

Philip mawby

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

197
papers

4,389
citations

31
h-index

63
g-index

220
ext. papers

5,611
ext. citations

2.8
avg, IF

5.45
L-index

#	Paper	IF	Citations
197	The Optimization of 3.3 kV 4H-SiC JBS Diodes. <i>IEEE Transactions on Electron Devices</i> , 2022 , 69, 298-303	2.9	1
196	Monitoring Power Module Solder Degradation from Heat Dissipation in Two Opposite Directions. <i>IEEE Transactions on Power Electronics</i> , 2022 , 1-1	7.2	0
195	Optimization of 1700-V 4H-SiC Semi-Superjunction Schottky Rectifiers With Implanted P-Pillars for Practical Realization. <i>IEEE Transactions on Electron Devices</i> , 2022 , 69, 1924-1930	2.9	0
194	3.3 kV SiC JBS diodes employing a P2O5 surface passivation treatment to improve electrical characteristics 2021 ,		1
193	Status and Prospects of Cubic Silicon Carbide Power Electronics Device Technology. <i>Materials</i> , 2021 , 14,	3.5	2
192	The Effects of Filter Capacitors on Cable Ripple at Different Sections of the Wind Farm Based Multi-Terminal DC System. <i>Energies</i> , 2021 , 14, 7000	3.1	0
191	. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 1162-1167	2.9	1
190	Initial investigations into the MOS interface of freestanding 3C-SiC layers for device applications. <i>Semiconductor Science and Technology</i> , 2021 , 36, 055006	1.8	0
189	A study on free-standing 3C-SiC bipolar power diodes. <i>Applied Physics Letters</i> , 2021 , 118, 242101	3.4	1
188	Optimization of 1700-V 4H-SiC Superjunction Schottky Rectifiers With Implanted P-Pillars for Practical Realization. <i>IEEE Transactions on Electron Devices</i> , 2021 , 68, 3497-3504	2.9	3
187	. <i>IEEE Transactions on Power Delivery</i> , 2021 , 36, 102-113	4.3	3
186	Modelling of Bipolar Degradations in 4H-SiC Power MOSFET Devices by a 3C-SiC Inclusive Layer Consideration in the Drift Region. <i>IEEE Transactions on Power Electronics</i> , 2021 , 1-1	7.2	0
185	Quasi-distributed Temperature Detection of Press Pack IGBT Power Module Using FBG Sensing. <i>IEEE Journal of Emerging and Selected Topics in Power Electronics</i> , 2021 , 1-1	5.6	2
184	Heat-Flux-Based Condition Monitoring of Multichip Power Modules Using a Two-Stage Neural Network. <i>IEEE Transactions on Power Electronics</i> , 2021 , 36, 7489-7500	7.2	6
183	A Phase Change Material Integrated Press Pack Power Module With Enhanced Overcurrent Capability for Grid Support A Study on FRD. <i>IEEE Transactions on Industry Applications</i> , 2021 , 57, 3956-3968	4.3	4
182	Experimental and Physics-Based Study of the Schottky Barrier Height Inhomogeneity and Associated Traps Affecting 3C-SiC-on-Si Schottky Barrier Diodes. <i>IEEE Transactions on Industry Applications</i> , 2021 , 57, 5252-5263	4.3	2
181	A Power Module for Grid Inverter With In-Built Short-Circuit Fault Current Capability. <i>IEEE Transactions on Power Electronics</i> , 2020 , 35, 10567-10579	7.2	12

