Philip mawby

List of Publications by Year
in descending order

219 papers	6,548 citations	136950 32 h-index	71685 76 g-index
220 all docs	220 docs citations	220 times ranked	3953 citing authors

#	ARTICLE	IF	CITATIONS
1	An Industry-Based Survey of Reliability in Power Electronic Converters. IEEE Transactions on Industry Applications, 2011, 47, 1441-1451.	4.9	1,435
2	Condition Monitoring for Device Reliability in Power Electronic Converters: A Review. IEEE Transactions on Power Electronics, 2010, 25, 2734-2752.	7.9	1,076
3	A Lifetime Estimation Technique for Voltage Source Inverters. IEEE Transactions on Power Electronics, 2013, 28, 4113-4119.	7.9	355
4	Investigation Into IGBT dV/dt During Turn-Off and Its Temperature Dependence. IEEE Transactions on Power Electronics, 2011, 26, 3019-3031.	7.9	177
5	Monitoring Solder Fatigue in a Power Module Using Case-Above-Ambient Temperature Rise. IEEE Transactions on Industry Applications, 2011, 47, 2578-2591.	4.9	146
6	Condition Monitoring Power Module Solder Fatigue Using Inverter Harmonic Identification. IEEE Transactions on Power Electronics, 2012, 27, 235-247.	7.9	139
7	Failure and Reliability Analysis of a SiC Power Module Based on Stress Comparison to a Si Device. IEEE Transactions on Device and Materials Reliability, 2017, 17, 727-737.	2.0	124
8	Temperature and Switching Rate Dependence of Crosstalk in Si-IGBT and SiC Power Modules. IEEE Transactions on Industrial Electronics, 2016, 63, 849-863.	7.9	114
9	Exploration of Power Device Reliability Using Compact Device Models and Fast Electrothermal Simulation. IEEE Transactions on Industry Applications, 2008, 44, 894-903.	4.9	107
10	Low Stress Cycle Effect in IGBT Power Module Die-Attach Lifetime Modeling. IEEE Transactions on Power Electronics, 2016, 31, 6575-6585.	7.9	106
11	Field-effect mobility temperature modeling of 4H-SiC metal-oxide-semiconductor transistors. Journal of Applied Physics, 2006, 100, 114508.	2.5	105
12	An Investigation of Temperature-Sensitive Electrical Parameters for SiC Power MOSFETs. IEEE Transactions on Power Electronics, 2017, 32, 7954-7966.	7.9	85
13	Experimental Investigation on the Effects of Narrow Junction Temperature Cycles on Die-Attach Solder Layer in an IGBT Module. IEEE Transactions on Power Electronics, 2017, 32, 1431-1441.	7.9	84
14	Modelling the inhomogeneous SiC Schottky interface. Journal of Applied Physics, 2013, 114, .	2.5	78
15	A Fast Loss and Temperature Simulation Method for Power Converters, Part II: 3-D Thermal Model of Power Module. IEEE Transactions on Power Electronics, 2012, 27, 258-268.	7.9	74
16	The Effect of Electrothermal Nonuniformities on Parallel Connected SiC Power Devices Under Unclamped and Clamped Inductive Switching. IEEE Transactions on Power Electronics, 2016, 31, 4526-4535.	7.9	71
17	Physically based compact device models for circuit modelling applications. Microelectronics Journal, 2001, 32, 433-447.	2.0	65
18	An Analysis of the Switching Performance and Robustness of Power MOSFETs Body Diodes: A Technology Evaluation. IEEE Transactions on Power Electronics, 2015, 30, 2383-2394.	7.9	65

