## Carl-Mikael G Zetterling

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	SiC power devices — Present status, applications and future perspective. , 2011, , .		223
2	500\$^{circ}{m C}\$ Bipolar Integrated OR/NOR Gate in 4H-SiC. IEEE Electron Device Letters, 2013, 34, 1091-1093.	3.9	80
3	Reduction of the Schottky barrier height on silicon carbide using Au nano-particles. Solid-State Electronics, 2002, 46, 1433-1440.	1.4	69
4	Ohmic contact properties of magnetron sputtered Ti3SiC2 on n- and p-type 4H-silicon carbide. Applied Physics Letters, 2011, 98, .	3.3	67
5	Investigation of aluminum nitride grown by metal–organic chemical-vapor deposition on silicon carbide. Journal of Applied Physics, 1997, 82, 2990-2995.	2.5	65
6	A Monolithic, 500 °C Operational Amplifier in 4H-SiC Bipolar Technology. IEEE Electron Device Letters, 2014, 35, 693-695.	3.9	63
7	Inductively coupled plasma etching of bulk 6H-SiC and thin-film SiCN in NF3 chemistries. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1998, 16, 2204-2209.	2.1	57
8	Ultradeep, low-damage dry etching of SiC. Applied Physics Letters, 2000, 76, 739-741.	3.3	57
9	Surface-Passivation Effects on the Performance of 4H-SiC BJTs. IEEE Transactions on Electron Devices, 2011, 58, 259-265.	3.0	57
10	Modeling and Characterization of Current Gain Versus Temperature in 4H-SiC Power BJTs. IEEE Transactions on Electron Devices, 2010, 57, 704-711.	3.0	56
11	Design and Characterization of High-Temperature ECL-Based Bipolar Integrated Circuits in 4H-SiC. IEEE Transactions on Electron Devices, 2012, 59, 1076-1083.	3.0	56
12	High-Voltage 4H-SiC PiN Diodes With Etched Junction Termination Extension. IEEE Electron Device Letters, 2009, 30, 1170-1172.	3.9	55
13	Geometrical effects in high current gain 1100-V 4H-SiC BJTs. IEEE Electron Device Letters, 2005, 26, 743-745.	3.9	53
14	Low resistivity ohmic titanium carbide contacts to n- and p-type 4H-silicon carbide. Solid-State Electronics, 2000, 44, 1179-1186.	1.4	48
15	1200-V 5.2-\$hbox{m}Omegacdothbox{cm}^{2}\$ 4H-SiC BJTs With a High Common-Emitter Current Gain. IEEE Electron Device Letters, 2007, 28, 1007-1009.	3.9	46
16	ICP etching of SiC. Solid-State Electronics, 1998, 42, 2283-2288.	1.4	44
17	Schottky diode formation and characterization of titanium tungsten to n- and p-type 4H silicon carbide. Journal of Applied Physics, 2000, 87, 8039-8044.	2.5	43
18	Schottky barrier height dependence on the metal work function for p-type 4H-silicon carbide. Journal of Electronic Materials, 2001, 30, 242-246.	2.2	42

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19	Integrated circuits in silicon carbide for high-temperature applications. MRS Bulletin, 2015, 40, 431-438.	3.5	40
20	15 kV-Class Implantation-Free 4H-SiC BJTs With Record High Current Gain. IEEE Electron Device Letters, 2018, 39, 63-66.	3.9	37
21	Fabrication of 2700-V 12-\$hbox{m}Omega cdot hbox{cm}^{2}\$ Non Ion-Implanted 4H-SiCBJTs With Common-Emitter Current Gain of 50. IEEE Electron Device Letters, 2008, 29, 1135-1137.	3.9	35
22	Temperature stability of cobalt Schottky contacts on n- and p-type 6H silicon carbide. Applied Surface Science, 1993, 73, 316-321.	6.1	34
23	Via-hole etching for SiC. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1999, 17, 2050.	1.6	34
24	Electrical characterization of TiC ohmic contacts to aluminum ion implanted 4H–silicon carbide. Applied Physics Letters, 2000, 77, 1478-1480.	3.3	32
