

Press Release

October 16, 2013

Infineon and SCHWEIZER present a Demonstrator of a high-performance Battery Switch during Congress „Electronics in the Vehicle“

Baden-Baden, October 16, 2013 – On the occasion of the VDI congress „Electronics in the Vehicle“ („Elektronik im Fahrzeug“), taking place October 16 to 17 in Baden-Baden, Infineon Technologies AG and Schweizer Electronic AG for the first time present a jointly developed demonstrator of a high-performance battery switch. This battery switch demonstrates how, on smallest installation space, entire battery circuits or subnets can be switched electronically, at impressive benchmark data of 400 A static current and 7,200 A peak current.

On the one hand, this is enabled by the latest MOSFET generation of Infineon Technologies AG with the new innovative TO-leadless package in combination with the 40 V OptiMOS™ semiconductor technology, and on the other hand, via PCB Inlay technology of Schweizer Electronic AG, with copper inlays of 2 mm thickness for maximum ampacity and heat dissipation.

Typical applications for the battery switch are the replacement of today's pyroelectric solutions; the switching of high current loads or partial battery nets in vehicle operation as well as in parking mode; the prevention of electromigration and corrosion of electronic components, as well as the optimization of no-load and fault currents. It is also possible to use the device as a battery break-switch in order to detach from on-board power supply in case of transportation or seasonal shutdown of a car.

With the IPLU300N04S4-R7 of Infineon, 40 V MOSFETs of the latest generation of TO-leadless packages are applied which have been designed particularly for lowest on-state resistance (84 µOhm), highest ampacity (300 A DC) and best cooling (0.35 K/W). Despite increased performance data, the necessary footprint decreases by 30 % compared to D²PAK. Thus, very compact, power dissipation-efficient and robust high power solutions are possible, which – due to economic and technical restraints - could not be realized in such a way in the past.

The PCB Inlay technology of SCHWEIZER complements the remarkable semiconductor performance through outstanding ampacity and optimum heat spread, which is already established in the automotive area. By means of mature set-up technologies, the additive

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Contact for Media:

Susanne Schorn | Media & Communications | Schweizer Electronic AG | Einsteinstraße 10 | 78713 Schramberg

Phone: + 49 7422 / 512-213 | Fax: + 49 7422 - 512 777 213 | Mobile: + 49 172 - 22 84 524

E-mail: Communications@schweizer.ag | Please visit our website: www.morethanPCBs.com

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thermal resistance within the PCB can be decreased to < 0.1 K/W. The on-state resistance amounts to $29 \mu\text{Ohm}$, in total resulting in a terminal-terminal on-state resistance of only $113 \mu\text{Ohm}$. Thus, the mentioned parameters significantly contribute to heat dissipation and to an efficient cooling of the semiconductor.

In an impressive way, the demonstrator proves the possibilities of today's state-of-the art MOSFET and PCB technologies. When developing their systems, customers of both companies will largely benefit from the advantages of such a battery switch.

About Schweizer:

Schweizer Electronic AG is a global best-in-class technology company, manufacturing premium PCBs, innovative solutions and services for automotive, solar and industry electronics. Based on recognized technology and consultancy competencies, SCHWEIZER's products and systems address central challenges in the areas of Power Electronics, Embedding and System Cost Reduction and are characterized by energy and environmentally friendly features. Together with its partners Contag GmbH and Meiko Electronics Co. Ltd., the company offers in its division PCB cost and production optimised solutions for small, medium and large series and within this network employs more than 11,000 people in Germany, Japan, China and Vietnam.

With about 700 employees SCHWEIZER achieved sales of 100.2 million Euro in Fiscal Year 2012 (ending December). The company was founded in 1849, is managed by family members and listed at the Stuttgart and Frankfurt Stock Exchanges (ticker symbol „SCE“, „ISIN DE 000515623“).

For further information please contact

Susanne Schorn
Media & Communications
Schweizer Electronic AG
Einsteinstraße 10
78713 Schramberg
Phone: +49 7422 / 512-213
Fax: +49 7422 / 512-777-213
E-mail: Communications@schweizer.ag
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