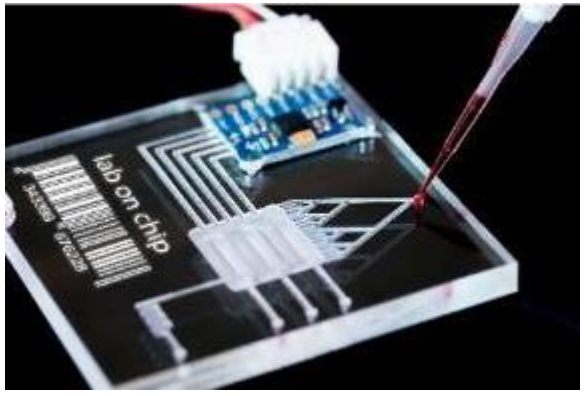
Embedded optical solutions through X-FAB's Foundry offering

Dr. Ulrich Bretthauer, Product Marketing Manager, X-FAB Silicon Foundries SE
November 30th, 2023

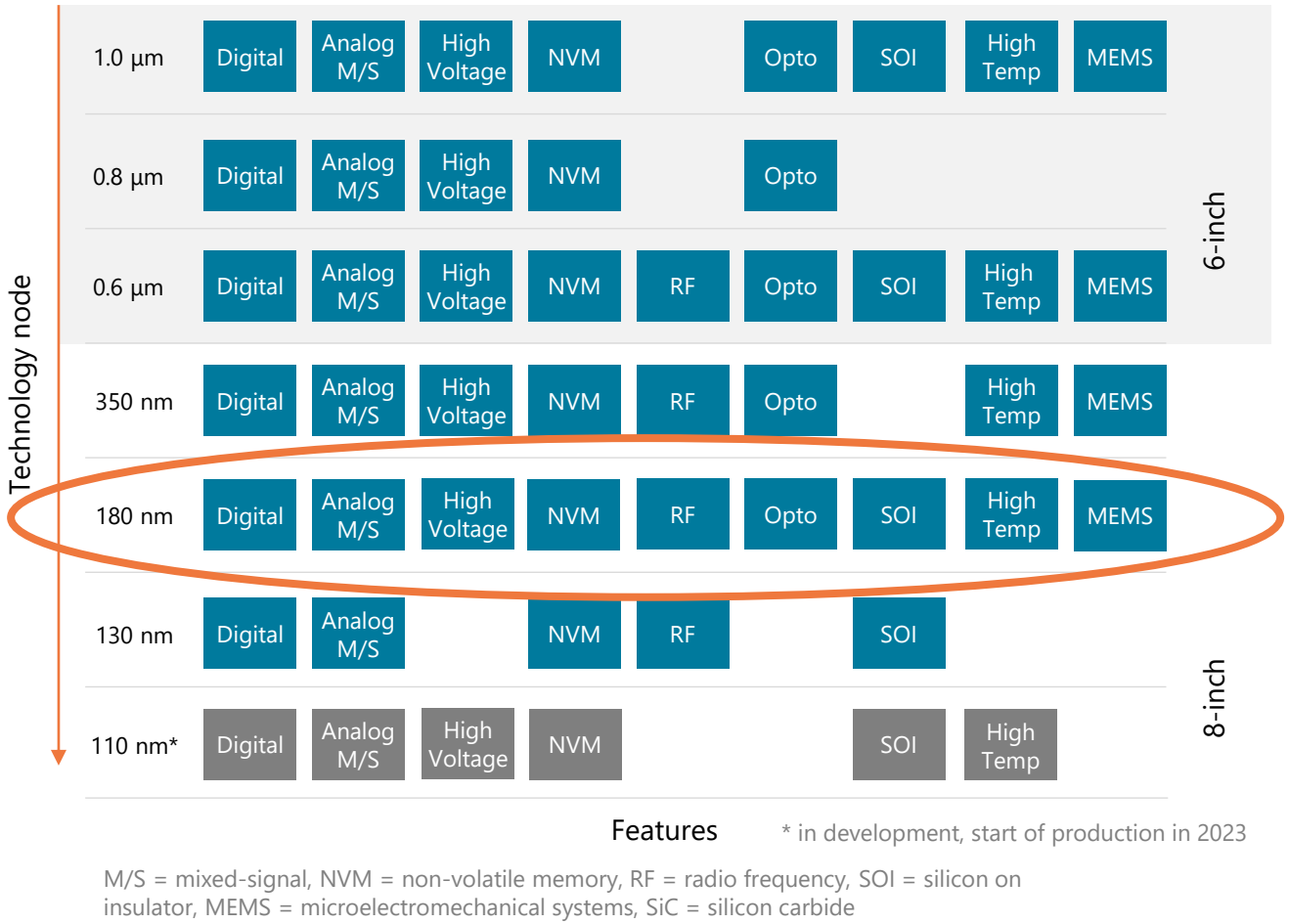
Who we are

- We are a specialty foundry **offering a unique combination** of analog/mixed-signal, high-voltage and embedded non-volatile memory options with sensor and actuator integration.
- We support **long product lifecycles of 20+ years** and focus on automotive, industrial and medical end markets.
- We provide **best-in-class design** and **prototyping support** to enable first-time-right design.
- All of our sites are **automotive certified**.



