

# Contents

<b>Nomenclature.....</b>	<b>XI</b>
<b>1 General Material Aspects.....</b>	<b>1</b>
Victor E. Borisenko, Andrew B. Filonov	
1.1 Crystalline Structure and Mechanical Properties .....	2
1.2 Thermodynamics of Silicidation .....	28
1.3 Kinetics of Silicidation.....	48
1.4 Thermal Oxidation of Silicides .....	74
<b>2 Thin Film Silicide Formation.....</b>	<b>83</b>
Victor E. Borisenko	
2.1 Silicides and Silicon Epitaxial Relationships .....	85
2.2 Diffusion Synthesis .....	108
2.3 Ion Beam Synthesis .....	136
2.4 Atomic and Molecular Deposition .....	143
2.5 General Comments on Silicide Formation Techniques .....	157
<b>3 Crystal Growth .....</b>	<b>160</b>
Günter Behr	
3.1 Methods of Crystal Growth and Material Problems.....	160
3.2 Crystal Growth by Chemical Vapor Transport Reactions .....	175
3.3 Crystal Growth from the Flux .....	183
3.4 Crystal Growth from the Melt .....	187
3.5 Summary .....	202

<b>4 Fundamental Electronic and Optical Properties.....</b>	<b>205</b>
Victor L. Shaposhnikov, Victor E. Borisenko, Horst Lange	
4.1 Basic Relationships.....	205
4.2 Electronic Band Structure.....	212
4.3 Interband Optical Spectra .....	239
4.4 Light Emission.....	254
4.5 Infrared Optical Response and Raman Scattering .....	257
4.6 Concluding Remarks .....	265
<b>5 Transport Properties .....</b>	<b>269</b>
Ludmila Ivanenko, Horst Lange, Armin Heinrich	
5.1 Free Charge Carriers and Their Mobility in Semiconductors .....	270
5.2 Experimental Resistivities .....	276
5.3 Mobility of Charge Carriers.....	296
5.4 Thermoelectric Properties.....	312
5.5 Concluding Remarks .....	323
<b>References.....</b>	<b>327</b>
<b>Subject Index.....</b>	<b>373</b>



<http://www.springer.com/978-3-540-66111-5>

Semiconducting Silicides

Basics, Formation, Properties

Borisenko, V.

2000, XVI, 348 p., Hardcover

ISBN: 978-3-540-66111-5