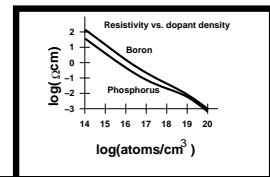
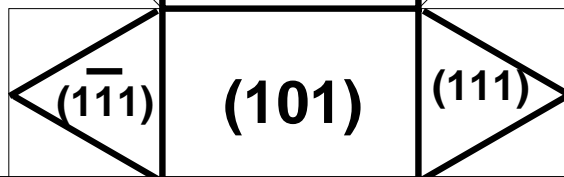


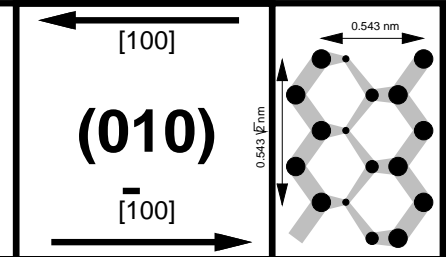
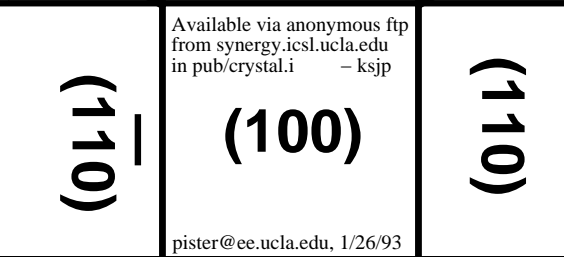
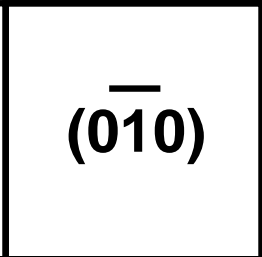
Etch rate in KOH

44 gm in 100ml H₂O @ 85 C
 {100} 1.4 μ /min
 {111} 0.0035
 SiO₂ 0.0014
 Si₃N₄ not etched



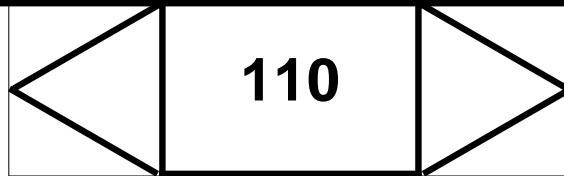
Etching Si+Boron

Presence of boron reduces etch rate in KOH and EDP. No dependence below 10¹⁹/cm³. At 10²⁰/cm³ reduced by 100 (EDP) reduced by 10-100 (KOH).



Etch rate in EDP

750 ml Ethylene Diamine
 120 gm Pyrocatechol
 100 ml water @115C
 {100} 0.75 μ /min
 {111} 0.021
 SiO₂ 0.0002
 Si₃N₄ 0.0001



<100>

(abc) specific plane
 {abc} equivalent planes
 [abc] specific direction
 <abc> equivalent directions

Single crystal silicon

¹⁴Si^{28.1}

density: 2.33 gm/cm³
 melting point: 1415 °C
 band gap: 1.12 eV
 electron mobility: 1350 cm²/Vs
 hole mobility: 480 cm²/Vs
 resistivity: 2.5 x 10⁵ Ω·cm (intr.)
 relative permittivity: 11.8
 Young's modulus: 1.9x10¹¹ Pa
 thermal conductivity: 1.57 W/cm °C
 yield strength: 7.0x10⁹ Pa

The idea for the shape came from a similar paper model that I saw once. I don't know who made that one. Perhaps Monsanto? Most of the data comes from "Silicon as a mechanical Material", by Peterson (Proc.IEEE, v70n5, 1982, pp.420-457). Other data from "VLSI Technology", edited by Sze (McGraw-Hill) and "Solid State Electronic Devices", by Streetman (Prentice-Hall).

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