25	Influence of growth conditions on electrical characteristics of AlN on SiC. Applied Physics Letters, 1997, 70, 3549-3551.	3.3	31
26	Plasma chemistries for high density plasma etching of SiC. Journal of Electronic Materials, 1999, 28, 196-201.	2.2	31
27	High density plasma via hole etching in SiC. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 1878-1881.	2.1	31
28	Low resistivity ohmic contacts on 4H-silicon carbide for high power and high temperature device applications. Microelectronic Engineering, 2002, 60, 261-268.	2.4	31
29	Single-step synthesis process of Ti 3 SiC 2 ohmic contacts on 4H-SiC by sputter-deposition of Ti. Scripta Materialia, 2015, 99, 53-56.	5.2	30
30	500 °C Bipolar SiC Linear Voltage Regulator. IEEE Transactions on Electron Devices, 2015, 62, 1953-1957.	3.0	30
31	CVD-based tungsten carbide schottky contacts to 6H-SiC for very high-temperature operation. Journal of Electronic Materials, 2000, 29, 372-375.	2.2	28
32	Bipolar integrated circuits in SiC for extreme environment operation. Semiconductor Science and Technology, 2017, 32, 034002.	2.0	28
33	Fabrication and characterization of heterojunction diodes with HVPE-grown GaN on 4H-SiC. IEEE Transactions on Electron Devices, 2001, 48, 444-449.	3.0	26
34	Influence of Emitter Width and Emitter–Base Distance on the Current Gain in 4H-SiC Power BJTs. IEEE Transactions on Electron Devices, 2010, 57, 2664-2670.	3.0	26
35	High-Voltage (2.8 kV) Implantation-Free 4H-SiC BJTs With Long-Term Stability of the Current Gain. IEEE Transactions on Electron Devices, 2011, 58, 2665-2669.	3.0	26
36	Surface passivation oxide effects on the current gain of 4H-SiC bipolar junction transistors. Applied Physics Letters, 2008, 92, 082113.	3.3	25

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37	5.8-kV Implantation-Free 4H-SiC BJT With Multiple-Shallow-Trench Junction Termination Extension. IEEE Electron Device Letters, 2015, 36, 168-170.	3.9	25
38	Influence of Passivation Oxide Thickness and Device Layout on the Current Gain of SiC BJTs. IEEE Electron Device Letters, 2015, 36, 11-13.	3.9	24
39	550 °C 4H-SiC p-i-n Photodiode Array With Two-Layer Metallization. IEEE Electron Device Letters, 2016, 37, 1594-1596.	3.9	24
40	High rate etching of SiC and SiCN in NF3 inductively coupled plasmas. Solid-State Electronics, 1998, 42, 743-747.	1.4	23
41	Inductively coupled plasma etch damage in 4Hâ^'SiC investigated by Schottky diode characterization. Journal of Electronic Materials, 2001, 30, 247-252.	2.2	22
42	Wide Temperature Range Integrated Bandgap Voltage References in 4H–SiC. IEEE Electron Device Letters, 2016, 37, 146-149.	3.9	22
43	500 °C High Current 4H-SiC Lateral BJTs for High-Temperature Integrated Circuits. IEEE Electron Device Letters, 2017, 38, 1429-1432.	3.9	22
44	Characterization of heterojunction diodes with hydride vapor phase epitaxy grown AlGaN on 4H–SiC. Journal of Applied Physics, 2002, 91, 2372-2379.	2.5	21
45	Ferroelectric Pb(Zr0.52Ti0.48)/SiC field-effect transistor. Applied Physics Letters, 2003, 83, 3975-3977.	3.3	21
46	Silicon Carbide Fully Differential Amplifier Characterized Up to 500 °C. IEEE Transactions on Electron Devices, 2016, 63, 2242-2247.	3.0	21
47	Modeling and Characterization of the on-Resistance in 4H-SiC Power BJTs. IEEE Transactions on Electron Devices, 2011, 58, 2081-2087.	3.0	20
48	A 600 °C TTL-based 11-stage Ring Oscillator in Bipolar Silicon Carbide Technology. IEEE Electron Device Letters, 2018, , 1-1.	3.9	20