#	Article	IF	Citations
19	Capacitor Selection for Modular Multilevel Converter. IEEE Transactions on Industry Applications, 2016, 52, 3279-3293.	4.9	62
20	A Fast Loss and Temperature Simulation Method for Power Converters, Part I: Electrothermal Modeling and Validation. IEEE Transactions on Power Electronics, 2012, 27, 248-257.	7.9	61
21	An Evaluation of Silicon Carbide Unipolar Technologies for Electric Vehicle Drive-Trains. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2014, 2, 517-528.	5.4	59
22	Characterization and modeling of n-nâ€ˆSiâ€•SiC heterojunction diodes. Journal of Applied Physics, 2007, 102, .	2.5	58
23	Robustness and Balancing of Parallel-Connected Power Devices: SiC Versus CoolMOS. IEEE Transactions on Industrial Electronics, 2016, 63, 2092-2102.	7.9	58
24	SiC Trench MOSFET With Shielded Fin-Shaped Gate to Reduce Oxide Field and Switching Loss. IEEE Electron Device Letters, 2016, 37, 1324-1327.	3.9	57
25	Improved Electrothermal Ruggedness in SiC MOSFETs Compared With Silicon IGBTs. IEEE Transactions on Electron Devices, 2014, 61, 2278-2286.	3.0	56
26	A Temperature Gradient-Based Potential Defects Identification Method for IGBT Module. IEEE Transactions on Power Electronics, 2017, 32, 2227-2242.	7.9	56
27	Heteroepitaxial Beta-Ga₂O₃on 4H-SiC for an FET With Reduced Self Heating. IEEE Journal of the Electron Devices Society, 2017, 5, 256-261.	2.1	55
28	The Impact of Temperature and Switching Rate on the Dynamic Characteristics of Silicon Carbide Schottky Barrier Diodes and MOSFETs. IEEE Transactions on Industrial Electronics, 2015, 62, 163-171.	7.9	53
29	The Impact of Parasitic Inductance on the Performance of Siliconâ€“Carbide Schottky Barrier Diodes. IEEE Transactions on Power Electronics, 2012, 27, 3826-3833.	7.9	51
30	An industry-based survey of reliability in power electronic converters. , 2009, , .		46
31	Comparative surface studies on wet and dry sacrificial thermal oxidation on silicon carbide. Applied Surface Science, 2001, 174, 210-216.	6.1	39
32	SiC MOSFET with built-in SBD for reduction of reverse recovery charge and switching loss in 10-kV applications. , 2017, , .		38
33	Study on the lifetime characteristics of power modules under power cycling conditions. IET Power Electronics, 2016, 9, 1045-1052.	2.1	36
34	Analysis of Al/Ti, Al/Ni multiple and triple layer contacts to p-type 4H-SiC. Solid-State Electronics, 2007, 51, 797-801.	1.4	35
35	Accurate Analytical Modeling for Switching Energy of PiN Diodes Reverse Recovery. IEEE Transactions on Industrial Electronics, 2015, 62, 1461-1470.	7.9	34
36	A Model Assisted Testing Scheme for Modular Multilevel Converter. IEEE Transactions on Power Electronics, 2016, 31, 165-176.	7.9	32

#	Article	IF	Citations
37	Siâˆ•SiC Heterojunctions Fabricated by Direct Wafer Bonding. Electrochemical and Solid-State Letters, 2008, 11, H306.	2.2	31
38	Compact Electrothermal Reliability Modeling and Experimental Characterization of Bipolar Latchup in SiC and CoolMOS Power MOSFETs. IEEE Transactions on Power Electronics, 2015, 30, 6978-6992.	7.9	29
39	High doped MBE Si pâ€“n and nâ€“n heterojunction diodes on 4H-SiC. Microelectronics Journal, 2007, 38, 1233-1237.	2.0	26
40	Si/SiC bonded wafer: A route to carbon free SiO2 on SiC. Applied Physics Letters, 2009, 94, .	3.3	26
41	Analysis of inhomogeneous Ge/SiC heterojunction diodes. Journal of Applied Physics, 2009, 106, .	2.5	26
42	Enhanced Field Effect Mobility on 4H-SiC by Oxidation at 1500Â°C. IEEE Journal of the Electron Devices Society, 2014, 2, 114-117.	2.1	24
43	A Power Module for Grid Inverter With In-Built Short-Circuit Fault Current Capability. IEEE Transactions on Power Electronics, 2020, 35, 10567-10579.	7.9	24
44	A 2D physically based compact model for advanced power bipolar devices. Microelectronics Journal, 2004, 35, 591-594.	2.0	23
45	Distributed Thermal Monitoring of Wind Turbine Power Electronic Modules Using FBG Sensing Technology. IEEE Sensors Journal, 2020, 20, 9886-9894.	4.7	23
46	Lateral high-voltage devices using an optimized variational lateral doping. International Journal of Electronics, 1996, 80, 449-459.	1.4	20
47	Investigation of the power dissipation during IGBT turn-off using a new physics-based IGBT compact model. Microelectronics Reliability, 2002, 42, 1045-1052.	1.7	20
48	Exploration of Power Device Reliability using Compact Device Models and Fast Electro-Thermal Simulation. Conference Record - IAS Annual Meeting (IEEE Industry Applications Society), 2006, , .	0.0	20
49	Study of a novel Si/SiC hetero-junction MOSFET. Solid-State Electronics, 2007, 51, 662-666.	1.4	20
50	Impact of the Oxidation Temperature on the Interface Trap Density in 4H-SiC MOS Capacitors. Materials Science Forum, 0, 778-780, 599-602.	0.3	18
51	On the Ti₃SiC₂ Metallic Phase Formation for Robust p-Type 4H-SiC Ohmic Contacts. Materials Science Forum, 0, 778-780, 693-696.	0.3	18
52	Improved Testing Capability of the Model-Assisted Testing Scheme for a Modular Multilevel Converter. IEEE Transactions on Power Electronics, 2016, 31, 7823-7836.	7.9	18
53	The Potential of SiC Cascode JFETs in Electric Vehicle Traction Inverters. IEEE Transactions on Transportation Electrification, 2019, 5, 1349-1359.	7.8	18
54	Status and Prospects of Cubic Silicon Carbide Power Electronics Device Technology. Materials, 2021, 14, 5831.	2.9	18

