

Ambient temperature influence on current suppressing effect caused by self-heating phenomenon at 6H-SiC Schottky interfaces

Kurel, Raido; Rang, Toomas BEC'98 : the 6th Biennial Conference on Electronics and Microsystems Technology, October 7-9, 1998, Tallinn, Estonia : proceedings 1998 / p. 253-254 : ill

Analysis of barrier inhomogeneities of P-type Al/4H-SiC Schottky barrier diodes

Ziko, Mehadi Hasan; Koel, Ants; Rang, Toomas; Toompuu, Jana Silicon Carbide and Related Materials 2019 : Selected peer-reviewed papers from International Conference on Silicon Carbide and Related Materials 2019 (ICSCRM 2019), September 29 - October 4, 2019, Kyoto, Japan Materials science forum 2020 / p. 960-972 <https://doi.org/10.4028/www.scientific.net/MSF.1004.960>
[Conference proceedings at Scopus](#) [Article at Scopus](#)

Analysis of peak current for current crowding effect in 4H- and 6H-SiC Schottky structures

Kurel, Raido; Rang, Toomas The 7th Biennial Conference on Electronics and Microsystem Technology "Baltic Electronics Conference" : BEC 2000 : October 8 - 11, 2000, Tallinn, Estonia : conference proceedings 2000 / p. 235-236 : ill

Analysis of the basic Schottky parameters for diffusion-welded aluminium contacts to p- and n-type SiC

Korolkov, Oleg; Ljutov, Jevgeni; Kuznetsova, Natalja; Ruut, Jana; Rang, Toomas BEC 2004 : proceedings of the 9th Biennial Baltic Electronics Conference : October 3-6, 2004, Tallinn, Estonia 2004 / p. 51-53 : ill

The basic Schottky parameters for combined diffusion welded and sputter metal contacts

Kuznetsova, Natalja; Korolkov, Oleg; Rang, Toomas; Pikkov, Mihhail BEC 2006 : 2006 International Baltic Electronics Conference : Tallinn University of Technology, October 2-4, 2006, Tallinn, Estonia : proceedings of the 10th Biennial Baltic Electronics Conference 2006 / p. 47-50 : ill

Characterization of Interfaces Between the Metal Film and Silicon Carbide Semiconductor = Metallkontakti ja ränikarbiidi vahelise liidespinna karakteriseerimine

Ziko, Mehadi Hasan 2021 <https://digikogu.taltech.ee/et/Item/34be534c-63e8-4013-b271-eaf1a7cb22e7>
https://www.ester.ee/record=b5471196*est <https://doi.org/10.23658/taltech.52/2021>

Charge carrier transport in SiC Schottky interfaces : shape factor approach

Kurel, Raido; Rang, Toomas; Rang, Galina; Kasemaa, Argo BEC 2008 : 2008 International Biennial Baltic Electronics Conference : proceedings of the 11th Biennial Baltic Electronics Conference : Tallinn University of Technology : October 6-8, 2008, Tallinn, Estonia 2008 / p. 87-90 : ill

Clamp mode package diffusion welded power SiC Schottky diodes

Korolkov, Oleg; Kuznetsova, Natalja; Rang, Toomas BEC 2006 : 2006 International Baltic Electronics Conference : Tallinn University of Technology, October 2-4, 2006, Tallinn, Estonia : proceedings of the 10th Biennial Baltic Electronics Conference 2006 / p. 55-58 : ill

Comparative characteristics of diffusion-welded high-voltage stacks and connected in series Schottky diodes

Sleptšuk, Natalja; Korolkov, Oleg; Land, Raul; Toompuu, Jana; Annus, Paul; Rang, Toomas BEC 2016 : 2016 15th Biennial Baltic Electronics Conference : proceedings of the 15th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 3-5, 2016, Tallinn, Estonia 2016 / p. 39-42 : ill http://www.ester.ee/record=b2150914*est

Comparison of Schottky parameters for diffusion-welded and sputter contacts to silicon carbide