49	Towards Silicon Carbide VLSI Circuits for Extreme Environment Applications. Electronics (Switzerland), 2019, 8, 496.	3.1	20
50	The influence of band offsets on the IV characteristics for GaN/SiC heterojunctions. Solid-State Electronics, 2002, 46, 827-835.	1.4	18
51	High-Current-Gain SiC BJTs With Regrown Extrinsic Base and Etched JTE. IEEE Transactions on Electron Devices, 2008, 55, 1894-1898.	3.0	18
52	SiC Etching and Sacrificial Oxidation Effects on the Performance of 4H-SiC BJTs. Materials Science Forum, 2014, 778-780, 1005-1008.	0.3	18
53	Conductivity modulated on-axis 4H-SiC 10+ kV PiN diodes. , 2015, , .		18
54	High Gamma Ray Tolerance for 4H-SiC Bipolar Circuits. IEEE Transactions on Nuclear Science, 2017, 64, 852-858.	2.0	18

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55	Advanced oxidation process combining oxide deposition and short postoxidation step for N-type 3C- and 4H-SiC. Journal of Applied Physics, 2009, 106, 044514.	2.5	17
56	Lateral p-n-p Transistors and Complementary SiC Bipolar Technology. IEEE Electron Device Letters, 2014, 35, 428-430.	3.9	17
57	Future high temperature applications for SiC integrated circuits. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 1647-1650.	0.8	16
58	A study on positive-feedback configuration of a bipolar SiC high temperature operational amplifier. Solid-State Electronics, 2016, 116, 33-37.	1.4	16
59	Junction barrier Schottky diodes in 6H SiC. Solid-State Electronics, 1998, 42, 1757-1759.	1.4	15
60	Ferroelectric thin films on silicon carbide for next-generation nonvolatile memory and sensor devices. Thin Solid Films, 2004, 469-470, 444-449.	1.8	15
61	Comparative study of thermally grown oxides on n-type free standing 3C-SiC (001). Journal of Applied Physics, 2009, 106, 044513.	2.5	15
62	A monolithic SiC drive circuit for SiC Power BJTs. , 2015, , .		15
63	A 500 °C 8-b Digital-to-Analog Converter in Silicon Carbide Bipolar Technology. IEEE Transactions on Electron Devices, 2016, 63, 3445-3450.	3.0	15
64	High-Temperature Recessed Channel SiC CMOS Inverters and Ring Oscillators. IEEE Electron Device Letters, 2019, 40, 670-673.	3.9	15
65	Formation and High Frequency CV-Measurements of Aluminum / Aluminum Nitride / 6H Silicon Carbide Structures. Materials Research Society Symposia Proceedings, 1996, 423, 667.	0.1	14
66	Ferroelectric Pb(Zr,Ti)O3/Al2O3/4H–SiC diode structures. Applied Physics Letters, 2002, 81, 895-897.	3.3	14
67	Low-Forward-Voltage-Drop 4H-SiC BJTs Without Base Contact Implantation. IEEE Transactions on Electron Devices, 2008, 55, 1907-1911.	3.0	14
68	Present and future applications of Silicon Carbide devices and circuits. , 2012, , .		14
69	A Fully Integrated Silicon-Carbide Sigma–Delta Modulator Operating up to 500 °C. IEEE Transactions on Electron Devices, 2017, 64, 2782-2788.	3.0	14
70	Area- and efficiency-optimized junction termination for a 5.6 kV SiC BJT process with low ON-resistance. , 2015, , .		13
71	A Wafer-Scale Ni-Salicide Contact Technology on n-Type 4H-SiC. ECS Journal of Solid State Science and Technology, 2017, 6, P197-P200.	1.8	13
72	500 °C, High Current Linear Voltage Regulator in 4H-SiC BJT Technology. IEEE Electron Device Letters, 2018, 39, 548-551.	3.9	13

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73	555-Timer and Comparators Operational at 500 °C. IEEE Transactions on Electron Devices, 2019, 66, 3734-3739.	3.0	11