#	Article	IF	Citations
55	High-Temperature (1200â€“1400Â°C) Dry Oxidation of 3C-SiC on Silicon. Journal of Electronic Materials, 2015, 44, 4167-4174.	2.2	17
56	Analysis of Linear-Doped Si/SiC Power LDMOSFETs Based on Device Simulation. IEEE Transactions on Electron Devices, 2016, 63, 2442-2448.	3.0	17
57	The improvement of Mo/4H-SiC Schottky diodes via a P2O5 surface passivation treatment. Journal of Applied Physics, 2020, 127, .	2.5	17
58	A comparison of IGBT models for use in circuit design. IEEE Transactions on Power Electronics, 1999, 14, 607-614.	7.9	16
59	Study of 4Hâ€“SiC trench MOSFET structures. Solid-State Electronics, 2005, 49, 1081-1085.	1.4	16
60	Interface characteristics of n-n and p-n Ge/SiC heterojunction diodes formed by molecular beam epitaxy deposition. Journal of Applied Physics, 2010, 107, .	2.5	16
61	Numerical analysis of a trench VDMOST structure with no quasi-saturation. Solid-State Electronics, 1995, 38, 821-828.	1.4	14
62	Investigating the reliability of SiC MOSFET body diodes using Fourier series modelling. , 2014, , .		14
63	Electrical activation of nitrogen heavily implanted 3C-SiC(1 0 0). Applied Surface Science, 2015, 353, 958-963.	6.1	14
64	Heat-Flux-Based Condition Monitoring of Multichip Power Modules Using a Two-Stage Neural Network. IEEE Transactions on Power Electronics, 2021, 36, 7489-7500.	7.9	14
65	A fast power loss calculation method for long real time thermal simulation of IGBT modules for a three-phase inverter system. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2006, 19, 33-46.	1.9	13
66	Analytical Modeling of Switching Energy of Silicon Carbide Schottky Diodes as Functions of <italic>dI <inline-formula><tex-math notation="LaTeX">$_{f DS}$</tex-math></inline-formula>/dt</italic> and Temperature. IEEE Transactions on Power Electronics, 2015, 30, 3345-3355.	7.9	13
67	Comparative analysis of false turn-ON in silicon bipolar and SiC unipolar power devices. , 2015, , .		13
68	Cryogenic Characterization of Commercial SiC Power MOSFETs. Materials Science Forum, 0, 821-823, 777-780.	0.3	13
69	3C-SiC Transistor With Ohmic Contacts Defined at Room Temperature. IEEE Electron Device Letters, 2016, 37, 1189-1192.	3.9	13
70	Comparative Study of RESURF Si/SiC LDMOSFETs for High-Temperature Applications Using TCAD Modeling. IEEE Transactions on Electron Devices, 2017, 64, 3713-3718.	3.0	13
71	Highly Effective Junction Isolation Structures for PICs Based on Standard CMOS Process. IEEE Transactions on Electron Devices, 2004, 51, 1178-1184.	3.0	12
72	Creating room temperature Ohmic contacts to 4Hâ€“SiC: studied by specific contact resistance measurements and X-ray photoelectron spectroscopy. Surface Science, 2004, 573, 253-263.	1.9	12

