MINISTERIO
DE ECONOMIA, INDUSTRIA
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CONSEJO SUPERIOR
DE INVESTIGACIONES
CIENTÍFICAS

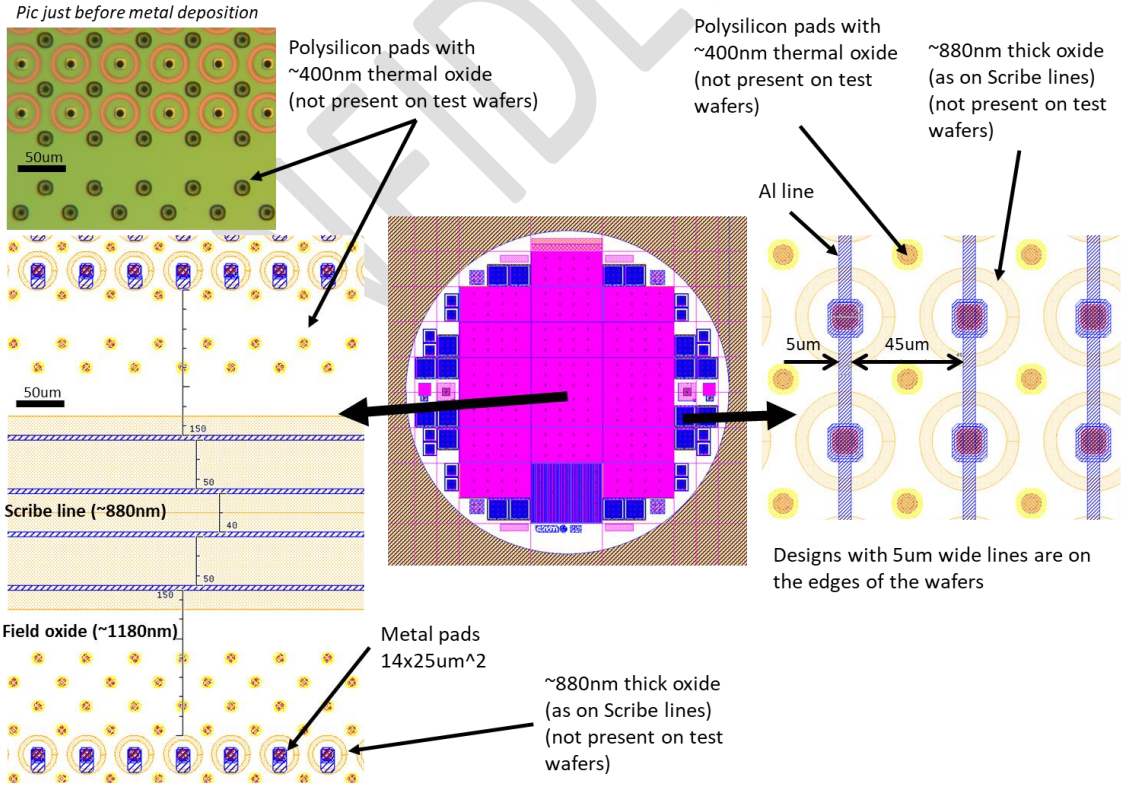
CENTRO NACIONAL DE
MICROELECTRÓNICA (CNM)

INSTITUTO DE MICROELECTRÓNICA
DE BARCELONA

TECHNICAL CHARACTERISTICS OF THE IMB-CNM WAFERS RIE OF ALUMINIUM AT LAAS - 04/12/2017

RUN9761

- Aluminium: 1um thick
- Resist: HiPR6517 1.8um thick – resist should be removed in the same vacuum after process
- Critical dimension: 5um wide lines
- Substrate: silicon thermal oxide
    - Field oxide: ~1180nm (can be specified for each wafers)
    - Scribe lines: ~880nm (can be specified for each wafers)
    - ~400nm on polysilicon pads (not measurable – the most critical - see picture below)
    - Field oxide on test wafers: 800nm
    - Expected over-etch of the oxide: ~100-200nm
- 10 silicon wafers (wafers marked as 9761-DET-#)
    - Wafers 1-4: SOI 450um thick
    - Wafers 5-7: SOI 400um thick
    - Wafer 8: 370um thick
    - Wafers 9-10: 525um thick (test wafers for our processes – can also be used as test wafers for this process)



Run9761: short description of the mask

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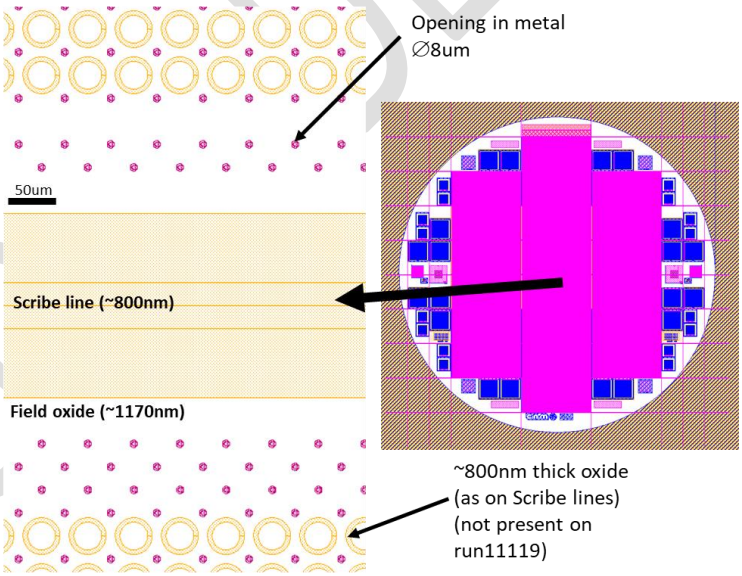
RUNS11118 & 11119

- Aluminium: 1um thick
- Resist: HiPR65172 2.0um thick – if possible do not remove resist after process, dip wafers in water
- Critical dimension: ∅8um contacts
- Substrate: silicon thermal oxide:
  - 400nm thick (run11118)
  - Field oxide: 1170nm (run11119)
  - Scribe lines: 800nm (run11119)
  - Expected over-etch of the oxide: not specified (silicon oxide etched away in next step)
- Run11118: 5 silicon wafers (wafers marked as 11118-DET-#)
  - Wafers 1-2 & 4-6: 525um thick (test wafers for our processes – can be also used as test wafers for run11119)
- Run11119: 8 silicon wafers (wafers marked as 11119-DET-#)
  - Wafers 1-8: 350um thick
- Note, as a reference for this unusual Al etch: we used 50% more time than standard etch (metal lines as in run9761 before) with same Al thickness.
  - For example, if 2min etch time is needed to etch the same thickness of aluminium with a standard "metal" mask, then 3min will be used for this mask.



Runs11118 & 11119: short description of the mask

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