

Product brief

OptiMOS™ 5 power MOSFETs 25 V and 30 V high-performance portfolio extension in PQFN 2x2

Infineon's next generation of leading-edge MOSFETs

Innovation and best-in-class performance are at the heart of Infineon to cater to market requirements with outstanding products.

Combining leading-edge silicon technology with ever-improving packaging innovation, Infineon thrives on optimizing the product with the system in mind, setting new standards in MOSFET on-state resistance ($R_{DS(on)}$) and switching performance in a small 2x2 mm² footprint.

By expanding the current PQFN 2x2 product portfolio with new best-in-class (BiC) OptiMOS™ 5 products in 25 V and 30 V, Infineon adds a new power density dimension with the industry's lowest resistance per package area. The new products constitute a perfect fit for applications that require optimized efficiency and power density solutions, e.g., in DC-DC conversion, such as point-of-load (PoL) and brick converters for telecom and server applications, portable and wireless chargers, as well as for electronic speed controls (ESC) for small brushless motors in drones where form factor and weight matters.

Offering the highest PCB layout routing flexibility and combined with an outstanding electrical performance, the small footprint of only 2x2 mm² further contributes towards best-in-class power density and form factor improvement in the end application. The benefits are also visible in terms of a reduced system temperature. The improved performance leads to a more relaxed thermal management contributing further to the shrinking of the system size, enabling significant space-saving, reduced system costs, and easy-to-design products.

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Key features

- › New BiC products
- › Small PQFN 2x2 package
- › Leading-edge silicon technology
- › Ultralow charges
- › RoHS compliant – halogen free

Key benefits

- › Highest efficiency
- › Less paralleling required
- › Very low voltage overshoot
- › System cost reduction
- › Small package for highest PCB layout routing flexibility
- › Ideal for high performance applications

Target applications

- › DC-DC converters, e.g., server, telecom
- › Portable/wireless chargers
- › Drones brushless motor control
- › Service robots brushed motor control
- › Load switch
- › Battery protection



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Comparison PQFN 2x2 30 V

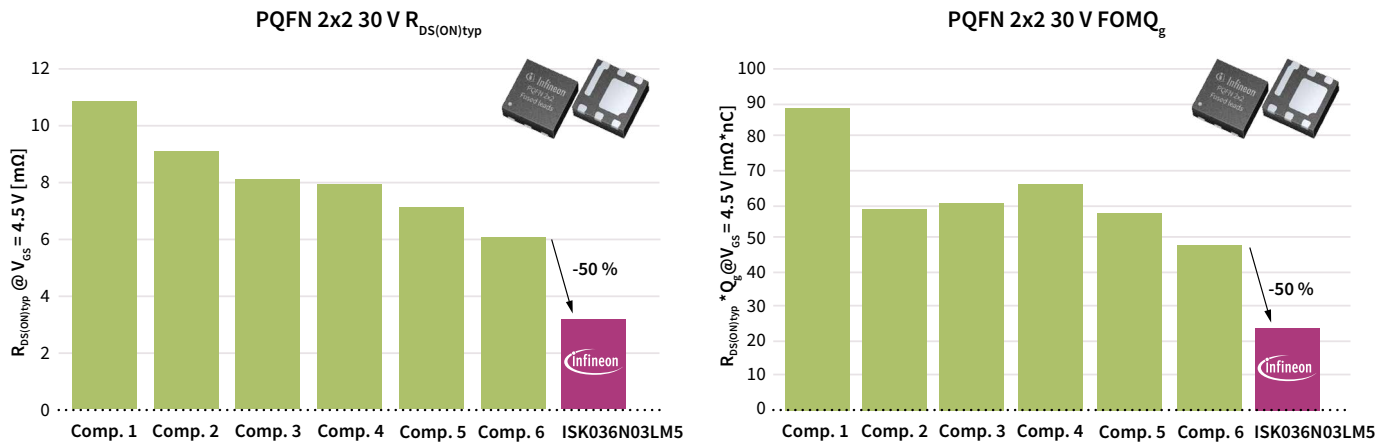


Figure 1: Comparison between existing and new Infineon PQFN 2x2 package in terms of $R_{DS(on)}$ and FOM for OptiMOS™ 5 30 V

A significantly reduced $R_{DS(on)}$ and FOM Q_g compared to the existing products in PQFN 2x2 package enables an increase of the system power density.

Best-in-class product portfolio OptiMOS™ 5 25 V and 30 V

Part number	Package	Voltage [V]	$R_{DS(on)}$ max, mΩ	OPN
ISK024NE2LM5	PQFN 2x2 mm ²	25	2.4	ISK024NE2LM5AULA1
ISK036N03LM5		30	3.6	ISK036N03LM5AULA1

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