.

The 40.7 mΩ OptiMOS™ 300 V in D²PAK reduces conduction loss and improves overall efficiency in high current applications such as motor control. The industry's lowest FOM, more than 30 percent less than alternative devices, cuts system power losses. This also enables fast switching in switched mode applications such as synchronous rectification in 60 V telecom systems.

A typical synchronous rectification application in telecom



Key features

- Fast diode technology
- Industry best $R_{DS(on)}$ with more than 58 percent lower FOM
- Hard commutation ruggedness
- Optimized hard switching behavior

Key benefits

- Highest efficiency and power density
- Board space and system cost reduction
- High system reliability
- Best switching performance
- Easy-to-design products

Target applications

- Telecom
- Uninterruptible power supplies
- Industrial power supplies
- DC-AC inverter
- Motor control for 48-110 V systems

www.infineon.com/optimos-300v

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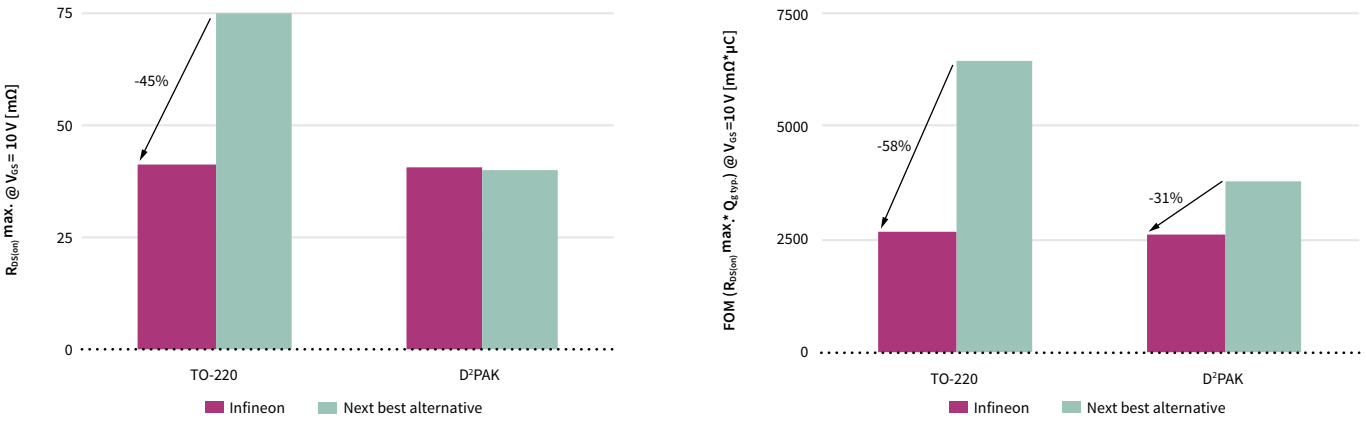
OptiMOS™ 300 V comparison of $R_{DS(on)}$ max. and FOM for TO-220 and D²PAK



OptiMOS™ 300 V can provide voltage spike headroom for better reliability, safety and ease-of-design in a 60 V telecom rectifier. The number of stages required in cascaded high voltage switch mode power supplies can also be reduced. Additionally, 110 V AC UPS can now be realized with OptiMOS™ 300 V. Moreover, the hard commutation ruggedness allows it to be used under demanding conditions such as high dv/dt up to 60 kV/µs and high current densities thereby enabling simplification of the design process.

Product portfolio

Voltage [V]	Package	Product type	$R_{DS(on)}$ max. [mΩ]
300	D²PAK	IPB407N30N	40.7
	TO-220	IPP410N30N	41.0

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Additional information
For further information on technologies, our products, the application of our products, delivery terms and conditions and/or prices, please contact your nearest Infineon Technologies office (www.infineon.com).

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