#	Article	IF	Citations
73	Fast Thermal Models for Power Device Packaging. , 2008, , .		12
74	Improved Performance of 4H-SiC PiN Diodes Using a Novel Combined High Temperature Oxidation and Annealing Process. IEEE Transactions on Semiconductor Manufacturing, 2014, 27, 443-451.	1.7	12
75	Series motor four quadrants drive DC Chopper part2: Driving and reverse mode with direct current control. , 2016, , .		12
76	3C-SiÐ¡ Hetero-Epitaxially Grown on Silicon Compliance Substrates and New 3C-SiÐ¡ Substrates for Sustainable Wide-Band-Gap Power Devices (CHALLENGE). Materials Science Forum, 2018, 924, 913-918.	0.3	12
77	An advanced finite element strategy for thermal stress field investigation in aluminium interconnections during processing of very large scale integration multilevel structures. Microelectronics Journal, 1999, 30, 1207-1212.	2.0	11
78	Fast Inverter Loss and Temperature Simulation and Silicon Carbide Device Evaluation for Hybrid Electric Vehicle Drives. IEEJ Transactions on Industry Applications, 2008, 128, 441-449.	0.2	11
79	The numerical modelling of silicon carbide high power semiconductor devices. Microelectronics Journal, 1999, 30, 527-534.	2.0	10
80	SiC MOSFETs with thermally oxidized Ta2Si stacked on SiO2 as high-k gate insulator. Microelectronic Engineering, 2008, 85, 704-709.	2.4	10
81	Monitoring solder fatigue in a power module using the rise of case-above-ambient temperature. , 2010, , .		10
82	A study of temperature-related non-linearity at the metal-silicon interface. Journal of Applied Physics, 2012, 112, .	2.5	10
83	Study on lifetime prediction considering fatigue accumulative effect for dieâ€attach solder layer in an IGBT module. IEEJ Transactions on Electrical and Electronic Engineering, 2018, 13, 613-621.	1.4	10
84	A New Protection Scheme for an SSSC in an MV Network by Using a Varistor and Thyristors. IEEE Transactions on Power Delivery, 2021, 36, 102-113.	4.3	10
85	Two-dimensional simulation of constricted-mesa InGaAsP/InP buried-heterostructure lasers. IEEE Journal of Quantum Electronics, 1994, 30, 1691-1700.	1.9	9
86	Mechanical stress related instabilities in silicon under metal coverage. IEEE Transactions on Electron Devices, 2000, 47, 2429-2437.	3.0	9
87	Silicon carbide Schottky diodes and MOSFETs: Solutions to performance problems. , 2008, , .		9
88	Characterization of n-n Ge/SiC heterojunction diodes. Applied Physics Letters, 2008, 93, 112104.	3.3	9
89	Modeling the Impact of the Trench Depth on the Gateâ€“Drain Capacitance in Power MOSFETs. IEEE Electron Device Letters, 2011, 32, 1269-1271.	3.9	9
90	Capacitor selection for modular multilevel converter. , 2014, , .		9

#	Article	IF	Citations
91	High Temperature Nitridation of 4H-SiC MOSFETs. Materials Science Forum, 0, 858, 623-626.	0.3	9
92	A Phase Change Material Integrated Press Pack Power Module With Enhanced Overcurrent Capability for Grid Supportâ€"A Study on FRD. IEEE Transactions on Industry Applications, 2021, 57, 3956-3968.	4.9	9
93	Current transport mechanism at the emitter-base junction of an n-p-n GaAs/GaAlAs heterojunction bipolar transistor prepared by MBE. IEEE Transactions on Electron Devices, 1987, 34, 947-949.	3.0	8
94	Improved Schottky contacts to annealed 4H-SiC using a protective carbon cap: Investigated using current voltage measurements and atomic force microscopy. Diamond and Related Materials, 2006, 15, 1472-1477.	3.9	8
95	Integration of HfO2 on Si/SiC heterojunctions for the gate architecture of SiC power devices. Applied Physics Letters, 2010, 97, 013506.	3.3	8
96	Analysis of power device failure under avalanche mode Conduction. , 2015, , .		8
97	Finite element modelling and experimental characterisation of paralleled SiC MOSFET failure under avalanche mode conduction. , 2015, , .		8
98	Highly integrated power modules based on copper thick-film-on-DCB for high frequency operation of SiC semiconductors â€" Design and manufacture. , 2015, , .		8
99	Investigation of parasitic turn-ON in silicon IGBT and Silicon Carbide MOSFET devices: A technology evaluation. , 2015, , .		8
100	An initial consideration of silicon carbide devices in pressure-packages. , 2016, , .		8
101	Design and evaluation of SiC multichip power module with low and symmetrical inductance. Journal of Engineering, 2019, 2019, 3573-3577.	1.1	8
102	A First Evaluation of Thick Oxide 3C-SiC MOS Capacitors Reliability. IEEE Transactions on Electron Devices, 2020, 67, 237-242.	3.0	8
103	HEAT SOURCES AND TEMPERATURE DISTRIBUTION IN INSULATED GATE BIPOLAR TRANSISTORS. International Journal of Numerical Methods for Heat and Fluid Flow, 1992, 2, 291-298.	2.8	7
104	Design of IGBTs for latch-up free operation. Solid-State Electronics, 1994, 37, 1471-1475.	1.4	7
105	Conduction and switching loss comparison between an IGBT/Si-PiN diode pair and an IGBT/SiC-Schottky diode pair. , 2011, , .		7
106	Modeling the Electrothermal Stability of Power MOSFETs During Switching Transients. IEEE Electron Device Letters, 2012, 33, 1039-1041.	3.9	7
107	Development and characterisation of pressed packaging solutions for high-temperature high-reliability SiC power modules. Microelectronics Reliability, 2016, 64, 434-439.	1.7	7
108	Improved Channel Mobility by Oxide Nitridation for N-Channel MOSFET on 3C-SiC(100)/Si. Materials Science Forum, 0, 858, 667-670.	0.3	7

