



PRESS RELEASE

X-FAB Introduces New Galvanic Isolation Technology

Tessenderlo, Belgium – May 3, 2018

X-FAB Silicon Foundries SE, the leading analog/mixed-signal and specialty foundry, today announced the availability of a new galvanic isolation process technology that enables the fabrication of robust and reliable high voltage signal isolation solutions. The new process achieves best-in-class isolation performance. By leveraging it, X-FAB's customers will be able to design their own capacitive or inductive couplers for a wide range of applications.

Galvanic isolation electrically separates two circuits in order to improve noise immunity, remove ground loops, increase common mode voltage and safely isolate high voltages. Traditionally, optocoupler technology has been used to provide single-package signal isolation between two circuits in a system. However, for high temperature, high speed, high reliability or multi-channel systems, chip-level galvanic isolation based on capacitive or inductive coupling is more appropriate and cost-efficient compared to an optocoupler approach.

The 12 VDC auxiliary systems in electric vehicles require galvanic isolation from the hundreds of volts powering the vehicle's traction systems in order to protect against ground loops, signal noise and the risk of dangerous electric shocks. Another common application is medical diagnostic equipment, where it is important to safely isolate the electronic circuitry – which is plugged into the AC mains – from the low voltage sensor element that is in contact with the patient's skin. Power supplies such as DC/DC converters and switched-mode converters also need cost-effective high voltage isolation to ensure proper voltage regulation and reliability is maintained, as well as operator safety.

X-FAB now offers galvanic isolation technology on a foundry basis for robust and reliable couplers that need to withstand high voltages. For companies interested in the new galvanic isolation technology, the company offers packaged evaluation samples. Both packaged single-channel inductive and capacitive coupler samples are available. The capacitive coupler test chip, designated G3-C1, with an isolation layer thickness of 11 µm and was able to withstand up to 6,000 Vrms, the maximum limit of the test setup. Isolation layers thicker than the test chip's 11 µm are also available if a higher withstand voltage is required.

The new isolation process technology has been developed at X-FAB's Dresden manufacturing site which is now certified for automotive manufacturing according to the new IATF-16949:2016 International Automotive Quality Management System (QMS).



Availability

Galvanic isolation design kits are available for all major EDA platforms and can be downloaded from X-FAB's customer portal. Samples can be supplied on request. These chips are for evaluation purposes only and are not available for commercial resale.

###

About X-FAB

X-FAB is the leading analog/mixed-signal and MEMS foundry group manufacturing silicon wafers for automotive, industrial, consumer, medical and other applications. Its customers worldwide benefit from the highest quality standards, manufacturing excellence and innovative solutions by using X-FAB's modular CMOS processes in geometries ranging from 1.0 to 0.13 μm , and its special BCD, SOI and MEMS long-lifetime processes. X-FAB's analog-digital integrated circuits (mixed-signal ICs), sensors and micro-electro-mechanical systems (MEMS) are manufactured at six production facilities in Germany, France, Malaysia and the U.S. X-FAB employs about 4,000 people worldwide. For more information, please visit www.xfab.com

Acronyms

SiO ₂	Silicon dioxide
DC	Direct Current
V _{rms}	Voltage root-mean-square
EDA	Electronic Design Automation

X-FAB Press Contact

Thomas Hartung
VP Sales & Corporate Marketing
X-FAB Silicon Foundries
+49-361-427-6160
thomas.hartung@xfab.com