Kuznetsova, Natalja Info- ja kommunikatsioonitehnoloogia doktorikooli IKTDK teise aastakonverentsi artiklite kogumik : 11.-12. mai 2007, Viinistu kunstimuuseum 2007 / lk. 162-165 : ill

Computer aided simulation of power Scottky Diodes

Rang, Toomas; Koel, Ants; Udal, Andres Modeling, Simulation and Control 1985 / p. 1-13

Current crowding phenomenon in JBC structures

Rang, Toomas; Kurel, Raido; Higelin, G.; Poirier, Laurent Computer Methods and Experimental Measurements for Surface Effects and Contact Mechanics VII 2005 / p. 387-396 <https://www.witpress.com/eliibrary/wit-transactions-on-engineering-sciences/49/15383>

Current suppressing effect in alloy metal and 6H-SiC substrate Schottky contacts

Rang, Toomas; Blum, Alfons BEC'96 : the 5th Biennial Baltic Electronics Conference, October 7-11, 1996, Tallinn, Estonia : proceedings 1996 / p. 81-84 : ill

Degradation of 600-V 4H-SiC Schottky diodes under irradiation with 0.9 MeV electrons

Lebedev, Alexander A.; Davidovskaja, Klavdia; Kozlovski, Vitali V.; Korolkov, Oleg; Sleptšuk, Natalja; Toompuu, Jana Silicon Carbide and Related Materials 2016 : selected, peer reviewed papers from the 11th European Conference on Silicon Carbide and Related Materials 2016 (ECSCRM 2016), September 25-29, 2016, Halkidiki, Greece 2017 / p. 447-450 : ill
<https://doi.org/10.4028/www.scientific.net/MSF.897.447> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Degradation of 600-V 4H-SiC Schottky diodes under irradiation with 0,9 MeV electrons

Lebedev, Alexander A.; Davydovskaja, K. S.; Kozlovski, Vitali V.; **Korolkov, Oleg; Sleptšuk, Natalja; Toompuu, Jana** 11th European Conference on Silicon Carbide and Related Materials : September 25-29, 2016, Porto Carras Grand Resort, Halkidiki, Greece : [poster session] 2016 / p. 49

Diffusion welding techniques for power SiC Schottky packaging

Korolkov, Oleg; Rang, Toomas; Syrkin, A.; Dmitriev, V. Final program of the 12th International Conference on Silicon Carbide and Related Materials : ICSCRM2005 : Pittsburgh, PA, USA 2005 / p. 71

Diffusion welding techniques for power SiC Schottky packaging

Korolkov, Oleg; Rang, Toomas; Syrkin, A.; Dmitriev, V. Silicon carbide and related materials 2005 2006 / p. 919-922

Formation of Diffusion welded Al contacts to semiconductor silicon carbide

Korolkov, Oleg 2004

High voltage diffusion welded stacks on the basis of SiC Schottky diodes

Korolkov, Oleg; Sleptšuk, Natalja; Annus, Paul; Land, Raul; Rang, Toomas ICSCRM 2015 : program guide 2015 / p. 73

High-voltage diffusion welded stacks on the basis of SiC Schottky diodes

Korolkov, Oleg; Sleptšuk, Natalja; Annus, Paul; Land, Raul; Rang, Toomas Silicon carbide and related materials 2015 (ICSCRM 2015) : selected, peer reviewed papers from the 16th International Conference on Silicon Carbide and Related Materials, October 4-9, 2015, Giardini Naxos, Italy 2016 / p. 790-794 : ill <https://doi.org/10.4028/www.scientific.net/MSF.858.790> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Hot spots caused by contact inhomogeneities in 4H- and 6H-SiC Schottky structures

Kurel, Raido; Rang, Toomas Advanced Computational Methods in Heat Transfer VI 2000 / p. 437-444

<https://www.witpress.com/elibRARY/wit-transactions-on-engineering-sciences/27/4468>

Interpretation of some physical parameters of SiC Schottky interfaces manufactured by diffusion welding technology

