

200 V, 10 mΩ GaN FET Joins Family of Footprint Compatible QFN Packaged Devices for High Efficiency & Design Flexibility

EPC introduces 200 V, 10 mΩ EPC2307 GaN FET optimized for DC-DC conversion, AC/DC SMPS and chargers, solar optimizers and microinverters, and motor drives.

EL SEGUNDO, CA, USA, January 31, 2023 /EINPresswire.com/ -- EPC, the world's leader in enhancement-mode gallium nitride FETs and ICs, introduces the 200 V, 10 mΩ [EPC2307](#) in a thermally enhanced QFN in a tiny 3 mm x 5 mm footprint.

The EPC2307 is footprint compatible with the previously released 100 V, 1.8 mΩ [EPC2302](#), the 100 V 3.8 mΩ [EPC2306](#), the 150 V, 3 mΩ EPC2305, the 150 V, 6 mΩ EPC2308, and the 200 V, 5 mΩ EPC2304 allowing designers to trade off RDS(on) vs. price to optimize solutions for efficiency or cost by dropping in a different part number in the same PCB footprint.


The devices feature a thermally enhanced QFN package with exposed top. The extremely small thermal resistance improves heat dissipation through a heatsink or heat spreader for excellent thermal behavior, while wettable flanks simplify assembly, and footprint compatibility offers design flexibility to specs change for fast time to market.

This family of devices bring several benefits to motor drive designs including very short deadtimes for high motor + inverter system efficiency, lower current ripple for reduced magnetic loss, lower torque ripple for improved precision, and lower filtering for lower cost.

For DC-DC conversion applications, these devices offer up to five times higher power density, excellent heat dissipation, and lower system costs in both hard switching and soft switching designs. Additionally, ringing and overshoot are both significantly reduced for better EMI.

200 V, 10 mΩ EPC2307 GaN FET

Joins Family of Footprint Compatible
QFN Packaged Devices for High Efficiency
and Design Flexibility



EFFICIENT POWER CONVERSION
3 x 5 mm

Parameter (5 V _{GS})	EPC2302	EPC2306	EPC2305	EPC2308	EPC2304	EPC2307
V_{DS}	100 V	100 V	150 V	150 V	200 V	200 V
R_{DS(on)} typ	1.4 mΩ	3.2 mΩ	2.2 mΩ	4.9 mΩ	4.1 mΩ	8.2 mΩ
I_D (Pulsed)	408 A	197 A	329 A	157 A	260 A	130 A
Q_G typ	18 nC	11 nC	21 nC	9.8 nC	21 nC	10.6 nC
Q_{GD} typ	3 nC	1.1 nC	2.6 nC	1.2 nC	2.6 nC	1.3 nC
Q_{OSS} typ	82 nC	41 nC	105 nC	49 nC	115 nC	58 nC
Q_{RR} typ	0 nC	0 nC	0 nC	0 nC	0 nC	0 nC

200 V, 10 mΩ EPC2307 GaN FET in a thermally enhanced QFN in a tiny 3 mm x 5 mm footprint



This family of devices is ideal for smaller, lighter weight motor drives, more efficient and smaller DC-DC converters, and higher efficiency solar optimizers and microinverters.”

Alex Lidow, CEO & Co-Founder

“The continued expansion of this family of footprint compatible, easy to assemble devices provides engineers the flexibility to optimize their designs quickly without delaying time-to-market,” said Alex Lidow, EPC’s co-founder, and CEO. “This family of devices is ideal for smaller, lighter weight motor drives, more efficient and smaller DC-DC converters, and higher efficiency solar optimizers and microinverters.”

Development Board

The EPC90150 development board is a half bridge featuring the EPC2307 GaN. The purpose of these boards is to simplify the evaluation process and speed time to market. The 2” x 2” (50.8 mm x 50.8 mm) boards are designed for optimal switching performance and contain all critical components for easy evaluation.

Price and Availability

The EPC2307 is priced at \$3.54 each in 1 Ku volumes.

The EPC90150 development board is priced at \$200.00 each.

All devices and boards are available for immediate delivery from Digi-Key at <https://www.digikey.com/en/supplier-centers/epc>

Designers interested in replacing their silicon MOSFETs with a GaN solution can use the EPC GaN Power Bench’s cross-reference tool to find a suggested replacement based on their unique operating conditions. The cross-reference tool can be found at: <https://epc-co.com/epc/DesignSupport/GaNPowerBench/CrossReferenceSearch.aspx>

About EPC

EPC is the leader in enhancement mode gallium nitride (eGaN®) based power management. GaN FETs and integrated circuits provide performance many times greater than the best silicon power MOSFETs in applications such as DC-DC converters, remote sensing technology (lidar), motor drives for e-Mobility, robotics, and drones, and low-cost satellites

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Press contact: Efficient Power Conversion: Renee Yawger tel: 908.619.9678 email: renee.yawger@epc-co.com

Renee Yawger
Efficient Power Conversion
+1 908-619-9678

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