#	Article	IF	Citations
109	Evaluation of SiC Schottky Diodes Using Pressure Contacts. IEEE Transactions on Industrial Electronics, 2017, 64, 8213-8223.	7.9	7
110	An Investigation into the Impact of Surface Passivation Techniques Using Metal-Semiconductor Interfaces. Materials Science Forum, 0, 897, 443-446.	0.3	7
111	Deep Learning Neural Networks for Heat-Flux Health Condition Monitoring Method of Multi-Device Power Electronics System. , 2019, , .		7
112	The Optimization of 3.3 kV 4H-SiC JBS Diodes. IEEE Transactions on Electron Devices, 2022, 69, 298-303.	3.0	7
113	SiC MOSFET Channel Mobility Dependence on Substrate Doping and Temperature Considering High Density of Interface Traps. Materials Science Forum, 2007, 556-557, 835-838.	0.3	6
114	Physics-based modelling and experimental characterisation of parasitic turn-on in IGBTs. , 2015, , .		6
115	Power Modules for Pulsed Power Applications Using Phase Change Material. , 2018, , .		6
116	Characterization of BTI in SiC MOSFETs Using Third Quadrant Characteristics. , 2019, , .		6
117	Thermal Buffering Effect of Phase Change Material on Press-pack IGBT during Power Pulse. , 2019, , .		6
118	Modeling of Bipolar Degradations in 4H-SiC Power MOSFET Devices by a 3C-SiC Inclusive Layer Consideration in the Drift Region. IEEE Transactions on Power Electronics, 2022, 37, 2959-2969.	7.9	6
119	Quasi-Distributed Temperature Detection of Press-Pack IGBT Power Module Using FBG Sensing. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2022, 10, 4981-4992.	5.4	6
120	Optimization of 1700-V 4H-SiC Superjunction Schottky Rectifiers With Implanted P-Pillars for Practical Realization. IEEE Transactions on Electron Devices, 2021, 68, 3497-3504.	3.0	6
121	Hydrodynamic simulation of electron heating in conventional and lightly-doped-drain MOSFETs with application to substrate current calculation. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 1992, 5, 53-66.	1.9	5
122	An investigation of multi-quantum barriers for band offset engineering in AlGaInP/GaInP lasers. Applied Surface Science, 2002, 190, 284-287.	6.1	5
123	Report on 4Hâ€“SiC JTE Schottky diodes. Microelectronics Reliability, 2006, 46, 637-640.	1.7	5
124	Investigation of Si/4H-SiC Hetero-Junction Growth and Electrical Properties. Materials Science Forum, 2009, 615-617, 443-446.	0.3	5
125	Bow Free 4'' Diameter 3C-SiC Epilayers Formed upon Wafer-Bonded Si/SiC Substrates. ECS Solid State Letters, 2012, 1, P85-P88.	1.4	5
126	Evaluation of commercially available SiC devices and packaging materials for operation up to 350°C. , 2014, , .		5