CMOS & SOI offering with MEMS integration

Large portfolio of process technologies & IP



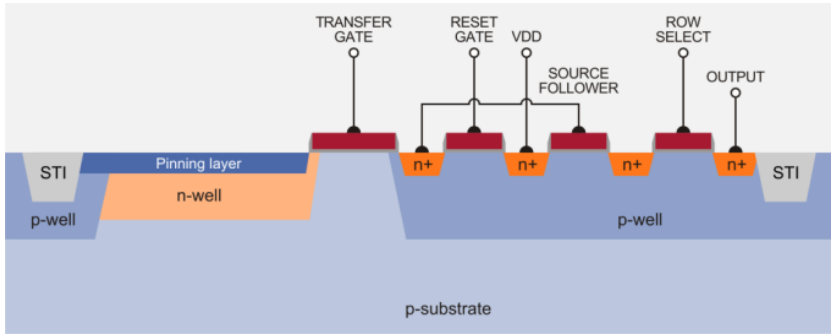
* in development, start of production in 2023

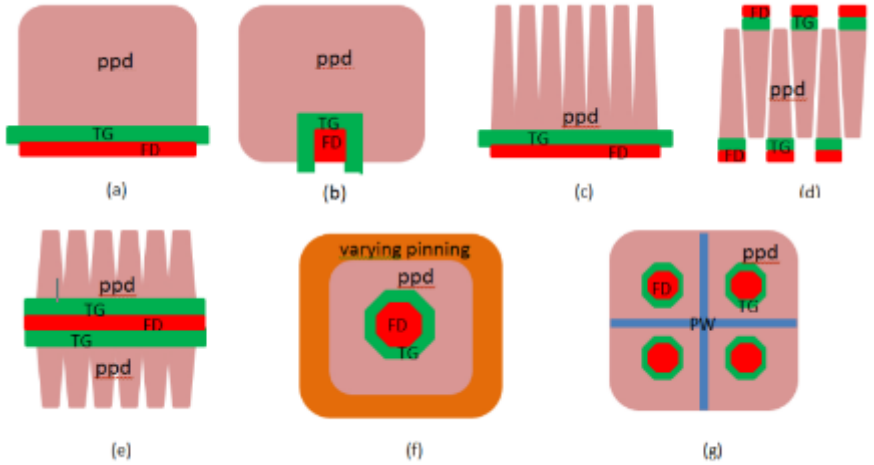
M/S = mixed-signal, NVM = non-volatile memory, RF = radio frequency, SOI = silicon on insulator, MEMS = microelectromechanical systems, SiC = silicon carbide

Modular combination of digital, analog, high-voltage, non-volatile memories and sensors

XS018 CMOS Imaging Sensors technology

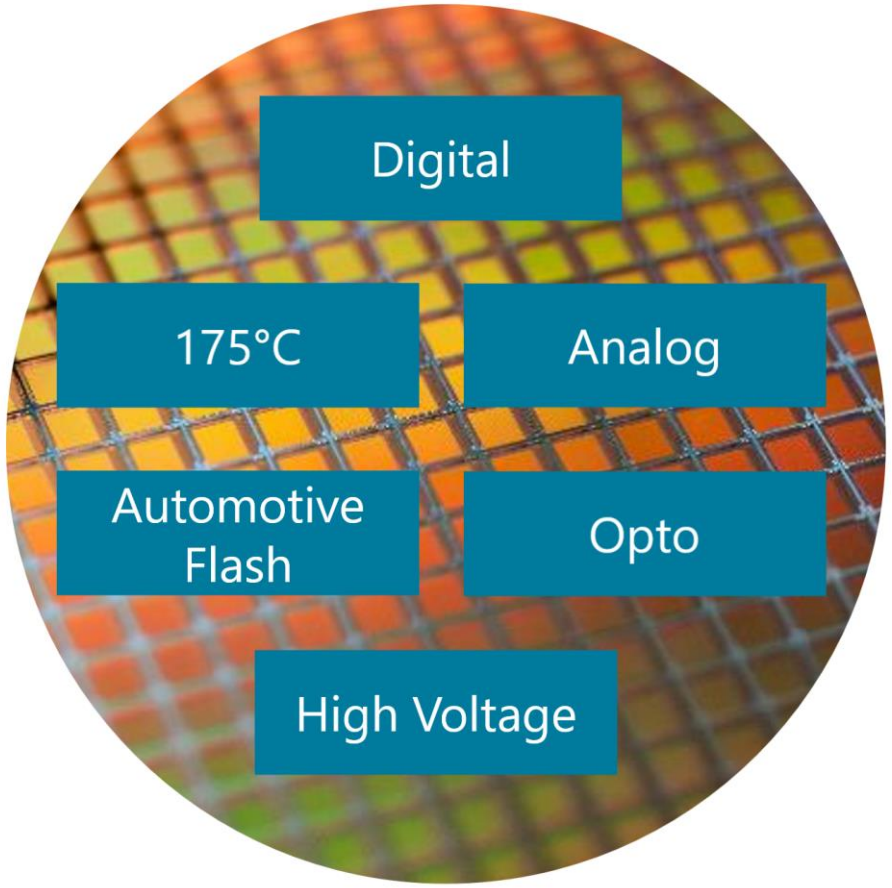
- X-FAB offer for X-Ray is an 180nm image sensor process with special support for large pixel
  - XS018 is a dedicated Image Sensor Platform qualified to AEC-Q100 standard
  - Modular process platform enabling cost effective products
  - Various module settings to optimize pinning voltage of the photodiode and threshold voltage of transistors
  - Different reference layouts for high dynamic range, low dark current, optimized fill factor and low image lag
  - Support of large image sensors by one- or two-dimensional stitching
  - Ultra low noise transistors, high conversion gain pixels, and global shutter pixels are in development.
  - Working with a 3rd party supplier for BSI capability