180	Fast Switching SiC Cascode JFETs for EV Traction Inverters 2020 ,		2
179	Distributed Thermal Monitoring of Wind Turbine Power Electronic Modules Using FBG Sensing Technology. <i>IEEE Sensors Journal</i> , 2020 , 20, 9886-9894	4	13
178	The improvement of Mo/4H-SiC Schottky diodes via a P2O5 surface passivation treatment. <i>Journal of Applied Physics</i> , 2020 , 127, 025704	2.5	12
177	A Defects-Based Model on the Barrier Height Behavior in 3C-SiC-on-Si Schottky Barrier Diodes. <i>IEEE Journal of Emerging and Selected Topics in Power Electronics</i> , 2020 , 8, 54-65	5.6	3
176	A First Evaluation of Thick Oxide 3C-SiC MOS Capacitors Reliability. <i>IEEE Transactions on Electron Devices</i> , 2020 , 67, 237-242	2.9	8
175	Reliability Study of MOS Capacitors Fabricated on 3C-SiC/Si Substrates. <i>Materials Science Forum</i> , 2020 , 1004, 659-664	0.4	
174	Development of High-Quality Gate Oxide on 4H-SiC Using Atomic Layer Deposition. <i>Materials Science Forum</i> , 2020 , 1004, 547-553	0.4	1
173	Design and Optimisation of Schottky Contact Integration in a 4H-SiC Trench MOSFET. <i>Materials Science Forum</i> , 2020 , 1004, 808-813	0.4	
172	Characterization of BTI in SiC MOSFETs Using Third Quadrant Characteristics 2019 ,		2
171	Design and evaluation of SiC multichip power module with low and symmetrical inductance. <i>Journal of Engineering</i> , 2019 , 2019, 3573-3577	0.7	7
170	Power Loss Comparison in a BOOST PFC Circuit Considering the Reverse Recovery of the Forward Diode. <i>Materials Science Forum</i> , 2019 , 963, 873-877	0.4	
169	Power module with large short-term current capability by using phase change material. <i>Journal of Engineering</i> , 2019 , 2019, 3225-3229	0.7	2
168	Effects of Basal Plane Defects on the Performance of Voltage Source Converters 2019 ,		2
167	The Potential of SiC Cascode JFETs in Electric Vehicle Traction Inverters. <i>IEEE Transactions on Transportation Electrification</i> , 2019 , 5, 1349-1359	7.6	6
166	Novel Method for Evaluation of Negative Bias Temperature Instability of SiC MOSFETs. <i>Materials Science Forum</i> , 2019 , 963, 749-752	0.4	1
165	Design Optimization of 1.2kV 4H-SiC Trench MOSFET. <i>Materials Science Forum</i> , 2019 , 963, 605-608	0.4	2
164	Electrical Characterisation of Thick 3C-SiC Layers Grown on Off-Axis 4H-SiC Substrates. <i>Materials Science Forum</i> , 2019 , 963, 353-356	0.4	
163	Surface Effects of Passivation within Mo/4H-SiC Schottky Diodes through MOS Analysis. <i>Materials Science Forum</i> , 2019 , 963, 511-515	0.4	3

162	Thermal Buffering Effect of Phase Change Material on Press-pack IGBT during Power Pulse 2019 ,		4
161	Deep Learning Neural Networks for Heat-Flux Health Condition Monitoring Method of Multi-Device Power Electronics System 2019 ,		3
160	Experimental Investigation and Verification of Traps affecting the performance of 3C-SiC-on-Si Schottky Barrier Diodes 2019 ,		2
159	Study of 4H-SiC Superjunction Schottky Rectifiers with Implanted P-Pillars. <i>Materials Science Forum</i> , 2019 , 963, 539-543	0.4	
158	Study on lifetime prediction considering fatigue accumulative effect for die-attach solder layer in an IGBT module. <i>IEEJ Transactions on Electrical and Electronic Engineering</i> , 2018 , 13, 613-621	1	6
157	Lifetime Enhancement of 4H-SiC PiN Diodes Using High Temperature Oxidation Treatment. <i>Materials Science Forum</i> , 2018 , 924, 440-443	0.4	0
156	3C-SiC Hetero-Epitaxially Grown on Silicon Compliance Substrates and New 3C-SiC Substrates for Sustainable Wide-Band-Gap Power Devices (CHALLENGE). <i>Materials Science Forum</i> , 2018 , 924, 913-918	0.4	10
155	Safe-Operating-Area of Snubberless Series Connected Silicon and SiC power devices 2018 ,		1
154	Power Modules for Pulsed Power Applications Using Phase Change Material 2018 ,		3
153	A Temperature Gradient-Based Potential Defects Identification Method for IGBT Module. <i>IEEE Transactions on Power Electronics</i> , 2017 , 32, 2227-2242	7.2	36
152	. <i>IEEE Transactions on Power Electronics</i> , 2017 , 32, 1431-1441	7.2	56
151	Evaluation of SiC Schottky Diodes Using Pressure Contacts. <i>IEEE Transactions on Industrial Electronics</i> , 2017 , 64, 8213-8223	8.9	5
150	Numerical Study of Energy Capability of Si/SiC LDMOSFETs. <i>Materials Science Forum</i> , 2017 , 897, 751-754	0.4	1
149	4H-SiC Trench Structure Fabrication with Al ₂ O ₃ Etching Mask. <i>Materials Science Forum</i> , 2017 , 897, 371-374	0.4	2
148	Combined N ₂ O and Phosphorus Passivations for the 4H-SiC/SiO ₂ Interface with Oxide Grown at 1400°C. <i>Materials Science Forum</i> , 2017 , 897, 344-347	0.4	1
147	. <i>IEEE Journal of the Electron Devices Society</i> , 2017 , 5, 256-261	2.3	36
146	Demonstrating the Instability of SiC Ohmic Contacts and Drain Terminal Metallization Schemes Aged at 300 °C. <i>Materials Science Forum</i> , 2017 , 897, 387-390	0.4	1
145	Physical Characterisation of 3C-SiC(001)/SiO ₂ Interface Using XPS. <i>Materials Science Forum</i> , 2017 , 897, 151-154	0.4	2