#	Article	IF	Citations
127	Condition Monitoring of Power Electronics for Offshore Wind. Engineering & Technology Reference, 2014, , .	0.1	5
128	Comparative electrothermal analysis between SiC Schottky and silicon PiN diodes: Paralleling and thermal considerations. , 2016, , .		5
129	Feasibility study of SiC devices for low voltage converter in a wind power generation system. , 2018, , .		5
130	A Defects-Based Model on the Barrier Height Behavior in 3C-SiC-on-Si Schottky Barrier Diodes. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2020, 8, 54-65.	5.4	5
131	Physically based 2D compact model for power bipolar devices. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2004, 17, 397-405.	1.9	4
132	Fast 3D thermal simulation of power module packaging. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2012, 25, 378-399.	1.9	4
133	Bipolar Conduction across a Wafer Bonded p-n Si/SiC Heterojunction. Materials Science Forum, 0, 740-742, 1006-1009.	0.3	4
134	The Effect of Interfacial Charge on the Development of Wafer Bonded Silicon-on-Silicon-Carbide Power Devices. Materials Science Forum, 0, 897, 747-750.	0.3	4
135	Fast Switching SiC Cascode JFETs for EV Traction Inverters. , 2020, , .		4
136	Initial investigations into the MOS interface of freestanding 3C-SiC layers for device applications. Semiconductor Science and Technology, 2021, 36, 055006.	2.0	4
137	Power module with large shortâ€term current capability by using phase change material. Journal of Engineering, 2019, 2019, 3225-3229.	1.1	4
138	Monitoring Power Module Solder Degradation From Heat Dissipation in Two Opposite Directions. IEEE Transactions on Power Electronics, 2022, 37, 9754-9766.	7.9	4
139	Coherent properties of electron emission from a single heterobarrier. Journal of Applied Physics, 1994, 76, 395-402.	2.5	3
140	A physical insight into the quasi-saturation effect in VDMOS power transistors. International Journal of Electronics, 1997, 83, 13-22.	1.4	3
141	Emerging Silicon Carbide Power Device Technologies. Journal of Wide Bandgap Materials, 2000, 7, 179-191.	0.1	3
142	Super-junction trench MOSFETs for improved energy conversion efficiency. , 2011, , .		3
143	Physical Modelling of 4H-SiC PiN Diodes. Materials Science Forum, 2012, 717-720, 993-996.	0.3	3
144	Modelling of current sharing in paralleled current limiting superjunction MOSFETs with common gate drives. Microelectronics Reliability, 2012, 52, 497-502.	1.7	3

#	Article	IF	Citations
145	The impact of silicon carbide technology on grid-connected Distributed Energy resources. , 2013, , .		3
146	Characteristics and aging of SiC MOSFETs operated at very high temperatures. Materials Research Society Symposia Proceedings, 2014, 1693, 113.	0.1	3
147	Study of a novel lateral RESURF 3C-SiC on Si Schottky diode. , 2014, , .		3
148	Characterization of 4H-SiC PiN Diodes Formed on Defects Identified by PL Imaging. Materials Science Forum, 0, 858, 405-409.	0.3	3
149	Compact electrothermal models for unbalanced parallel conducting Si-IGBTs. , 2016, , .		3
150	Physical Characterisation of 3C-SiC(001)/SiO₂ Interface Using XPS. Materials Science Forum, 2017, 897, 151-154.	0.3	3
151	Cryogenic Characterisation and Modelling of Commercial SiC MOSFETs. Materials Science Forum, 0, 897, 557-560.	0.3	3
152	Power Module with Large Short Term Current Capability by Using Phase Change Material. , 2018, , .		3
153	Effects of Basal Plane Defects on the Performance of Voltage Source Converters. , 2019, , .		3
154	Surface Effects of Passivation within Mo/4H-SiC Schottky Diodes through MOS Analysis. Materials Science Forum, 0, 963, 511-515.	0.3	3
155	Experimental Investigation and Verification of Traps affecting the performance of 3C-SiC-on-Si Schottky Barrier Diodes. , 2019, , .		3
156	A study on free-standing 3C-SiC bipolar power diodes. Applied Physics Letters, 2021, 118, .	3.3	3
157	Experimental and Physics-Based Study of the Schottky Barrier Height Inhomogeneity and Associated Traps Affecting 3C-SiC-on-Si Schottky Barrier Diodes. IEEE Transactions on Industry Applications, 2021, 57, 5252-5263.	4.9	3
158	Optimization of 1700-V 4H-SiC Semi-Superjunction Schottky Rectifiers With Implanted P-Pillars for Practical Realization. IEEE Transactions on Electron Devices, 2022, 69, 1924-1930.	3.0	3
159	Simulation of transient self-heating during power VDMOS transistor turn-off. International Journal of Electronics, 1994, 77, 525-534.	1.4	2
160	An investigation of the impact of a Ti barrier metal on the thermal stress field in passivated aluminium lines and vias in VLSI systems using finite element modelling approach. International Journal of Electronics, 2000, 87, 1289-1299.	1.4	2
161	Study of dual-valley transport across a multiquantum barrier to enhance carrier confinement. Applied Surface Science, 2004, 234, 434-438.	6.1	2
162	Interfacial properties of thermally oxidized Ta2Si on Si. Surface and Interface Analysis, 2008, 40, 1164-1167.	1.8	2