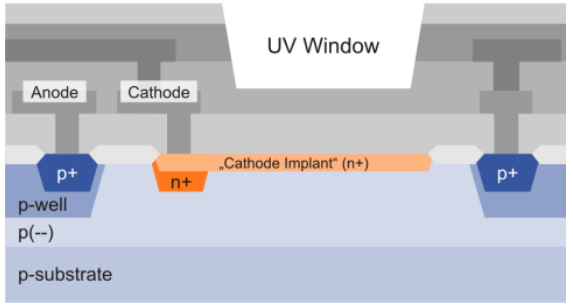
XH018 - UV Photodiodes

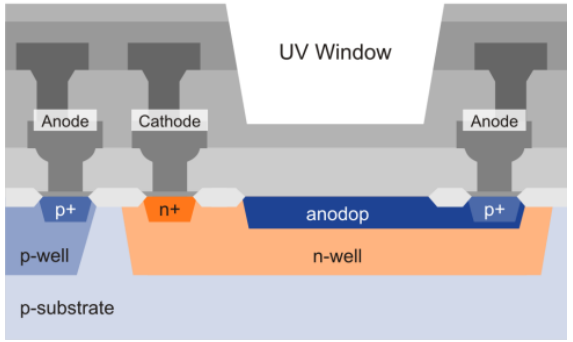
XH018 - 180 nm automotive CMOS technology platform for high-voltage and sensor applications



Embedded UV photodiodes

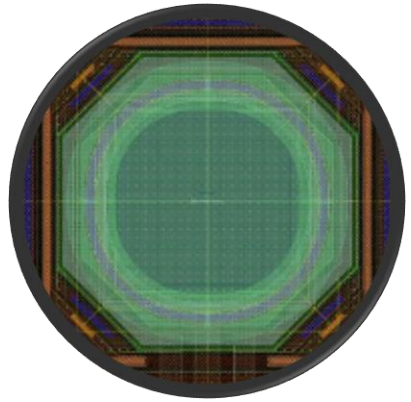
- UV-window to improve sensitivity
- PDs with highly doped n-implant as cathode and a special ANODOP layer for a high-sensitive anode
- Optional poly layer on top of PD to cut UV and blue light
  and blind metal covered PD as reference device

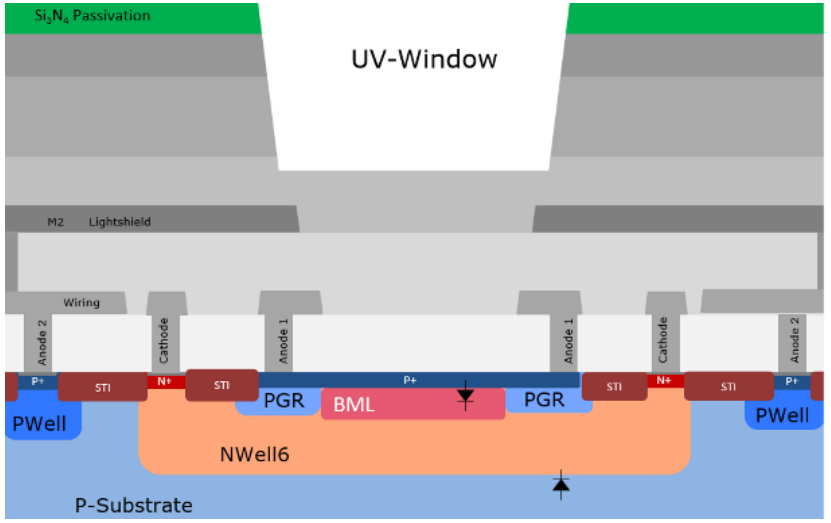




XH018 – APD/SPAD

- High sensitivity and PDP from UV up to NIR
- Primitive device for visible and infrared light detection in avalanche operation mode
- Special Application note helps to integrate APD/SPAD
- Optical and electrical models available for IC simulation
- XH018 evaluation chips and application evaluation kit available
- 1 additional photo mask





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Thank you.

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