144	The Effect of Interfacial Charge on the Development of Wafer Bonded Silicon-on-Silicon-Carbide Power Devices. <i>Materials Science Forum</i> , 2017 , 897, 747-750	0.4	3
143	Cryogenic Characterisation and Modelling of Commercial SiC MOSFETs. <i>Materials Science Forum</i> , 2017 , 897, 557-560	0.4	3
142	Functional Oxide as an Extreme High-k Dielectric towards 4H-SiC MOSFET Incorporation. <i>Materials Science Forum</i> , 2017 , 897, 155-158	0.4	1
141	Comparative Study of RESURF Si/SiC LDMOSFETs for High-Temperature Applications Using TCAD Modeling. <i>IEEE Transactions on Electron Devices</i> , 2017 , 64, 3713-3718	2.9	10
140	SiC MOSFET with built-in SBD for reduction of reverse recovery charge and switching loss in 10-kV applications 2017 ,		21
139	An Investigation into the Impact of Surface Passivation Techniques Using Metal-Semiconductor Interfaces. <i>Materials Science Forum</i> , 2017 , 897, 443-446	0.4	4
138	An Investigation of Temperature-Sensitive Electrical Parameters for SiC Power MOSFETs. <i>IEEE Transactions on Power Electronics</i> , 2017 , 32, 7954-7966	7.2	50
137	Failure and Reliability Analysis of a SiC Power Module Based on Stress Comparison to a Si Device. <i>IEEE Transactions on Device and Materials Reliability</i> , 2017 , 17, 727-737	1.6	62
136	The Effect of Electrothermal Nonuniformities on Parallel Connected SiC Power Devices Under Unclamped and Clamped Inductive Switching. <i>IEEE Transactions on Power Electronics</i> , 2016 , 31, 4526-4535	7.2	50
135	SiC Trench MOSFET With Shielded Fin-Shaped Gate to Reduce Oxide Field and Switching Loss. <i>IEEE Electron Device Letters</i> , 2016 , 37, 1324-1327	4.4	36
134	High Temperature Nitridation of 4H-SiC MOSFETs. <i>Materials Science Forum</i> , 2016 , 858, 623-626	0.4	6
133	Development and characterisation of pressed packaging solutions for high-temperature high-reliability SiC power modules. <i>Microelectronics Reliability</i> , 2016 , 64, 434-439	1.2	4
132	3C-SiC Transistor With Ohmic Contacts Defined at Room Temperature. <i>IEEE Electron Device Letters</i> , 2016 , 37, 1189-1192	4.4	10
131	Compact electrothermal models for unbalanced parallel conducting Si-IGBTs 2016 ,		1
130	Analysis of Linear-Doped Si/SiC Power LDMOSFETs Based on Device Simulation. <i>IEEE Transactions on Electron Devices</i> , 2016 , 63, 2442-2448	2.9	12
129	Improved Channel Mobility by Oxide Nitridation for N-Channel MOSFET on 3C-SiC(100)/Si. <i>Materials Science Forum</i> , 2016 , 858, 667-670	0.4	3
128	Capacitor Selection for Modular Multilevel Converter. <i>IEEE Transactions on Industry Applications</i> , 2016 , 52, 3279-3293	4.3	39
127	Improved Testing Capability of the Model-Assisted Testing Scheme for a Modular Multilevel Converter. <i>IEEE Transactions on Power Electronics</i> , 2016 , 31, 7823-7836	7.2	10