Rang, Toomas; Korolkov, Oleg; Ljutov, Jevgeni Proceedings of the Estonian Academy of Sciences. Engineering 2004 / 3, p. 179-184

Investigation of barrier inhomogeneities and electronic transport on Al-Foil/p-Type-4H-SiC Schottky barrier Diodes using diffusion welding

Ziko, Mehadi Hasan; Koel, Ants; Rang, Toomas; Rashid, Muhammad Haroon Crystals 2020 / p. 636-647

<https://doi.org/10.3390/cryst10080636> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Investigation of deep level centers in i- and n-layers of GaAs pin-diodes

Toompuu, Jana; Korolkov, Oleg; Sleptšuk, Natalja; Rang, Toomas BEC 2014 : 2014 14th Biennial Baltic Electronics Conference : proceedings of the 14th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 6-8, 2014, Tallinn, Estonia 2014 / p. 25-28 : ill

Investigation of electrical characteristics of SiC based complementary JBS structures

Kurel, Raido 2005 https://www.ester.ee/record=b2053292*est

Investigation of P-i-n GaAs structures by DLTS method : the deep level transient spectroscopy in application to GaAs p-i-n structures for identification of deep levels

Toompuu, Jana 2010 <https://www.amazon.com/Investigation-p-i-n-GaAs-structures-method/dp/383839223X>

Investigation of the intermediate layer in the metal-silicon carbide contact obtained by diffusion welding =

Difusioonkeevitusega valmistatud metalli ja ränikarbiidi vahelise üleminekuala vahekihi uurimine

Sleptšuk, Natalja 2011 https://www.ester.ee/record=b2692547*est

Large area 4H-SiC power Schottky diode

Rang, Toomas; Korolkov, Oleg; Pikkov, Mihhail Proceedings of the 3rd International Conference and Exhibition Micro Materials : MicroMat2000 : April 17-19, 2000, Berlin, Germany 2000 / p. 890-893

Large area 6H-SiC Schottky diode

Rang, Toomas; Korolkov, Oleg; Pikkov, Mihhail Proceedings of the Estonian Academy of Sciences. Engineering 2000 / 2, p. 155-159 : ill https://artiklid.elnet.ee/record=b1004045*est

Modelling of inhomogeneities of SiC Schottky interfaces

Rang, Toomas Software for Electrical Engineering Analysis and Design V : [Fifth International Conference ... : Electrosoft V] 2001 / p. 3-15 : ill <https://www.witpress.com/Secure/elibrary/papers/ES01/ES01000FU.pdf>

Modelling of metal alloy contacts to semiconductor substrate

Rang, Toomas Simulation and design of microsystems and microstructures 1995 / p. 251-258: ill
<https://www.witpress.com/Secure/elibrary/papers/MIC95/MIC95030FU.pdf>

Numerical analysis of the influence of deep energy level traps in SiC Schottky structures

Koel, Ants; Rang, Toomas; Rang, Galina High performance structure and materials. VI 2012 / p. 439-448 : ill

Numerical simulation of P-type Al/4H-SiC Schottky barrier diodes [Online resource]

Ziko, Mehadi Hasan; Koel, Ants; Rang, Toomas BEC 2018 : 2018 16th Biennial Baltic Electronics Conference (BEC) : proceedings of the 16th Biennial Baltic Electronics Conference, October 8-10, 2018 2018 / 4 p.: ill
<https://doi.org/10.1109/BEC.2018.8600976>

Numerical study of turn-off phenomenon in complementary 4H-SiC JBS rectifiers

Rang, Toomas; Kurel, Raido; Higelin, G. BEC 2004 : proceedings of the 9th Biennial Baltic Electronics Conference : October 3-6, 2004, Tallinn, Estonia 2004 / p. 47-50 : ill

Numerical two-carrier simulation of the M-S (Schottky) structures

Rang, Toomas Research report : System Theory Laboratory of Electrical Engineering, University of the Saarland 1985 / s. 62

One-dimensional numerical simulation of complementary power Schottky structures

Rang, Toomas IEE proceedings. Part I Solid-state and electron devices 1985 / p. 253-256

