1. Record Nr. UNINA9910969105803321

Autore	Solymar L (Laszlo)
Titolo	Electrical Properties of Materials
Pubbl/distr/stampa	Oxford, : OUP Oxford, 2009
ISBN	0-19-157435-X
Edizione	[8th ed.]
Descrizione fisica	1 online resource (460 p.)
Altri autori (Persone)	WalshD (Donald)
Disciplina	620.11297
Soggetti	Energy-band theory of solids Free electron theory of metals Materials -- Electric properties Solids -- Electric properties Chemical & Materials Engineering Materials Science Engineering & Applied Sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di contenuto	Contents; Data on specific materials in text; Introduction; 1 The electron as a particle; 2 The electron as a wave; 3 The electron; 4 The hydrogen atom and the periodic table; 5 Bonds; 6 The free electron theory of metals; 7 The band theory of solids; 8 Semiconductors; 9 Principles of semiconductor devices; 10 Dielectric materials; 11 Magnetic materials; 12 Lasers; 13 Optoelectronics; 14 Superconductivity; 15 Artificial materials or metamaterials; Epilogue; Appendix I: Organic semiconductors; Appendix II: Nobel laureates; Appendix III: Physical constants Appendix IV: Variational calculus. Derivation of Euler's equationAppendix V: Suggestions for further reading; Answers to exercises; Index
Sommario/riassunto	An informal and highly accessible writing style, a simple treatment of mathematics, and clear guide to applications, have made this book a classic text in electrical and electronic engineering. Students will find it both readable and comprehensive. The fundamental ideas relevant to the understanding of the electrical properties of materials are emphasized; in addition, topics are selected in order to explain the

operation of devices having applications (or possible futureapplications) in engineering.The mathematics, kept deliberately to a minimum, is well within the grasp of a second-year stud