#	Article	IF	Citations
163	Introducing a 1200V vertical merged IGBT and Power MOSFET: The HUBFET. , 2012, , .		2
164	A novel 3C-SiC on Si power Schottky diode design and modelling. Materials Research Society Symposia Proceedings, 2014, 1693, 93.	0.1	2
165	The impact of triangular defects on electrical characteristics and switching performance of 3.3kV 4H-SiC PiN diode. , 2016, , .		2
166	4H-SiC Trench Structure Fabrication with Al₂O₃ Etching Mask. Materials Science Forum, 2017, 897, 371-374.	0.3	2
167	Functional Oxide as an Extreme High-k Dielectric towards 4H-SiC MOSFET Incorporation. Materials Science Forum, 2017, 897, 155-158.	0.3	2
168	Pressure contact multi-chip packaging of SiC Schottky diodes. , 2017, , .		2
169	Safe-Operating-Area of Snubberless Series Connected Silicon and SiC power devices. , 2018, , .		2
170	Long Term Reliability of Power Modules with Low Amplitude Thermomechanical Stresses and Initial Defects. , 2018, , .		2
171	Novel Method for Evaluation of Negative Bias Temperature Instability of SiC MOSFETs. Materials Science Forum, 2019, 963, 749-752.	0.3	2
172	Design Optimization of 1.2kV 4H-SiC Trench MOSFET. Materials Science Forum, 0, 963, 605-608.	0.3	2
173	Development of High-Quality Gate Oxide on 4H-SiC Using Atomic Layer Deposition. Materials Science Forum, 0, 1004, 547-553.	0.3	2
174	The Effects of Filter Capacitors on Cable Ripple at Different Sections of the Wind Farm Based Multi-Terminal DC System. Energies, 2021, 14, 7000.	3.1	2
175	3.3 kV SiC JBS diodes employing a P₂O₅ surface passivation treatment to improve electrical characteristics. , 2021, , .		2
176	The inclusion of a finite capture time in the numerical simulation of quantum effect devices. Solid-State Electronics, 1995, 38, 9-15.	1.4	1
177	A fully-numerical model for PiN diodes implemented in the Saber circuit simulator. International Journal of Electronics, 1998, 84, 295-305.	1.4	1
178	Active junction isolation for smart power integrated circuits. Applied Physics Letters, 2004, 84, 5148-5149.	3.3	1
179	Silicon-on-SiC, a Novel Semiconductor Structure for Power Devices. Materials Science Forum, 2010, 645-648, 1243-1246.	0.3	1
180	Improved Energy Efficiency Using an IGBT/SiC-Schottky Diode Pair. Materials Science Forum, 2012, 717-720, 1147-1150.	0.3	1

#	Article	IF	Citations
181	Innovative 3C-SiC on SiC via Direct Wafer Bonding. Materials Science Forum, 2013, 740-742, 271-274.	0.3	1
182	Electrothermal modeling and characterization of SiC Schottky and silicon PiN diodes switching transients. , 2014, , .		1
183	Modeling of turn-OFF transient energy in IGBT controlled silicon PiN diodes. , 2014, , .		1
184	Enhanced Forward Bias Operation of 4H-SiC PiN Diodes Using High Temperature Oxidation. Materials Research Society Symposia Proceedings, 2014, 1693, 193.	0.1	1
185	Thin PSG Process for 4H-SiC MOSFET. Materials Science Forum, 0, 778-780, 513-516.	0.3	1
186	Modeling of temperature dependent parasitic gate turn-on in silicon IGBTs. , 2015, , .		1
187	Si/SiC Substrates for the Implementation of Linear-Doped Power LDMOS Studied with Device Simulation. Materials Science Forum, 0, 858, 844-847.	0.3	1
188	Ohmic Contact Reliability of Commercially Available SiC MOSFETs Isothermally Aged for Long Periods at 300Â°C in Air. Materials Science Forum, 0, 858, 557-560.	0.3	1
189	Numerical Study of Energy Capability of Si/SiC LDMOSFETs. Materials Science Forum, 0, 897, 751-754.	0.3	1
190	Combined N₂O and Phosphorus Passivations for the 4H-SiC/SiO₂ Interface with Oxide Grown at 1400Â°C. Materials Science Forum, 0, 897, 344-347.	0.3	1
191	Demonstrating the Instability of SiC Ohmic Contacts and Drain Terminal Metallization Schemes Aged at 300 Â°C. Materials Science Forum, 2017, 897, 387-390.	0.3	1
192	Lifetime Enhancement of 4H-SiC PiN Diodes Using High Temperature Oxidation Treatment. Materials Science Forum, 2018, 924, 440-443.	0.3	1
193	A Method to Contain the Temperature Rise of a Press-Pack Thyristor during a Short Circuit Protection Operation. , 2019, , .		1
194	A Compact Trench-Assisted Space-Modulated JTE Design for High-Voltage 4H-SiC Devices. IEEE Transactions on Electron Devices, 2021, 68, 1162-1167.	3.0	1
195	Power Device Losses in Two-Level Converters with Direct Current Controllers for Grid Connected Applications. , 2021, , .		1
196	(Invited, Digital Presentation) Improved Reliability of 4H-SiC Metal-Oxide-Semiconductor Devices Utilising Atomic Layer Deposited Layers with Enhanced Interface Quality. ECS Transactions, 2022, 108, 43-49.	0.5	1
197	Introducing Students to Electronics Computer Aided Design. International Journal of Electrical Engineering and Education, 1989, 26, 45-51.	0.8	0
198	Electrical characterisation of a heterojunction field effect transistor photodetector (HFETPD). Solid-State Electronics, 1993, 36, 1295-1302.	1.4	0