126	Temperature and Switching Rate Dependence of Crosstalk in Si-IGBT and SiC Power Modules. <i>IEEE Transactions on Industrial Electronics</i> , 2016 , 63, 849-863	8.9	74
125	Robustness and Balancing of Parallel-Connected Power Devices: SiC Versus CoolMOS. <i>IEEE Transactions on Industrial Electronics</i> , 2016 , 63, 2092-2102	8.9	39
124	Low ΔT_{eff} Stress Cycle Effect in IGBT Power Module Die-Attach Lifetime Modeling. <i>IEEE Transactions on Power Electronics</i> , 2016 , 31, 6575-6585	7.2	62
123	A Model Assisted Testing Scheme for Modular Multilevel Converter. <i>IEEE Transactions on Power Electronics</i> , 2016 , 31, 165-176	7.2	23
122	The impact of triangular defects on electrical characteristics and switching performance of 3.3kV 4H-SiC PiN diode 2016 ,		1
121	Si/SiC Substrates for the Implementation of Linear-Doped Power LDMOS Studied with Device Simulation. <i>Materials Science Forum</i> , 2016 , 858, 844-847	0.4	1
120	Series motor four quadrants drive DC Chopper part2: Driving and reverse mode with direct current control 2016 ,		12
119	Characterization of 4H-SiC PiN Diodes Formed on Defects Identified by PL Imaging. <i>Materials Science Forum</i> , 2016 , 858, 405-409	0.4	3
118	Study on the lifetime characteristics of power modules under power cycling conditions. <i>IET Power Electronics</i> , 2016 , 9, 1045-1052	2.2	20
117	Ohmic Contact Reliability of Commercially Available SiC MOSFETs Isothermally Aged for Long Periods at 300°C in Air. <i>Materials Science Forum</i> , 2016 , 858, 557-560	0.4	
116	. <i>IEEE Transactions on Power Electronics</i> , 2015 , 30, 6978-6992	7.2	21
115	. <i>IEEE Transactions on Industrial Electronics</i> , 2015 , 62, 1461-1470	8.9	23
114	Highly integrated power modules based on copper thick-film-on-DCB for high frequency operation of SiC semiconductors [Design and manufacture 2015 ,		3
113	Comparative analysis of false turn-ON in silicon bipolar and SiC unipolar power devices 2015 ,		6
112	Electrical activation of nitrogen heavily implanted 3C-SiC(1 0 0). <i>Applied Surface Science</i> , 2015 , 353, 958-963		12
111	High-Temperature (1200-1400°C) Dry Oxidation of 3C-SiC on Silicon. <i>Journal of Electronic Materials</i> , 2015 , 44, 4167-4174	1.9	12
110	Cryogenic Characterization of Commercial SiC Power MOSFETs. <i>Materials Science Forum</i> , 2015 , 821-823, 777-780	0.4	7
109	Investigation of parasitic turn-ON in silicon IGBT and Silicon Carbide MOSFET devices: A technology evaluation 2015 ,		6