74	Deposition of diamond films on single crystalline silicon carbide substrates. Diamond and Related Materials, 2020, 101, 107625.	3.9	11
75	Electrical characteristics of metal-oxide-semiconductor capacitors on plasma etch-damaged silicon carbide. Solid-State Electronics, 2002, 46, 1375-1380.	1.4	10
76	Microscopic mapping of specific contact resistances and long-term reliability tests on 4H-silicon carbide using sputtered titanium tungsten contacts for high temperature device applications. Journal of Applied Physics, 2002, 92, 253-260.	2.5	10
77	SiC BJT Compact DC Model With Continuous- Temperature Scalability From 300 to 773 K. IEEE Transactions on Electron Devices, 2017, 64, 3588-3594.	3.0	10
78	A 4H-SiC BJT as a Switch for On-Chip Integrated UV Photodiode. IEEE Electron Device Letters, 2019, 40, 51-54.	3.9	10
79	Thermal oxidation of n- and p-type 6H-silicon carbide. Physica Scripta, 1994, T54, 291-293.	2.5	9
80	Simulation and electrical characterization of GaN/SiC and AlGaN/SiC heterodiodes. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1999, 61-62, 320-324.	3.5	9
81	Ohmic contact formation on inductively coupled plasma etched 4H-silicon carbide. Journal of Electronic Materials, 2002, 31, 340-345.	2.2	9
82	Growth and characterization of epitaxial Ti3GeC2 thin films on 4H-SiC(0001). Journal of Crystal Growth, 2012, 343, 133-137.	1.5	9
83	Effects of 3-MeV Protons on 4H-SiC Bipolar Devices and Integrated OR-NOR Gates. IEEE Transactions on Nuclear Science, 2014, 61, 1772-1776.	2.0	9
84	Optimal Emitter Cell Geometry in High Power 4H-SiC BJTs. IEEE Electron Device Letters, 2015, 36, 1069-1072.	3.9	9
85	500Â\$^circ\$C SiC PWM Integrated Circuit. IEEE Transactions on Power Electronics, 2019, 34, 1997-2001.	7.9	9
86	UV–ozone precleaning and forming gas annealing applied to wet thermal oxidation of p-type silicon carbide. Materials Science in Semiconductor Processing, 1999, 2, 23-27.	4.0	8
87	High Voltage, Low On-Resistance 4H-SiC BJTs with Improved Junction Termination Extension. Materials Science Forum, 2011, 679-680, 706-709.	0.3	8
88	Area-Optimized JTE for 4.5 kV Non Ion-Implanted 4H-SiC BJT. Materials Science Forum, 0, 740-742, 974-977.	0.3	8
89	Characterization of Ohmic Ni/Ti/Al and Ni Contacts to 4H-SiC from -40°C to 500°C. Materials Science Forum, 0, 778-780, 681-684.	0.3	8
90	High-temperature passive components for extreme environments. , 2016, , .		8

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91	Silicon Carbide Bipolar Analog Circuits for Extreme Temperature Signal Conditioning. IEEE Transactions on Electron Devices, 2019, 66, 3764-3770.	3.0	8
92	A Silicon Carbide 256 Pixel UV Image Sensor Array Operating at 400 °C. IEEE Journal of the Electron Devices Society, 2020, 8, 116-121.	2.1	8
93	Comparison of Thermal Gate Oxides on Silicon and Carbon Face P-Type 6H Silicon Carbide. Materials Research Society Symposia Proceedings, 1994, 339, 209.	0.1	7
94	Structural and electrical characteristics of oxygen-implanted 6H-SiC. Nuclear Instruments & Methods in Physics Research B, 2000, 169, 1-5.	1.4	7
95	Effect of UV light irradiation on SiC dry etch rates. Journal of Electronic Materials, 2000, 29, 342-346.	2.2	7
96	Implantation-Free Low On-Resistance 4H-SiC BJTs with Common-Emitter Current Gain of 50 and High Blocking Capability. Materials Science Forum, 2009, 615-617, 833-836.	0.3	7
