Low Cost IToF Laser Drivers Using Automotive-Qualified GaN FETs

EL SEGUNDO, CA, UNITED STATES, April 23, 2025 /EINPresswire.com/ -- Efficient Power Conversion (EPC), the leader in enhancement-mode gallium nitride (GaN) power transistors and ICs, introduces the EPC91116, a high-speed, high-current laser driver evaluation board tailored for indirect time-of-flight (iToF) applications in automotive and industrial sensing. Built around the AEC-Q101 qualified EPC2203 eGaN® FET, the EPC91116 delivers nanosecond-scale performance with a flexible, low-cost architecture that simplifies prototyping and accelerates time to market.

EPC Releases Low Cost IToF Laser Driving Using Automotive-Qualified GaN FETs

As iToF systems become critical for automotive driver monitoring, in-cabin sensing, and 3D mapping, designers need tools that are ready for qualification and production. The EPC91116 answers this need with support for peak currents above 10 A, pulse widths as narrow as 5 ns, and switching speeds up to 100 MHz.

“With the EPC91116, developers get a low-cost, production-ready solution that highlights GaN’s speed and power, bridging the gap between prototyping and iToF deployment,” said Alex Lidow, CEO and co-founder of EPC.

Key Features:

- Automotive-qualified components: Utilizes the EPC2203, an 80 V, 17 A (pulsed), 0.9 mm × 0.9 mm GaN FET with 670 pC total gate charge and only 80 mΩ RDS(on), and the AEC-Q100-qualified 74LVC2T45GS logic-level translator.
- Simplified gate drive: Eliminates the need for specialized gate drivers by using a low-cost CMOS logic IC to reliably drive GaN at up to 100 MHz.
- Flexible input logic: Compatible with logic levels from 1.2 V to 5.5 V with simple modification.
- Built-in Narrow Pulse Generator (NPG) Option: Enables precise, tunable pulse widths (5–60

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> *Alex Lidow, EPC CEO and co-founder*

ns).

• Laser-ready: Includes the EPC9989 interposer board for easy mounting of a variety of laser diodes and loads.

This development platform is ideal for engineers looking to implement automotive-grade iToF designs or explore other fast-switching power topologies such as Class-E amplifiers, SEPIC converters, or other lidar systems.

To download datasheets, schematics, and additional documentation, visit: https://epc-co.com/epc/products/evaluation-boards/EPC91116

Price and Availability

The EPC91116 evaluation board is priced at $423.49

The EPC2203 is priced at $0.395 in 2.5ku volumes.

All evaluation boards and GaN FETs 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

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