



News Release / Presseinformation

Infineon Redefines Best-in-Class IGBT Performance With 650V TRENCHSTOP™ 5; Switching Losses Reduced by More Than 60 percent

Neubiberg, Germany – November 12, 2012 – Infineon Technologies AG (FSE: IFX / OTCQX: IFNNY) releases the next generation of thin wafer IGBT (Insulated Gate Bipolar Transistor) by introducing TRENCHSTOP™ 5. It features significantly lower conduction and switching losses compared to currently leading solutions. With this major breakthrough, Infineon sets a new benchmark in IGBT performance to continue holding a leading position in markets requiring constantly increasing efficiency.

With an increased breakthrough voltage of 650V the new technology provides a higher safety margin for designs. Target topologies are boost PFC (AC/DC) stage and high voltage DC/DC topologies commonly found in applications such as Photovoltaic Inverters, Uninterruptible Power Supplies (UPS) and Inverterised Welding Machines.

The TRENCHSTOP™ 5 provides the basis for two product families. The HighSpeed 5 (H5) is a soft high speed IGBT designed for ease of use and the plug and play replacement of existing IGBTs, since it requires minimum design-in effort. The HighSpeed 5 FAST (F5) is the most efficient IGBT ever seen; for example, more than 98 percent system efficiency has been observed in application measurements on a photovoltaic inverter using a “H4 bridge” topology.

“TRENCHSTOP™ 5 is a quantum leap in IGBT performance, providing dramatic system efficiency improvement and higher breakthrough voltage for increased reliability. This will lead to reduced system costs of the overall platform. For customers demanding all these features in one solution, TRENCHSTOP™ 5 is the only option,” says Roland Stele, Marketing Director IGBT Power Discretets at Infineon Technologies.

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The new TRENCHSTOP™ 5 delivers major benefits to a wide range of target applications. Compared to the current Best-in-Class HighSpeed (H3) family from Infineon, conduction losses have been reduced by more than 10 percent, whilst total switching losses have been reduced by more than 60 percent. This massive increase in efficiency allows for either lower junction temperatures during operation, which ensures higher lifetime reliability, or higher power density designs. For example, application tests have shown TRENCHSTOP™ 5 in a TO-220 package to have 15 percent lower case temperature than a H3 in a TO-247 package.

Other significant improvements include a mild positive temperature coefficient of the saturation voltage ($V_{ce(sat)}$) and turn-off switching losses (E_{off}), which ensure that performance is not penalized during high temperature operation and paralleling is straightforward. The 2.5 times lower gate charge (Q_g) compared to H3 results in an IGBT that is easier to drive at lower costs. Furthermore, TRENCHSTOP™ 5 features a temperature stable forward voltage drop (V_F) of the fast recovery free-wheeling diode and reverse recovery time (T_{rr}) of less than 50ns. Low output capacitance (C_{oss} and E_{oss}) provide outstanding light-load efficiency, which is perfect for designs that predominately operate below 40 percent of maximum rating.

Availability

Samples are available from mid-November for both the H5 and F5 variants.

For more information visit www.infineon.com/trenchstop5

About Infineon

[Infineon](http://www.infineon.com) Technologies AG, Neubiberg, Germany, offers semiconductor and system solutions addressing three central challenges to modern society: [energy efficiency](#), [mobility](#), and [security](#). In the 2011 fiscal year (ending September 30), the company reported sales of Euro 4 billion with close to 26,000 employees worldwide. Infineon is listed on the Frankfurt Stock Exchange (ticker symbol: IFX) and in the USA on the over-the-counter market OTCQX International Premier (ticker symbol: IFNNY).

Further information is available at www.infineon.com

This news release is available online at www.infineon.com/press

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