Record Nr. UNINA9911004764603321 Autore Tang Denny D **Titolo** Magnetic memory: fundamentals and technology / / Denny D. Tang and Yuan-Jen Lee New York, : Cambridge University Press, 2010 Pubbl/distr/stampa **ISBN** 1-107-20583-2 0-511-84992-3 1-282-53604-4 9786612536045 0-511-67831-2 0-511-68154-2 0-511-67705-7 0-511-68352-9 0-511-68477-0 0-511-67620-4 0-511-67956-4 Descrizione fisica 1 online resource (x, 196 pages) : digital, PDF file(s) Altri autori (Persone) LeeYuan-Jen Disciplina 621.39/73 Soggetti Magnetic memory (Computers) Computer storage devices Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Title from publisher's bibliographic system (viewed on 05 Oct 2015). Note generali Nota di contenuto Machine generated contents note: 1. Basic magnetostatics; 2. Magnetic films; 3. Properties of patterned ferromagnetic film; 4. Magnetoresistance effects and memory devices; 5. Field-write mode MRAMs; 6. Spin torque transfer MRAM; 7. Applications of MTJ based technology; Appendices: A. Unit conversion table cgs vs. SI; B. Dimensions of magnetism; C. Physical constants; D. Normal (Gaussian) distribution and quantile plot; E. Weibull distribution; F. TDDB reliability test of thin film; G. Binomial distribution and Poisson distribution; H. Defect density: I. Fe. Co. Ni element chemistry parameters: J. Soft error. hard fail and design margin.

If you are a semiconductor engineer or a magnetics physicist

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developing magnetic memory, get the information you need with this, the first book on magnetic memory. From magnetics to the engineering design of memory, this practical book explains key magnetic properties and how they are related to memory performance, characterization methods of magnetic films, and tunneling magnetoresistance effect devices. It also covers memory cell options, array architecture, circuit models, and read-write engineering issues. You'll understand the soft fail nature of magnetic memory, which is very different from that of semiconductor memory, as well as methods to deal with the issue. You'll also get invaluable problem-solving insights from real-world memory case studies. This is an essential book for semiconductor engineers who need to understand magnetics, and for magnetics physicists who work with MRAM. It is also a valuable reference for graduate students working in electronic/magnetic device research.