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100-V GaN FET Features 1.2-mΩ In 3.3-mm × 3.3-mm QFN

EPC's EPC2367 is a 100-V GaN FET featuring an ultra-low $R_{DS(ON)}$ of 1.2 mΩ, which is approximately a 30% improvement over previous generation best-in-class devices, according to the vendor. It also has a smaller footprint with its 3.3-mm × 3.3-mm QFN package, reducing PCB space and enhancing thermal performance (see the figure). The company adds it has best-in-class switching figures of merit (FoMs) such that the EPC2367 outperforms competitors in hard- and soft-switching applications, delivering superior efficiency and lower power losses.

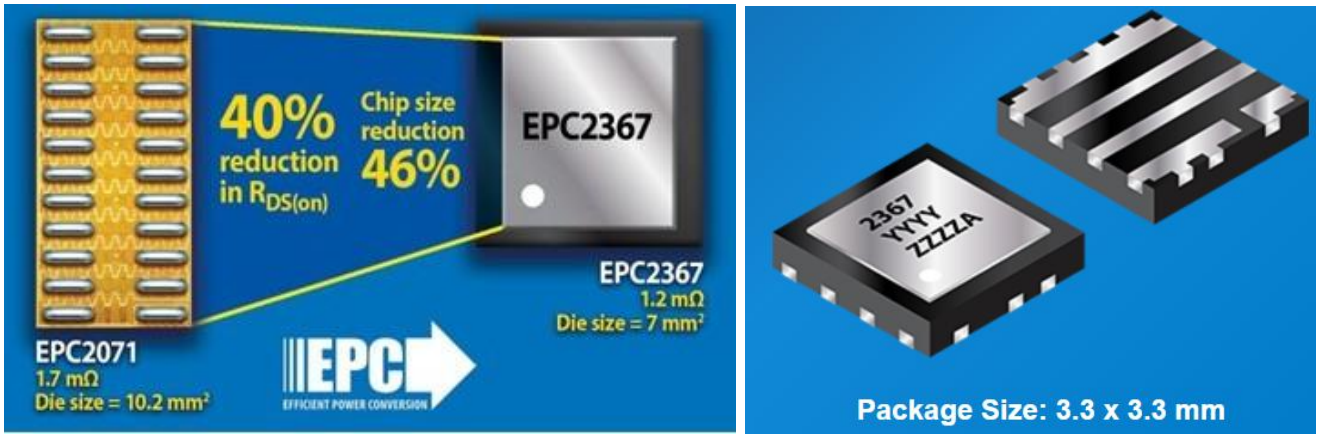
With regard to its enhanced thermal performance, the EPC2367 is said to operate cooler under load, improving system reliability and enabling higher power densities. EPC also highlights its outstanding temperature cycling reliability, saying it has 4× the thermal cycling capability compared to previous GaN generations, ensuring robust long-term operation.

Designed for 48-V intermediate voltage bus architectures, the EPC2367 has been rigorously tested in hard- and soft-switching applications. Performance results demonstrate higher efficiency across the full power range, with significant power loss reductions. In a 1-MHz, 1.25-kW system, EPC2367 reduces power losses while achieving 1.25× the output power compared to previous GaN and Si MOSFET alternatives.

"The EPC2367 advances GaN technology with ultra-low on-resistance and superior thermal cycling, enabling engineers to boost efficiency and power density in AI servers, robotics, and automotive systems," said Alex Lidow, EPC CEO and co-founder.

Supporting the evaluation and application of the EPC2367, the EPC90164 development board is a half bridge featuring the EPC2367 GaN FET. It is designed for 80-V maximum operating voltage and 35-A maximum output current. The purpose of this board is to simplify the evaluation process of power systems designers to speed their product's time to market. 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 EPC2367 is priced at $2.81 each in 3-Ku volumes, while the EPC90164 development board is priced at $200.00 each. Product is available through any one of EPC's distribution partners or may be ordered directly from the EPC website. For more information, see the EPC2367 page.



(a) *(b)*

Figure. The EPC2367 achieves a 40% reduction in on-resistance from that of the EPC2071, despite having a significantly smaller die (a). The top and bottom sides of the EPC2367's QFN package are shown in (b). The EPC2071 was released in May 2022.