108	Physics-based modelling and experimental characterisation of parasitic turn-on in IGBTs 2015 ,		4
107	Analysis of power device failure under avalanche mode Conduction 2015 ,		6
106	Finite element modelling and experimental characterisation of paralleled SiC MOSFET failure under avalanche mode conduction 2015 ,		5
105	The Impact of Temperature and Switching Rate on the Dynamic Characteristics of Silicon Carbide Schottky Barrier Diodes and MOSFETs. <i>IEEE Transactions on Industrial Electronics</i> , 2015 , 62, 163-171	8.9	38
104	Analytical Modeling of Switching Energy of Silicon Carbide Schottky Diodes as Functions of dI_{DS}/dt and Temperature. <i>IEEE Transactions on Power Electronics</i> , 2015 , 30, 3345-3355	7.2	10
103	. <i>IEEE Transactions on Power Electronics</i> , 2015 , 30, 2383-2394	7.2	42
102	Study of a novel lateral RESURF 3C-SiC on Si Schottky diode 2014 ,		2
101	Investigating the reliability of SiC MOSFET body diodes using Fourier series modelling 2014 ,		7
100	An Evaluation of Silicon Carbide Unipolar Technologies for Electric Vehicle Drive-Trains. <i>IEEE Journal of Emerging and Selected Topics in Power Electronics</i> , 2014 , 2, 517-528	5.6	40
99	Temperature and dI_{DS}/dt Dependence of the Switching Energy of SiC Schottky Diodes in Clamped Inductive Switching Applications. <i>Materials Science Forum</i> , 2014 , 778-780, 816-819	0.4	
98	On the Ti ₃ SiC ₂ Metallic Phase Formation for Robust p-Type 4H-SiC Ohmic Contacts. <i>Materials Science Forum</i> , 2014 , 778-780, 693-696	0.4	15
97	Improved Electrothermal Ruggedness in SiC MOSFETs Compared With Silicon IGBTs. <i>IEEE Transactions on Electron Devices</i> , 2014 , 61, 2278-2286	2.9	40
96	Enhanced Field Effect Mobility on 4H-SiC by Oxidation at 1500°C. <i>IEEE Journal of the Electron Devices Society</i> , 2014 , 2, 114-117	2.3	21
95	Capacitor selection for modular multilevel converter 2014 ,		8
94	Impact of the Oxidation Temperature on the Interface Trap Density in 4H-SiC MOS Capacitors. <i>Materials Science Forum</i> , 2014 , 778-780, 599-602	0.4	14
93	Evaluation of commercially available SiC devices and packaging materials for operation up to 350°C 2014 ,		3
92	Improved Performance of 4H-SiC PiN Diodes Using a Novel Combined High Temperature Oxidation and Annealing Process. <i>IEEE Transactions on Semiconductor Manufacturing</i> , 2014 , 27, 443-451	2.6	9
91	Enhanced Forward Bias Operation of 4H-SiC PiN Diodes Using High Temperature Oxidation. <i>Materials Research Society Symposia Proceedings</i> , 2014 , 1693, 193		1

90	Thin PSG Process for 4H-SiC MOSFET. <i>Materials Science Forum</i> , 2014 , 778-780, 513-516		0.4	
89	Characteristics and aging of SiC MOSFETs operated at very high temperatures. <i>Materials Research Society Symposia Proceedings</i> , 2014 , 1693, 113			2
88	Condition Monitoring of Power Electronics for Offshore Wind. <i>Engineering & Technology Reference</i> , 2014 ,			5
87	A novel 3C-SiC on Si power Schottky diode design and modelling. <i>Materials Research Society Symposia Proceedings</i> , 2014 , 1693, 93			1
86	Physical and Electrical Characterisation of 3C-SiC and 4H-SiC for Power Semiconductor Device Applications. <i>Environmental Science and Engineering</i> , 2014 , 929-932		0.2	
85	A Lifetime Estimation Technique for Voltage Source Inverters. <i>IEEE Transactions on Power Electronics</i> , 2013 , 28, 4113-4119		7.2	255
84	The impact of silicon carbide technology on grid-connected Distributed Energy resources 2013 ,			2
83	Modelling the inhomogeneous SiC Schottky interface. <i>Journal of Applied Physics</i> , 2013 , 114, 223704		2.5	67
82	Bipolar Conduction across a Wafer Bonded p-n Si/SiC Heterojunction. <i>Materials Science Forum</i> , 2013 , 740-742, 1006-1009		0.4	3
81	Innovative 3C-SiC on SiC via Direct Wafer Bonding. <i>Materials Science Forum</i> , 2013 , 740-742, 271-274		0.4	1
80	Modelling of current sharing in paralleled current limiting superjunction MOSFETs with common gate drives. <i>Microelectronics Reliability</i> , 2012 , 52, 497-502		1.2	3
79	The Impact of Parasitic Inductance on the Performance of Silicon Carbide Schottky Barrier Diodes. <i>IEEE Transactions on Power Electronics</i> , 2012 , 27, 3826-3833		7.2	46
78	Condition Monitoring Power Module Solder Fatigue Using Inverter Harmonic Identification. <i>IEEE Transactions on Power Electronics</i> , 2012 , 27, 235-247		7.2	105
77	A Fast Loss and Temperature Simulation Method for Power Converters, Part I: Electrothermal Modeling and Validation. <i>IEEE Transactions on Power Electronics</i> , 2012 , 27, 248-257		7.2	42
76	2012 ,			2
75	. <i>IEEE Electron Device Letters</i> , 2012 , 33, 1039-1041		4.4	5
74	Fast 3D thermal simulation of power module packaging. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2012 , 25, 378-399		1	4
73	Physical Modelling of 4H-SiC PiN Diodes. <i>Materials Science Forum</i> , 2012 , 717-720, 993-996		0.4	1

