

GaN FET Features 1-mΩ On-Resistance

EPC’s 100-V, 1-mΩ EPC2361 is being introduced as the lowest on-resistance GaN FET on the market, offering double the power density compared to EPC’s prior-generation products. The EPC2361 has a typical $R_{DS(ON)}$ of just 1 mΩ (see Fig. 1) in a thermally enhanced QFN package with exposed top and tiny, 3-mm x 5-mm, footprint (see Fig. 2). The maximum $R_{DS(ON)} \times \text{area}$ of the EPC2361 is 15 mΩ*mm²—over five times smaller than comparable 100-V silicon MOSFETs, according to EPC.

With its ultra-low on-resistance, the EPC2361 enables higher power density and efficiency in power conversion systems, leading to reduced energy consumption and heat dissipation. This performance is particularly significant for applications such as high-power PSU ac-dc synchronous rectification, high-frequency dc-dc conversion for data centers, motor drives for e-mobility, robotics, drones, and solar MPPTs.

A development board for the EPC2361, the EPC90156 is a half bridge featuring this GaN FET. It is designed for 100-V maximum device voltage and 65-A maximum output current. This 2-in. x 2-in. (50.8-mm x 50.8-mm) board is designed for optimal switching performance and contains all critical components for easy evaluation.

The EPC2361 is priced at \$4.60 each in 3,000-piece volumes. The EPC90156 development board is priced at \$200.00 each. The product is available through any one of EPC’s [distribution partners](#) or can be ordered directly from the [EPC website](#). For more information, see the EPC2361 [page](#).

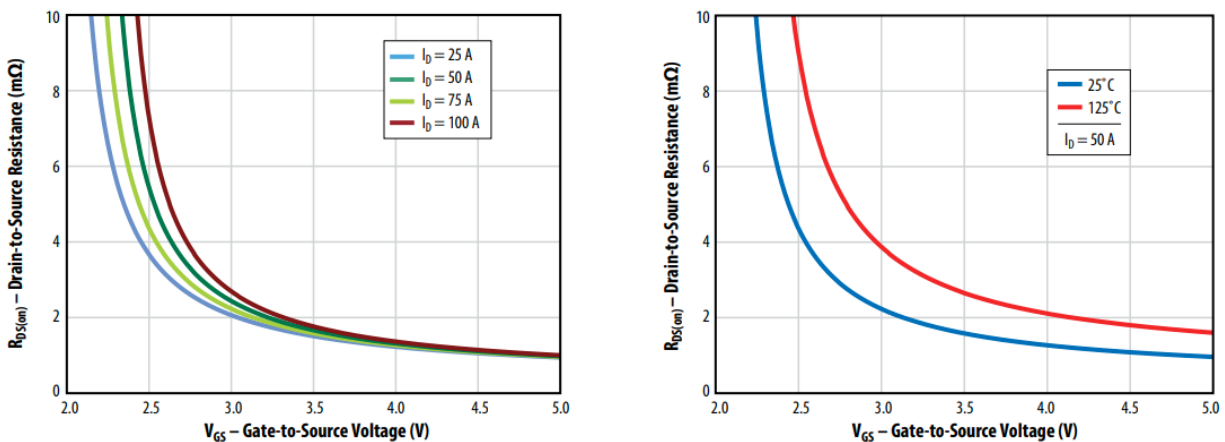


Fig. 1. The EPC2361 a 100-V, 1-mΩ GaN FET in compact 3-mm x 5-mm QFN package, enabling higher power density for dc-dc conversion, fast charging, motor drives, and solar MPPTs. On-resistance is plotted here as a function of gate voltage for a range of drain currents (left) and at room versus high temperature (right).

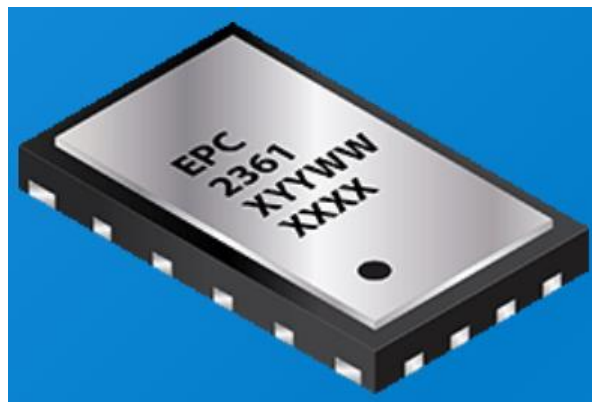


Fig. 2. The EPC2361 has a maximum $R_{DS(ON)} \times \text{area}$ of 15 mΩ*mm². This figure of merit is over five times smaller than that of comparable 100-V silicon MOSFETs, according to EPC.