150 ARMS Motor Drive Design with GaN FETs Provides Best Performance for eMobility, Forklifts, and High-Power Drones

The EPC9186 GaN-based inverter reference design enhances motor system performance, range, precision, and torque for high power applications.

150 ARMS Motor Drive Reference Design Brings GaN Performance to High-Power Consumer and Industrial Motors

EL SEGUNDO, CA, UNITED STATES, May 9, 2023 /EINPresswire.com/ -- EPC announces the availability of the EPC9186, a 3-phase BLDC motor drive inverter using the EPC2302 eGaN® FET. The EPC9186 supports a wide input DC voltage ranging from 14 V to 80 V. The high-power capability of the EPC9186 supports applications such as electric scooters, small electric vehicles, agricultural machinery, forklifts, and high-power drones.

The EPC9186 uses four EPC2302 FETs in parallel per switch position and can deliver up to 200 Apk maximum output current. The EPC9186 contains all the necessary critical function circuits to support a complete motor drive inverter including gate drivers, regulated auxiliary power rails for housekeeping supplies, voltage, and temperature sense, accurate current sense, and protection functions. The boards can also be configured for multiphase DC–DC conversion and support both phase and leg shunt current sensing.

Major benefits of a GaN-based motor drive are exhibited with this reference design, including lower distortion for lower acoustic noise, lower current ripple for reduced magnetic loss, lower torque ripple for improved precision, and lower filtering for lower cost.

EPC provides full demonstration kits, which include interface boards that connect the inverter board to the controller board development tool for fast prototyping that reduce design cycle times.

“GaN-based inverters increase motor efficiency and can increase power capability without

> GaN-based inverters increase motor efficiency and can increase power capability without increasing size"
>
> *Alex Lidow, CEO and co-founder of EPC*

increasing size", said Alex Lidow, CEO of EPC. "This enables motor systems that are smaller, lighter, less noisy, have more torque, more range, and greater precision for a wide range of consumer and industrial applications."

Price and Availability
The EPC9186 reference design board is priced at $900.00 and is available for order 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. eGaN 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 eMobility, robotics, and drones, and low-cost satellites.

Visit our web site: epc-co.com

Follow EPC on social media: LinkedIn, YouTube, Facebook, Twitter, Instagram, YouKu

eGaN is a registered trademark of Efficient Power Conversion Corporation, Inc.

Press contact: Efficient Power Conversion: Renee Yawger tel: +1.908.619.9678 email: renee.yawger@epc-co.com

Renee Yawger
Efficient Power Conversion
+1 908-619-9678
email us here
Visit us on social media:
Facebook
Twitter
LinkedIn
YouTube