72	Improved Energy Efficiency Using an IGBT/SiC-Schottky Diode Pair. <i>Materials Science Forum</i> , 2012 , 717-720, 1147-1150	0.4	
71	A study of temperature-related non-linearity at the metal-silicon interface. <i>Journal of Applied Physics</i> , 2012 , 112, 114513	2.5	10
70	A Fast Loss and Temperature Simulation Method for Power Converters, Part II: 3-D Thermal Model of Power Module. <i>IEEE Transactions on Power Electronics</i> , 2012 , 27, 258-268	7.2	55
69	Bow Free 4 μ m Diameter 3C-SiC Epilayers Formed upon Wafer-Bonded Si/SiC Substrates. <i>ECS Solid State Letters</i> , 2012 , 1, P85-P88		5
68	Modeling the Impact of the Trench Depth on the Gate Drain Capacitance in Power MOSFETs. <i>IEEE Electron Device Letters</i> , 2011 , 32, 1269-1271	4.4	6
67	Investigation Into IGBT dv/dt During Turn-Off and Its Temperature Dependence. <i>IEEE Transactions on Power Electronics</i> , 2011 , 26, 3019-3031	7.2	125
66	An Industry-Based Survey of Reliability in Power Electronic Converters. <i>IEEE Transactions on Industry Applications</i> , 2011 , 47, 1441-1451	4.3	897
65	Monitoring Solder Fatigue in a Power Module Using Case-Above-Ambient Temperature Rise. <i>IEEE Transactions on Industry Applications</i> , 2011 , 47, 2578-2591	4.3	114
64	Super-junction trench MOSFETs for improved energy conversion efficiency 2011 ,		2
63	Characterisation of HfO ₂ /Si/SiC MOS Capacitors. <i>Materials Science Forum</i> , 2011 , 679-680, 674-677	0.4	
62	Conduction and switching loss comparison between an IGBT/Si-PiN diode pair and an IGBT/SiC-Schottky diode pair 2011 ,		2
61	Germanium Silicon Carbide Heterojunction Diodes [A Study in Device Characteristics with Increasing Layer Thickness and Deposition Temperature. <i>Materials Science Forum</i> , 2010 , 645-648, 889-892	0.4	
60	Silicon-on-SiC, a Novel Semiconductor Structure for Power Devices. <i>Materials Science Forum</i> , 2010 , 645-648, 1243-1246	0.4	1
59	Integration of HfO ₂ on Si/SiC heterojunctions for the gate architecture of SiC power devices. <i>Applied Physics Letters</i> , 2010 , 97, 013506	3.4	8
58	. <i>IEEE Transactions on Power Electronics</i> , 2010 , 25, 2734-2752	7.2	690
57	Monitoring solder fatigue in a power module using the rise of case-above-ambient temperature 2010 ,		8
56	Interface characteristics of n-n and p-n Ge/SiC heterojunction diodes formed by molecular beam epitaxy deposition. <i>Journal of Applied Physics</i> , 2010 , 107, 124512	2.5	10
55	Si/SiC bonded wafer: A route to carbon free SiO ₂ on SiC. <i>Applied Physics Letters</i> , 2009 , 94, 103510	3.4	23

