

Ion Implantation Services in TRC

Aluminum, Beryllium, Iron, Copper and Potassium are new lineups.

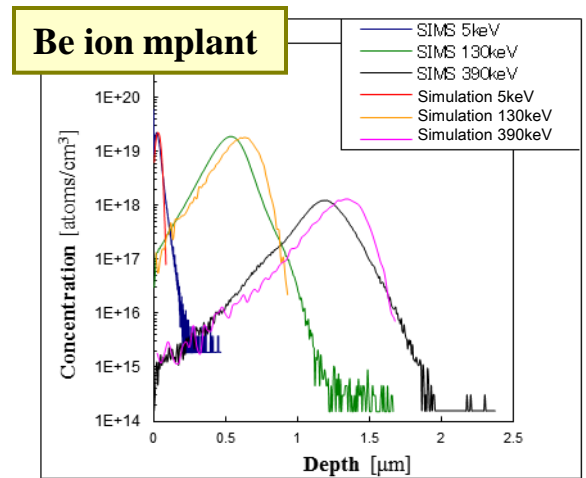
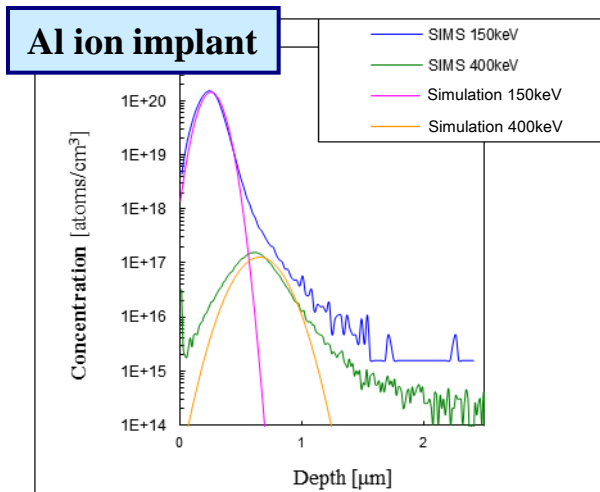
Implanter :

- ULVAC IMX-3500RS (Medium current implanter, electrostatic scan system)

Capabilities :

- Rapid turnaround (within-12hour-shipping is possible if required)
- Energy : (3keV)~10keV to 200keV (up to 400keV using doubly charged ions)
- Dose : $5.0 \times 10^{10} \sim 1.0 \times 10^{17}$ ions/cm²
- Irregularly shaped substrate, 2 to 6inch wafers are available

Simulation is free of charge to determine implant conditions



Single-charge ions

27Al⁺, 150keV, 3×10^{15} ions/cm²

Double-charge ions

27Al⁺, 400keV, 5×10^{12} ions/cm² equivalent

Single-charge ions

9Be⁺, 5keV, 1×10^{14} ions/cm²

9Be⁺, 130keV, 5×10^{14} ions/cm²

Double-charge ions

9Be⁺, 390keV, 4.5×10^{13} ions/cm² equivalent

■ TRC implanter

- ULVAC IMX-3500RS (Medium current machine)

■ Overseas Collaboration Laboratories

INNOVION (CA,USA),
Materials Diagnostics(MD) (NY,USA)

- Energy 1keV to 4.2MeV
- Heated implantation to 600°C
- Cooled implantation using LN₂
- Outsourcing for production
- Up to 12 inch wafer available

H																	He	
Li	Be											B	C	N	O	F	Ne	
Na	Mg											Al	Si	P	S	Cl	Ar	
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
	Sr	Y	Zr	Nb	Mo						Ag	In	Sn	Sb	Te	I	Xe	
Cs	Ba				Hf	Ta	W					Au	Hg			Pb	Bi	

La Ce Pr Nd Eu Gd Ho Er Yb

D H₂O N₂ BeF CO BF₂ BCl SiF BF₂ SiF₂ BF₃ SiF₃ CF₃

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Over 80 species available

<http://www.toray-research.co.jp/taishou/semicon/index.html>