GaN Systems Presents Paper on Latest Gallium Nitride Transistor Developments

GaN Systems

OTTAWA, ON – August 2013 – A team of experts on gallium nitride technologies from GaN Systems is presenting a major conference paper at the 224th ECS Electrochemical Energy Summit (San Francisco, California October 27 – November 1). “Characterisations and performance of D-Mode GaN HEMT transistor used in a cascode configuration” authored by Tom MacElwee, John Roberts, Hughes Lafontaine, I. Scott, Greg Klowak, and Lyubov Yushyna will be presented during the GaN and SiC Power Technologies symposium.

GaN Systems has developed proprietary gallium nitride high power transistors for clean technology power conversion applications, enabling superior switching efficiencies over current silicon based solutions. These devices offer substantial benefits to switching power supply designs, inverters, hybrid and electric vehicles, battery management and power factor correction

The paper reports on D-mode HEMT device performance when configured in cascode mode, including basic parameters of the device and its integration into a PQFN package. A detailed discussion demonstrates the 500V 3.3A switching characteristics of the cascode and proves excellent switching performance with measured voltage slew rates as large as 70 V/ns.

The GaN D-mode HEMT device developed in the work covered by the paper was fabricated using a conventional RF GaN process flow on 3” 4H SI-SiC starting substrate. The SiC substrate should allow for excellent thermal performance and high voltage operation of the switching device due to the semi-insulating nature of the SiC substrate.

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