54	Investigation of Si/4H-SiC Hetero-Junction Growth and Electrical Properties. <i>Materials Science Forum</i> , 2009 , 615-617, 443-446	0.4	5
53	An industry-based survey of reliability in power electronic converters 2009 ,		12
52	Analysis of inhomogeneous Ge/SiC heterojunction diodes. <i>Journal of Applied Physics</i> , 2009 , 106, 093708	2.5	22
51	Exploration of Power Device Reliability Using Compact Device Models and Fast Electrothermal Simulation. <i>IEEE Transactions on Industry Applications</i> , 2008 , 44, 894-903	4.3	75
50	Fast Thermal Models for Power Device Packaging 2008 ,		11
49	SiBiC Heterojunctions Fabricated by Direct Wafer Bonding. <i>Electrochemical and Solid-State Letters</i> , 2008 , 11, H306		25
48	Silicon carbide Schottky diodes and MOSFETs: Solutions to performance problems 2008 ,		8
47	Characterization of n-n Ge/SiC heterojunction diodes. <i>Applied Physics Letters</i> , 2008 , 93, 112104	3.4	8
46	Interfacial properties of thermally oxidized Ta ₂ Si on Si. <i>Surface and Interface Analysis</i> , 2008 , 40, 1164-1167	1.5	2
45	SiC MOSFETs with thermally oxidized Ta ₂ Si stacked on SiO ₂ as high-k gate insulator. <i>Microelectronic Engineering</i> , 2008 , 85, 704-709	2.5	8
44	Fast Inverter Loss and Temperature Simulation and Silicon Carbide Device Evaluation for Hybrid Electric Vehicle Drives. <i>IEEJ Transactions on Industry Applications</i> , 2008 , 128, 441-449	0.2	10
43	Study of a novel Si/SiC hetero-junction MOSFET. <i>Solid-State Electronics</i> , 2007 , 51, 662-666	1.7	14
42	Analysis of Al/Ti, Al/Ni multiple and triple layer contacts to p-type 4H-SiC. <i>Solid-State Electronics</i> , 2007 , 51, 797-801	1.7	32
41	High doped MBE Si p ⁺ and n ⁺ heterojunction diodes on 4H-SiC. <i>Microelectronics Journal</i> , 2007 , 38, 1233-1237	1.3	20
40	SiC MOSFET Channel Mobility Dependence on Substrate Doping and Temperature Considering High Density of Interface Traps. <i>Materials Science Forum</i> , 2007 , 556-557, 835-838	0.4	5
39	Characterization and modeling of n-n SiBiC heterojunction diodes. <i>Journal of Applied Physics</i> , 2007 , 102, 014505	2.5	53
38	Report on 4H-SiC JTE Schottky diodes. <i>Microelectronics Reliability</i> , 2006 , 46, 637-640	1.2	5
37	A fast power loss calculation method for long real time thermal simulation of IGBT modules for a three-phase inverter system. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields</i> , 2006 , 19, 33-46	1	7

36	Exploration of Power Device Reliability using Compact Device Models and Fast Electro-Thermal Simulation. <i>Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2006,</i>		15
35	Field-effect mobility temperature modeling of 4H-SiC metal-oxide-semiconductor transistors. <i>Journal of Applied Physics, 2006, 100, 114508</i>	2.5	77
34	Improved Schottky contacts to annealed 4H-SiC using a protective carbon cap: Investigated using current voltage measurements and atomic force microscopy. <i>Diamond and Related Materials, 2006, 15, 1472-1477</i>	3.5	7
33	Study of 4H-SiC trench MOSFET structures. <i>Solid-State Electronics, 2005, 49, 1081-1085</i>	1.7	12
32	Highly effective junction isolation structures for PICs based on standard CMOS Process. <i>IEEE Transactions on Electron Devices, 2004, 51, 1178-1184</i>	2.9	8
31	Physically based 2D compact model for power bipolar devices. <i>International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2004, 17, 397-405</i>	1	2
30	A 2D physically based compact model for advanced power bipolar devices. <i>Microelectronics Journal, 2004, 35, 591-594</i>	1.8	15
29	Creating room temperature Ohmic contacts to 4H-SiC: studied by specific contact resistance measurements and X-ray photoelectron spectroscopy. <i>Surface Science, 2004, 573, 253-263</i>	1.8	12
28	Study of dual-valley transport across a multiquantum barrier to enhance carrier confinement. <i>Applied Surface Science, 2004, 234, 434-438</i>	6.7	2
27	Active junction isolation for smart power integrated circuits. <i>Applied Physics Letters, 2004, 84, 5148-5149</i>	3.4	1
26	Investigation of the power dissipation during IGBT turn-off using a new physics-based IGBT compact model. <i>Microelectronics Reliability, 2002, 42, 1045-1052</i>	1.2	18
25	An investigation of multi-quantum barriers for band offset engineering in AlGaInP/GaInP lasers. <i>Applied Surface Science, 2002, 190, 284-287</i>	6.7	5
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