97	Experimental Evaluation of Different Passivation Layers on the Performance of 3kV 4H-SiC BJTs. Materials Science Forum, 2010, 645-648, 661-664.	0.3	7
98	Investigation of damage behaviour and isolation effect of n-type 6H-SiC by implantation of oxygen. Journal Physics D: Applied Physics, 2000, 33, 1551-1555.	2.8	6
99	Removal of Crystal Orientation Effects on the Current Gain of 4H-SiC BJTs Using Surface Passivation. IEEE Electron Device Letters, 2011, 32, 596-598.	3.9	6
100	Toward 4H-SiC MISFETs Devices Based on ONO (SiO2-Si3N4-SiO2) Structures. Journal of the Electrochemical Society, 2011, 158, H496.	2.9	6
101	Fabrication and Design of 10 kV PiN Diodes Using On-Axis 4H-SiC. Materials Science Forum, 0, 778-780, 836-840.	0.3	6
102	Intertwined Design: A Novel Lithographic Method to Realize Area Efficient High-Voltage SiC BJTs and Darlington Transistors. IEEE Transactions on Electron Devices, 2016, 63, 4366-4372.	3.0	6
103	Simulation Study of on-state Losses as Function of Carrier Life-time for a GaN/SiC High Power HBT Design. Physica Scripta, 1999, T79, 290.	2.5	5
104	Investigation of thermal properties in fabricated 4H-SiC high power bipolar transistors. Solid-State Electronics, 2003, 47, 639-644.	1.4	5
105	SiC Bipolar Power Transistors - Design and Technology Issues for Ultimate Performance. Materials Research Society Symposia Proceedings, 2010, 1246, 1.	0.1	5
106	SiC bipolar devices for high power and integrated drivers. , 2011, , .		5
107	State of the art power switching devices in SiC and their applications. , 2016, , .		5
108	Scaling and Modeling of High Temperature 4H-SiC p-i-n Photodiodes. IEEE Journal of the Electron Devices Society, 2018, 6, 139-145.	2.1	5

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109	Influence of the base contact on the electrical characteristics of SiC BJTs. , 2007, , .		4
110	Simulations of Open Emitter Breakdown Voltage in SiC BJTs with Non Implanted JTE. Materials Science Forum, 2009, 615-617, 841-844.	0.3	4
111	Current Gain Degradation in 4H-SiC Power BJTs. Materials Science Forum, 2011, 679-680, 702-705.	0.3	4
112	Integration and High-Temperature Characterization of Ferroelectric Vanadium-Doped Bismuth Titanate Thin Films on Silicon Carbide. Journal of Electronic Materials, 2017, 46, 4478-4484.	2.2	4
113	A Comprehensive Study on the Geometrical Effects in High-Power 4H–SiC BJTs. IEEE Transactions on Electron Devices, 2017, 64, 882-887.	3.0	4
114	A novel UMOS capacitor test structure for SiC devices. Solid-State Electronics, 1996, 39, 1396-1397.	1.4	3
115	Measurements and simulations of self-heating and switching with 4H-SiC power BJTs. , 0, , .		3
116	Local Anodic Oxidation of Phosporous-Implanted 4H-SiC by Atomic Force Microscopy. Materials Science Forum, 0, 717-720, 905-908.	0.3	3
117	Metal Work-function and Doping-Concentration Dependent Barrier Height of Ni-Contacts to 4H-SiC with Metal-Embedded Nano-Particles. Materials Science Forum, 2012, 717-720, 857-860.	0.3	3
118	500°C SiC-based driver IC for SiC power MOSFETs. , 2019, , .		3
119	A study of optical characteristics of damage in oxygen-implanted 6H-SiC. Journal of Materials Science Letters, 1999, 18, 979-982.	0.5	2
120	SiC device technology for high voltage and RF power applications. , 0, , .		2
121	Combination of JFET and MOSFET devices in 4H-SiC for high-temperature stable circuit operation. Electronics Letters, 2003, 39, 933.	1.0	2