#	Article	IF	Citations
199	The temperature characteristics of InGaAsP/InP buried heterostructure lasers. Journal of Applied Physics, 1993, 74, 7621-7623.	2.5	0
200	Simulation of transient thermal effects during GTO turn off. Microelectronics Journal, 1996, 27, 217-229.	2.0	0
201	Molecular beam epitaxy Si/4H-SiC heterojunction diodes. , 2007, , .		0
202	Germanium â€“ Silicon Carbide Heterojunction Diodes â€“ A Study in Device Characteristics with Increasing Layer Thickness and Deposition Temperature. Materials Science Forum, 2010, 645-648, 889-892.	0.3	0
203	Trench depth optimization for energy efficient discrete power trench MOSFETs. , 2011, , .		0
204	Characterisation of HfO₂/Si/SiC MOS Capacitors. Materials Science Forum, 0, 679-680, 674-677.	0.3	0
205	Physical and Electrical Characterisation of 3C-SiC and 4H-SiC for Power Semiconductor Device Applications. Environmental Science and Engineering, 2014, , 929-932.	0.2	0
206	On the application of novel high temperature oxidation processes to enhance the performance of high voltage silicon carbide PiN diodes. , 2014, , .		0
207	Temperature and <i>dI_{DS}/dt</i> Dependence of the Switching Energy of SiC Schottky Diodes in Clamped Inductive Switching Applications. Materials Science Forum, 0, 778-780, 816-819.	0.3	0
208	Voltage behind reactance modelling of multiphase electronically commutated DC machines. , 2015, , .		0
209	Study on the effects of small swing of junction temperature cycles on solder layer in an IGBT module. , 2016, , .		0
210	Design and control of a compensated submodule testing scheme for modular multilevel converter. , 2016, , .		0
211	A Multiphase Machine and Converter Topology for Renewable Energy Generation. , 2018, , .		0
212	Power Loss Comparison in a BOOST PFC Circuit Considering the Reverse Recovery of the Forward Diode. Materials Science Forum, 2019, 963, 873-877.	0.3	0
213	Electrical Characterisation of Thick 3C-SiC Layers Grown on Off-Axis 4H-SiC Substrates. Materials Science Forum, 0, 963, 353-356.	0.3	0
214	Study of 4H-SiC Superjunction Schottky Rectifiers with Implanted P-Pillars. Materials Science Forum, 0, 963, 539-543.	0.3	0
215	Non-Intrusive Methodologies for Characterization of Bias Temperature Instability in SiC Power MOSFETs. , 2020, , .		0
216	Reliability Study of MOS Capacitors Fabricated on 3C-SiC/Si Substrates. Materials Science Forum, 0, 1004, 659-664.	0.3	0

#	Article	IF	Citations
217	Design and Optimisation of Schottky Contact Integration in a 4H-SiC Trench MOSFET. Materials Science Forum, 0, 1004, 808-813.	0.3	0
218	A Compact and Cost-efficient Edge Termination Design for High Voltage 4H-SiC Devices. , 2021, , .		0
219	Bipolar Degradation monitoring of 4H-SiC MOSFET Power Devices by Electroluminescence Measurements. , 2021, , .		0