

References

- [1] G. K. Teal, W. R. Runyan, K. E. Bean, and H. R. Huff, Semiconductor materials. In " Materials and Processing " (J. F. Young and R. S. Shane, eds.), 3 re. ed., Part A, pg. 219 - 312 Dekker, New York, 1985.
- [2] J. S. Kilby, Invention of the integrated circuit. IEEE Trans. Electron Devices ED-23, pg. 648-654 (1976).
- [3] R. N. Noyce, Microelectronics. Sci. Am. 237, pg. 63-69 (1977).
- [4] G. K. Teal, Single crystals of germanium and silicon-Basic to the transistor and integrated circuit. IEEE Trans. Electron Devices ED-23. pg. 621-639 (1976).
- [5] A. Bar-Lev, " Semiconductors and Electronic Devices ", 2 nd. ed. Prentice-Hall, Englewood Cliffs, New Jersey, 1984.
- [6] S. Wolf and R. N. Tauber, " Silicon Processing for VLSI Era ", Vol. 1. Lattice Press Sunset Beach, California, 1986.
- [7] H. J. Welker, Discovery and development of III-V compounds. IEEE Trans. Electron Devices ED-23, pg. 664-674 (1976).
- [8] S. M. Sze, " Physics of Semiconductor Devices ", 2 nd. ed. Wiley, New York, 1981.
- [9] T. Abe, Crystal fabrication. In " VLSI Electronics Microstructure Science " (N. G. Einspruch and H. R. Huff, eds.), Vol. 12, pg. 3-61. Academic Press, New York, 1985.

- [10] L. C. Parrillo, VLSI process integration. In 'VLSI Technology' (S. M. Sze, ed.). pg. 445-505. McGraw-Hill, New York, 1983.
- [11] J. R. McCormic, Polycrystalline silicon 1986. In 'Semiconductor Silicon 1981' (H. R. Huff, R. J. Kriegler and Y. Takeishi, eds.). pg. 43 - 60. Electrochem. Princeton, New Jersey, 1981.
- [12] R. Lutwack and A. Morrison, eds., 'Silicon Material Preparation and Economical Wafering Methods', Noyes Publication, Park Ridge, New Jersey, 1984.
- [13] G. Parkinson, New ways to make crystals for semiconductor uses. Chem. Eng. (N. Y.) May 25, pg. 14-17 (1987).
- [14] Monsanto Electronic Materials Company and Ethyl Corporation, unpublished.
- [15] L. D. Crossman and J. A. Baker, Polysilicon technology. In 'Semiconductor Silicon 1977' (H. R. Huff and E. Sirtl, eds.). pg. 18-31. Electrochem. Soc., Princeton, New Jersey, 1977.
- [26] [16] W. Kern, Purifying Si and SiO₂ surfaces with hydrogen peroxide. Semicond. Int. Apr., pg. 94-99 (1984).
- [17] D. L. Tolliver, Contamination control : New dimensions in VLSI manufacturing. Solid State Technology. Mar., pg. 129-137 (1984).
- [28] [18] R. D. Westbrook, ed., " Lifetime Factors in Silicon " Am. Soc. Test. Material, Philadelphia, Pennsylvania, 1980.
- [29] [19] F. Shimura and R. A. Craven, Process-induced microdefects in VLSI silicon wafers. In " The Physics of VLSI " (J. C. Knights, ed.), pg. 205-219. Am. Inst. Phys., New York, 1984.

- [20] S. M. Sze. ed., " VLSI Technology " McGraw-Hill, New York, 1983.
- [21] S. M. Hu, Defects in Silicon Substrates. J. Vac. Sci. Technology. 14, pg. 17-31 (1977).
- [22] A. J. R. de Kock, Vacancy clusters in dislocation-free silicon. Appl. Phys. Lett. 16, pg. 100-102 (1970).
- [23] J. R. Monkowski and H. P. Strunk processes for defect control. Solid State Technology. July, pg. 44-51 (1981).
- [24] P. J. Roksnoer and M. M. B. van den Boom, Microdefects in a non-striated distribution in floating-zone silicon crystals. J. Cryst. Growth 53, pg. 563-573 (1981).
- [25] D. C. Bennett and B. Sawyer, Single crystal of exceptional perfection and uniformity by zone levelling. Bell Syst. Tech. J. 35, pg. 637-660 (1956).
- [26] P. Rai-Choudhury and W. J. Takei, Thermally induced dislocations in silicon. J. Appl. Phys. 40, pg. 4980-4982 (1969).
- [27] T. Horanyi, T. Pavelka, P. Tutto. In Situ Bulk Lifetime Measurement on Silicon with Chemically Passivated Surface, App. Surface Sci. 63, Pg. 306-311 (1993).
- [28] T. Pavelka; New Possibilities for the Microwave Photoconductive Decay Technique, Semiconductor Fabtech, pg. 247-249 (1996).
- [29] G. Ferenczi, T. Pavelka, P. Tutto; Injection Level Spectroscopy: A Novel Non-Contact Contamination Analysis Technique in Silicon, J. Appl. Phys. 30, pg. 3630-3633 (1991).

- [30] G. Ferenczi, T. Pavelka, P. Tutto, L. Koster; Investigation of Recombination Properties of Ti Double Donor in Si, Solid State Phenomena, 32-33, pg. 609-614 (1993).
- [31] T. S. Horanyi, T. Pavelka and P. Tutto. Appl. Surf. Sci., 63, pg. 306 (1993)
- [32] D. K. Schroder; Semiconductor and Materials Device Characterization, Wiley-Interscience, New York, pg. 435 (1990).
- [33] M. Saritas and H. M. McKell, J. Appl. Phys., 63 (9), pg. 4561 (1988).
- [34] V. Lehmann and H. Foll; Minority Carrier Diffusion Length Mapping in Silicon Wafers Using a Si-Electrolyte-Contact, J. Electrochem. Soc., 135, pg. 2831-2835 (1988).
- [35] V. Lehmann, H. Foll, L. Bernewitz and J. G. Grabmeier, Proc. Flat-Plate Solar Array Project Res. Forum, JPL Publ. 84-23, pg. 527 (1983).
- [36] R. Falster, Proc. Produktronika Techn. Programm 1991, pg. 1, Munich (1991).
- [37] V. Lehmann and H. Foll; Minority Carrier Diffusion Length Mapping in Silicon Wafers Using a Si-Electrolyte-Contact, J. Electrochem. Soc., 135, pg. 2831-2835 (1988).
- [38] P. Capper, A. W. Jones, E. J. Wallhouse and J. G. Wilkes, The effects of heat treatment on dislocation-free oxygen-containing silicon crystals. J. Appl. Phys. 48, pg. 1646-1655 (1977).
- [39] A. Kanamori and M. Kanamori, Comparison of two kinds of oxygen donors in silicon by resistivity measurements. J. Appl. Phys. 50, 8095-8101 (1979).

- [40] S. M. Sze, " Physics of Semiconductor Devices ", 2 nd. ed. Wiley, New York, 1981.
- [41] A. J. Dekker. " Solid State Physics ", Macmillan Student Editions, pg. 341, 1982.
- [42] J. S. Blakemore, " Solid State Physics ", 2 nd. ed., pg. 380-383, 1986.
- [43] Private discussion with Dr. S. Radhakrishna and Dr. D. K. Roy, of IPT, Institute of Advance Study, University of Malaya.