

Fujitsu to Begin Sample Shipments of GaN Power Device with 150V Breakdown Voltage

Contributes to smaller, more efficient power supply products for use in telecommunications, industrial equipment, automotive, and other applications

Yokohama, Japan, July 11, 2013 – Fujitsu Semiconductor Limited today announced the release of MB51T008A, a silicon substrate-based, gallium-nitride (GaN) power device that features a breakdown voltage of 150 V. Sample quantities of the new product will be made available starting July 2013. The new device, which enables normally-off operations, is capable of achieving roughly one half the figure of merit (FOM) of silicon-based power devices with an equivalent breakdown voltage. With the addition of the new product to its lineup, Fujitsu Semiconductor will be able to offer GaN devices that contribute to smaller, more efficient power supplies for a wide range of fields, from home appliances and ICT equipment to automotive applications.

The MB51T008A has a number of advantages, including: 1) on-state resistance of 13 mΩ and total gate charge of 16 nC, which enables roughly half the FOM of silicon-based power devices with an equivalent breakdown voltage; 2) minimal parasitic inductance and high-frequency operations through the use of WLCSP packaging; and 3) a proprietary gate design that enables normally-off operations. The new device is ideal for high-side switches and low-side switches in DC-DC converters employed in power supplies for data communications equipment, industrial products, and automobiles. In addition, because it supports a higher switching frequency in power supply circuits, power supplies can achieve improvements in overall size and efficiency. Fujitsu Semiconductor plans to begin sample shipments in July 2013, with volume production scheduled to begin in 2014.

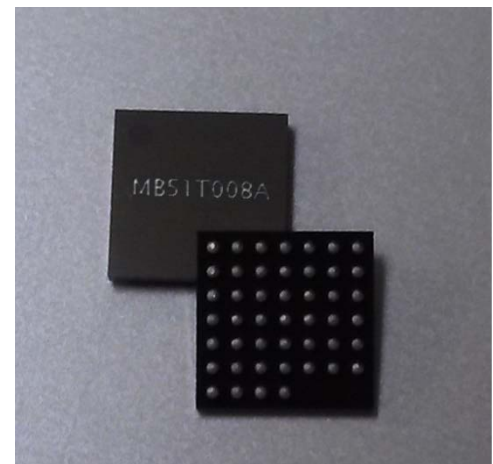


Photo 1. MB51T008A

In addition to MB51T008A, which features a breakdown voltage of 150 V, Fujitsu Semiconductor is also developing models with breakdown voltages of 600 V and 30 V, thereby helping to enable enhanced power efficiency in a wide range of product areas. These GaN power devices are based on the HEMT (High Electron Mobility Transistor) technology, which Fujitsu Laboratories has led the development since the 1980's. Building on the rich IP portfolio of the technology, Fujitsu Semiconductor will rapidly bring its GaN power devices to market. It also plans to build partnerships with customers across a wide range of industries, in order to expand its business further.

The MB51T008A and other GaN products from Fujitsu Semiconductor will be on display at “TECHNO-FRONTIER 2013”, to be held July 17-19 at Tokyo Big Sight in Tokyo, Japan. The company also plans to highlight performance improvements in its GaN power devices with 600 V breakdown voltages, as well as prototypes and test data of a 2.5 kW power supply employing a GaN power device, a high-frequency PFC, and a high-frequency DC-DC converter.

Main Specifications

MB51T008A

Drain-Source Breakdown Voltage $V_{(BR)DSS}$	150V
Gate Threshold Voltage $V_{GS(th)}$	1.8V
Drain-Source On-State Resistance $R_{DS(on)}$	13m Ω
Gate Charge Total Q_g	16nC
Package	WLCSP

About Fujitsu Semiconductor

Fujitsu Semiconductor Limited designs, manufactures, and sells semiconductors, providing highly reliable, optimal solutions and support to meet the varying needs of its customers. Products and services include microcontrollers, ASICs, ASSPs, and power management ICs, with wide-ranging expertise focusing on mobile, ecological, automotive, imaging, security, and high-performance applications. Fujitsu Semiconductor also drives power efficiency and environmental initiatives. Headquartered in Yokohama, Fujitsu Semiconductor Limited (formerly named Fujitsu Microelectronics Limited) was established as a subsidiary of Fujitsu Limited on March 21, 2008. Through its global sales and development network, with sites in Japan and throughout Asia, Europe, and the Americas, Fujitsu Semiconductor offers semiconductor solutions to the global marketplace.

For more information, please see: <http://jp.fujitsu.com/fsl/en/>

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