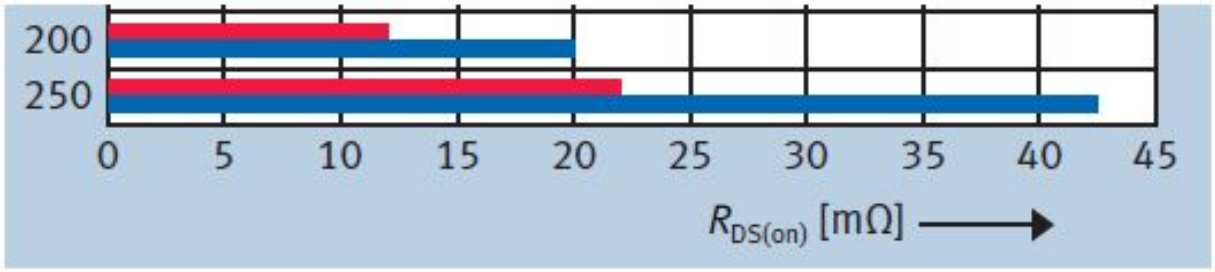
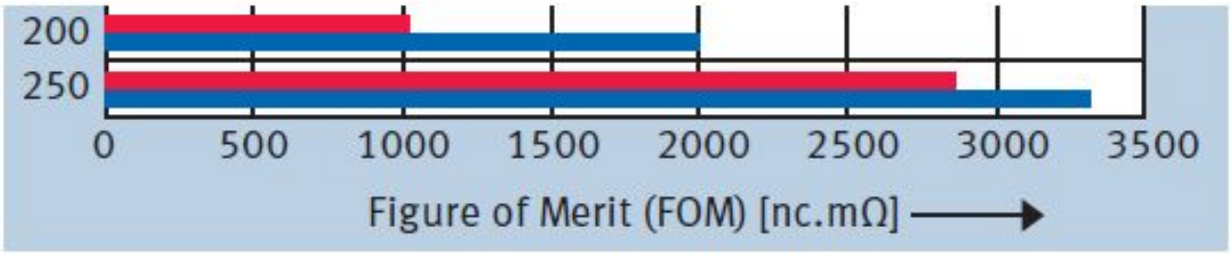
MOSFETs Boast Lower FOM at 200 V and 250 V

Infineon Technologies AG has expanded the application scope of its OptiMOS power MOSFET portfolio, introducing a family of 200-V and 250-V devices well-suited for synchronous rectification in 48-V systems, dc-dc converters, uninterruptable power supplies (UPSs) and inverters for dc motor drives. According to the company, these power MOSFETs feature the lowest figures of merit (FOM) for devices in their voltage class, and have less than half the on-state resistance ($R_{DS(ON)}$) of competing 200-V and 250-V MOSFETs (Fig. 1). The company also claims up to 35 percent lower gate charge (Q_G) than competing devices.

Available immediately, the OptiMOS 200-V and 250-V device family includes components in TO-220, TO-262 (I^2PAK), D²PAK (TO-263) and SuperSO8 packages with $R_{DS(on)}$ values of 10.7 mΩ, 20 mΩ, 32 mΩ and 60 mΩ (Fig 2 and the table). The high performance of the OptiMOS 200-V and 250-V devices allows use of a slim SuperSO8 package, which measures 5 mm x 6 mm x 1 mm, for applications that previously required the bulky D²PAK, which measures 9 mm x 10 mm x 4.5 mm. In 10k quantities, unit pricing begins at $1.20 for the 200-V MOSFETs and $1.40 for the 250-V devices. Further information is available at www.infineon.com/cms/en/product/channel.html?channel=ff80808112ab681d0112ab6a5d5404c8.



(a)



(b)

Fig 1. Infineon claims best-in-class values for $R_{DS(ON)}$ (a) and figure of merit (b) for the 200-V and 250-V rated OptiMOS transistors. Shown here are the company's comparisons of OptiMOS parts (in red) with competing devices (in blue).

Fig. 2. The OptiMOS 200-V and 250-V MOSFETs are offered in TO-262, TO-220, SuperSO8, and D²PAK (TO-263) packages.

Table. Part numbers and package options for 200-V and 250-V OptiMOS power MOSFETs. ($R_{DS(ON)}$ values are shown for selected parts.)

Voltage rating (V_{DSS})	**TO-262**	**TO-220**	**SuperSO8**	**D2PAK (TO-263)**
200 V	IPI110N20N3 G	IPP110N20N3 G	BSC320N20NS3 G 32 mΩ max	IPB107N20N3 G 10.7 mΩ max
250 V	IPI200N25N3 G	IPP200N25N3 G	BSC600N25NS3 G 60 mΩ max	IPB200N25N3 G 20 mΩ max