



Press Release

X-FAB Enhances Automotive Embedded Flash Offering for its 180 nm High-Voltage CMOS Technology Portfolio

Tessenderlo, Belgium – April 14, 2021

X-FAB Silicon Foundries, the leading foundry for analog/mixed-signal and specialty semiconductor solutions, has introduced a new Flash memory capability for its [XP018 high-voltage automotive process](#). This new Flash IP leverages X-FAB's already widely proven Silicon Oxide Nitride Oxide Silicon (SONOS) technology, which offers a combination of elevated levels of performance and best-in-class reliability. Fully compliant with stringent AEC100-grade 0 automotive specification, it can withstand operation across a -40°C to 175°C temperature range and fully supports the functional safety levels specified by ISO 26262.

It is supplied in a 32 KByte array size, following an 8K x 39-bit configuration, with a 32-bit data bus. A further seven bits are dedicated to Error Code Correction (ECC) so that zero-defect reliability in the field is assured. X-FAB's proprietary XSTI embedded Non-Volatile Memory (NVM) IP test interface has also been included in order to enable full serial access to the memory.

As this automotive-grade Flash IP is capable of running on a single 1.8 V power supply, it is well-suited for low-power designs. The addition of a built-in-self-test (BIST) module is pivotal in enabling effective memory testing, as well as enabling comprehensive product debugging. X-FAB is also able to provide a full NVM test service to customers if required.

"This new IP solution further enriches X-FAB's embedded Flash portfolio for 180 nm open technology platforms, which come with a large selection of voltages and wafer materials. This strengthens our offering to the market, allowing us to meet customer demands across a wider variety of applications," states Thomas Ramsch, Director NVM Development at X-FAB. "It will be of particular value in situations where both low-power and resilience to challenging conditions are expected."



"By being able to complement existing X-FAB platforms with new embedded Flash capabilities, our customers will benefit from significant reductions in footprint. Also, the modular approach of XP018 means that fewer mask layers are going to be needed. Both these factors will help with realizing major die cost optimization," adds Nando Basile, Technology Marketing Manager for NVM solutions at X-FAB. "The new Flash IP means that XP018 is now able to address mixed-signal, high-voltage applications where additional logic content and computational resources are required in a highly cost-effective way. This will specifically benefit battery operated devices, such as portable or autonomous smart sensors, with a great deal of potential in healthcare, industrial, consumer and IoT sectors."

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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 and SOI processes in geometries ranging from 1.0 μm to 130 nm, and its special silicon carbide 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 3,800 people worldwide. www.xfab.com

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Acronyms

BIST	Built-in-Self-Test
ECC	Error Code Correction
HV	High-Voltage
IP	Intellectual Property
NVM	Non-Volatile Memory
SONOS	Silicon Oxide Nitride Oxide Silicon