



Advanced Micro Foundry (AMF) Silicon Photonics Fabrication

Prototype silicon photonics designs cheaper, faster and with better yield

CMC Microsystems offers access to AMF's silicon photonics fabrication services via its cost-effective multi-project wafer (MPW) program.



Features

- Silicon-on-insulator, 220-nm top Si film, 2000nm buried oxide (BOX)
- High resistivity handle wafer (>750 ohm-cm)
- 193-nm deep UV lithography for waveguides, enabling features down to approximately 140 nm
- Two partial etches and one full etch of the top silicon
- 6 implants for optical modulators (P++, P+, P, N++, N+, N)
- Germanium deposition and implanting for photodetectors
- Two metal levels, no planarization
- Front side oxide etch to selectively expose waveguides, e.g., for sensing applications
- Deep trench with etched facets for edge coupling
- Supports design and fabrication of a range of components in O-Band and C-Band and systems consisting of:
 - modulators and detectors
 - waveguides (strip or ridge)
 - gratings for fiber coupling
 - deep trench and nano-tapers for edge coupling
 - multiplexers (diffraction or arrayed waveguide) and filters (resonators, Bragg gratings) ring and disk resonators

About CMC

CMC Microsystems has more than 35 years' in delivering multi-project wafer services across a range of technologies, including advanced microelectronics, photonics and MEMS. Based in Canada, CMC reduces barriers to technology adoption by providing access to design tools, prototyping, value-added packaging & assembly services and in-house expertise for first-time-right prototype.

About AMF

AMF specializes in customizable prototyping and volume wafer manufacturing services for silicon photonics integrated circuits. AMF manufacturing services are the backbone technology to a global customer base in the emerging markets of data centres, telecom, automotive, medical and environmental sensors. AMF is a spinoff of Institute of Micro Electronics (IME), A*STAR.

Support

- Design Kits from leading CAD tool providers
- CMC Engineering Support
- Training: Passive Silicon Photonics Fabrication
- Training: Active Silicon Photonics Fabrication
- Training: CAD tool/PDK specific

Contact Sales@cmc.ca



www.cmc.ca/photonics