



## Power Semiconductors

By M. Kubat

Springer Nov 2013, 2013. Taschenbuch. Book Condition: Neu. 229x152x28 mm. This item is printed on demand - Print on Demand Neuware - The book contains a summary of our knowledge of power semiconductor structures. It presents first a short historic introduction (Chap. 1) as well as a brief selection of facts from solid state physics, in particular those related to power semiconductors (Chap. 2). The book deals with diode structures in Chap. 3. In addition to fundamental facts in pn-junction theory, the book covers mainly the important processes of power structures. It describes the emitter efficiency and function of microleaks (shunts), the p + p and n + n junctions, and in particular the recent theory of the pin, pvn and p1tn junctions, whose role appears to be decisive for the forward mode not only of diode structures but also of more complex ones. For power diode structures the reverse mode is the decisive factor in pn-junction breakdown theory. The presentation given here uses engineering features (the multiplication factor M and the experimentally detected laws for the volume and surface of crystals), which condenses the presentation and makes the mathematical apparatus simpler. The discussion of diode structures is complemented by data...



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