Parametric simulation of SiC Schottky JBC structures

Rang, Toomas; Kurel, Raido Computer methods and experimental measurements for surface effects and contact mechanics VIII 2007 / p. 315-334 <https://www.witpress.com/Secure/elibrary/papers/SECM07/SECM07030FU1.pdf>

Preliminary approach to the timing measurements for reverse recovery applied to the SiC Schottky diode model

Pikkov, Mihhail The 7th Biennial Conference on Electronics and Microsystem Technology "Baltic Electronics Conference" : BEC 2000 : October 8 - 11, 2000, Tallinn, Estonia : conference proceedings 2000 / p. 321-322 : ill

Self-heating phenomenon and current suppressing effect at 6H-SiC Schottky interfaces

Kurel, Raido; Rang, Toomas Proceedings of the 5th NEXUSPAN Workshop on Thermal Aspects in Microsystem Technology, 6-8 May 1998, Budapest, Hungary 1998 / p. 88-91 <https://www.witpress.com/elibrary/wit-transactions-on-engineering-sciences/22/5010>

Self-heating phenomenon and current suppressing effect at the SiC Schottky interfaces

Rang, Toomas; Kurel, Raido Software for electrical engineering analysis and design. IV 1999 / p. 153-162: ill
<https://www.witpress.com/elibrary/wit-transactions-on-engineering-sciences/22/5010>

SiC JBS diode symmetrical voltage doubler represented as the diffusion-welded stack

Korolkov, Oleg; Land, Raul; Toompuu, Jana; Sleptšuk, Natalja; Rang, Toomas Silicon carbide and related materials 2017 : ICSCRM 2017 : selected, peer reviewed papers from the 2017 International Conference on Silicon Carbide and related materials, September 17-22, 2017, Washington, DC, USA 2018 / p. 862-865 : ill <https://doi.org/10.4028/www.scientific.net/MSF.924.862> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

SiC Schottky diode for power converters

Pikkov, Mihhail; Rang, Toomas PEDC 2001 : Power Electronics Devices Compatibility : 2nd conference : 3-5 September 2001, Zielona Gora, Poland 2001 / p. 156-161 : ill

SiC Schottky diode for use in power convertors

Pikkov, Mihhail; Rang, Toomas; Pokatilov, Andrei BEC 2006 : 2006 International Baltic Electronics Conference : Tallinn University of Technology, October 2-4, 2006, Tallinn, Estonia : proceedings of the 10th Biennial Baltic Electronics Conference 2006 / p. 245-246 : ill

SIC schottky diode rectifier bridge represented as the diffusion-welded stack

Korolkov, Oleg; Land, Raul; Sleptšuk, Natalja; Toompuu, Jana; Rang, Toomas 11th European Conference on Silicon Carbide and Related Materials : September 25-29, 2016, Porto Carras Grand Resort, Halkidiki, Greece : [poster session] 2016 / p. 42

SIC schottky diode rectifier bridge represented as the diffusion-welded stack

Korolkov, Oleg; Kozlovski, Vitali V.; Lebedev, Alexander A.; Land, Raul; Sleptšuk, Natalja; Toompuu, Jana; Rang, Toomas Silicon Carbide and Related Materials 2016 : selected, peer reviewed papers from the 11th European Conference on Silicon Carbide and Related Materials 2016 (ECSCRM 2016), September 25-29, 2016, Halkidiki, Greece 2017 / p. 697-700 : ill
<https://doi.org/10.4028/www.scientific.net/MSF.897.697> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Simulation of deep energy traps to explain the VAC temperature dependence anomaly of diffusion welded Schottky contacts

Koel, Ants; Rang, Toomas; Rang, Galina ICSCRM2011 : Cleveland Ohio, USA, September 11-16, 2011 : abstracts 2011 / p. 340 : ill

Some of comparative properties of diffusion welded contacts to 6H- and 4H-silicon carbide

