GaN Systems’ new GS66508T Half Bridge Evaluation Board simplifies GaN transistor circuit design

Available now globally through local and online distributors

OTTAWA, Ontario, November 2015 – GaN Systems, the leading manufacturer of gallium nitride power transistors, announces its new Half-Bridge Evaluation Board which demonstrates the performance of its GaN enhancement mode power semiconductors in real power circuits. The fully functional GS66508T-EVBHB Eval Board is easily configured into any half bridge-based topology, including Boost and Buck modes. The Eval Board comes with a Quick Start instruction guide and YouTube video links (https://www.youtube.com/user/GaNSystems) to have the installation up and running in minutes. The Eval Board can be used in synchronous Boost or Buck conversion, as well as pulsed switching to evaluate transistor waveforms. The kit has full documentation, including Bill-of-Materials component part numbers, PCB layout and thermal management, and gate drive circuit reference design which is also useful for system engineers to use in their products.

Designed to provide electrical engineers with a complete working power stage, the evaluation board consists of two 650V, 30A GS66508T GaN FETs, half bridge gate drivers, a gate drive power supply, and heatsink. The GS66508T high power transistors are based on GaN Systems’ proprietary Island Technology® and belong to its 650V family of high density devices which achieve extremely efficient power conversion with fast switching speeds of >100V/nS and ultra-low thermal losses. GaN Systems is the only company to have developed and productised a comprehensive portfolio of GaN power transistors with voltage ratings of 100V and 650V and current ratings from 7A to 250A. GaN Systems’ Island Technology® die design, combined with the extremely low inductance and thermal efficiency of GaNPX™ packaging, provides its GaN FETs with 45x improvement in switching and conduction performance over traditional silicon MOSFETs and IGBTs.

The 30A/55mΩ GS66508T GaN power transistors are top-side cooled and feature near-chip-scale, thermally-efficient GaNPX™ packaging. 98.7% power conversion efficiency at 1.5kW is shown in the product documentation and can be reproduced in the owner’s lab.
The Eval Board provides footprints for output power inductors and capacitors to allow users to configure the board into desired Boost or Buck operational modes. Access to the transistor junction temperature is provided by both thermocouple pads and thermal camera imaging ports. Power input should be 9VDC to 12VDC, with an absolute maximum of 15V. On-board voltage regulators create +5V for the logic circuit and +6.5V for the gate driver. There are three operational modes: pulse test mode; buck/standard half bridge mode and boost mode. A full user guide is available at:


The new GS66508T high current half bridge Evaluation Board is available now worldwide and can be sourced by searching the “GS66508T-EVBHB” part number to find a local authorised distributor.

About GaN Systems

GaN Systems is a fabless semiconductor company that is the first place systems designers go to realize all the benefits of gallium nitride in their power conversion applications. To overcome silicon’s limitations in switching speed, temperature, voltage and current, the company develops the most complete range of gallium nitride power switching transistors for a wide variety of markets. GaN Systems’ unique Island Technology® addresses today’s challenges of cost, performance, and manufacturability resulting in products that are smaller and more efficient than other GaN design approaches. The company is headquartered in Ottawa, Canada. For more information, please visit: www.gansystems.com

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