Korolkov, Oleg; Rang, Toomas International Conference on Silicon Carbide and Related Materials 2001 - ICSCRM2001 - October 28-November 2, 2001 (Epochal Tsukuba, Ibaraki, Japan) : technical digest 2001 / p. 625-626 : ill
https://www.researchgate.net/publication/250340293_Some_Comparative_Properties_of_Diffusion-Welded_Contacts_to_6H_and_4H_Silicon_Carbide

Study of surface defects in 4H-SiC Schottky diodes using a scanning Kelvin probe

Mizsei, Janos; **Korolkov, Oleg; Toompuu, Jana; Rang, Toomas** The 9th European Conference on Silicon Carbide and Related Materials : abstract book : St. Petersburg Russia, 2-6 September, 2012 2012 / 2 p. : ill

Study of surface defects in 4H-SiC Schottky diodes using a scanning Kelvin probe

Mizsei, Janos; **Korolkov, Oleg; Toompuu, Jana; Mikli, Valdek; Rang, Toomas** Silicon Carbide and Related Materials 2012 : selected peer reviewed papers from the 9th European Conference on Silicon Carbide and Related Materials (ECSCRM 2012), September 2-6, 2012, St. Petersburg, Russian Federation 2013 / p. 677-680 : ill https://doi.org/10.4028/www.scientific.net/MSF.740-742.677_Conference_Proceedings_at_Scopus [Article at Scopus](#) [Conference Proceedings at WOS](#) [Article at WOS](#)

The basic parameters of diffusion welded Al Schottky contacts to p- and n-SiC

Korolkov, Oleg; Ruut, Jana; Kuznetsova, Natalja; Rang, Toomas Silicon Carbide and Related Materials 2003 2004 / p. 857-860
<https://doi.org/10.4028/www.scientific.net/MSF.457-460.857>

The dependence of reverse recovery time on barrier capacitance and series on-resistance in Schottky diodes

Veher, Oleksandr; Sleptšuk, Natalja; Toompuu, Jana; Korolkov, Oleg; Rang, Toomas Materials and contact characterisation VIII 2017 / p. 15-22 : ill https://doi.org/10.2495/MC170021_Conference_proceedings_at_Scopus [Article at Scopus](#)

The Schottky parameter test for combined diffusion welded and sputter large area contacts

Korolkov, Oleg; Kuznetsova, Natalja; Rang, Toomas; Syrkin, A.; Dmitriev, V. Silicon carbide and related materials 2007 / p. 737-740 <https://www.scientific.net/MSF.556-557.737>

Two dimensional modelling of alloy metal Schottky contacts to 6H-SiC substrate

Rang, Toomas; Blum, Alfons Proceedings of the ELECTROSOFT 96, May 28-30, San-Miniato, Italy 1996 / p. 347-356

Two-dimensional nonisothermal analysis of the current crowding effect at nonuniform SiC Schottky contacts using device simulator DYNAMIT-2DT

Kurel, Raido; Udal, Andres BEC 2002 : proceedings of the 8th Biennial Baltic Electronics Conference : October 6-9, 2002, Tallinn, Estonia 2002 / p. 51-54 : ill

Расчет туннельного тока в переходах металл - полупроводник

Rang, Toomas Расчет и проектирование измерительных преобразователей 1983 / с. 69-74 : ил
https://www.ester.ee/record=b1288985*est <https://digikogu.taltech.ee/et/Item/4e3815a3-f217-4ae2-9776-1b5ea3c25959>

Численное моделирование диода шоттки на ЭВМ

Rang, Toomas; Udal, Andres Проблемы моделирования полупроводниковых структур и сложных схем на ЭВМ 1982 / с. 21-31 : ил https://www.ester.ee/record=b1339926*est <https://www.etera.ee/zoom/121726/view?page=3&p=separate&search=true&tool=search>

Электрофизические свойства тонкопленочных барьеров шоттки на основе сульфида кадмия, изготовленного методом химической пульверизации

Krunk, Malle; Mellikov, Enn; Seilenthal, Mats Электрофизические свойства полупроводниковых и диэлектрических материалов 1986 / с. 49-55