122	Thermal-issues for design of high power SiC MESFETs. , 0, , .		2
123	Silicon carbide devices and processes - present status and future pers. , 0, , .		2
124	Corrections to "Low-Forward-Voltage-Drop 4H-SiC BJTs Without Base Contact Implantation". IEEE Transactions on Electron Devices, 2008, 55, 2531-2531.	3.0	2
125	Bipolar Integrated OR-NOR Gate in 4H-SiC. Materials Science Forum, 0, 717-720, 1257-1260.	0.3	2
126	High-Temperature Characterization of 4H-SiC Darlington Transistors for Low Voltage Applications. Materials Science Forum, 2013, 740-742, 966-969.	0.3	2

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127	Characterization of La <sub>x</sub> Hf <sub>y</sub> O Gate Dielectrics in 4H-SiC MOS Capacitor. Materials Science Forum, 2014, 778-780, 549-552.	0.3	2
128	Material aspects of wide temperature range amplifier design in SiC bipolar technologies. Journal of Materials Research, 2016, 31, 2928-2935.	2.6	2
129	Wide temperature range integrated amplifier in bipolar 4H-SiC technology. , 2016, , .		2
130	High frequency characteristic of a monolithic 500 °C OpAmp-RC integrator in SiC bipolar IC technology. Solid-State Electronics, 2017, 135, 65-70.	1.4	2
131	Investigation of a Self-Aligned Cobalt Silicide Process for Ohmic Contacts to Silicon Carbide. Journal of Electronic Materials, 2019, 48, 2509-2516.	2.2	2
132	Analysis of the base current and saturation voltage in 4H-SiC power BJTs. , 2007, , .		1
133	Comparative Study of Thermal Oxides and Post-Oxidized Deposited Oxides on n-Type Free Standing 3C-SiC. Materials Science Forum, 0, 645-648, 829-832.	0.3	1
134	Electrical properties of MOS structures based on 3C-SiC(111) epilayers grown by Vapor-Liquid-Solid Transport and Chemical-Vapor Deposition on 6H-SiC(0001). AIP Conference Proceedings, 2010, , .	0.4	1
135	Effect of annealing temperature on the barrier height of nano-particle embedded Ni-contacts to 4H-SiC. , 2011, , .		1
136	Measurements and Simulations of Lateral PNP Transistors in a SiC NPN BJT Technology for High Temperature Integrated Circuits. Materials Science Forum, 2011, 679-680, 758-761.	0.3	1
137	Investigation of Current Gain Degradation in 4H-SiC Power BJTs. Materials Science Forum, 2012, 717-720, 1131-1134.	0.3	1
138	Process Variation Tolerant 4H-SiC Power Devices Utilizing Trench Structures. Materials Science Forum, 2013, 740-742, 809-812.	0.3	1
139	Ultrafast Pulsed <i>I-V</i> and Charge Pumping Interface Characterization of Low-Voltage <i>n</i> -Channel SiC MOSFETs. Materials Science Forum, 0, 1004, 642-651.	0.3	1
140	Growth of SiC Thin Films on (100) and (111) Silicon by Pulsed Laser Deposition Combined with a Vacuum Annealing Process. Materials Research Society Symposia Proceedings, 1999, 572, 207.	0.1	0
141	Processing and Properties of Ferroelectric Pb(Zr,Ti)O 3 /Silicon Carbide Field-Effect Transistor. Integrated Ferroelectrics, 2003, 57, 1221-1231.	0.7	0
142	<title>Thin films in silicon carbide semiconductor devices</title> ., 2004, , .		0
143	Simultaneous study of nickel based ohmic contacts to Si-face and C-face of n-type silicon carbide. , 2007, , .		0
144	Temperature Modeling and Characterization of the Current Gain in 4H-SiC Power BJTs. Materials Science Forum, 2010, 645-648, 1061-1064.	0.3	0

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145	Optimization of Poly-silicon Process for 3C-SiC Based MOS Devices. Materials Research Society Symposia Proceedings, 2010, 1246, 1.	0.1	Ο
146	Influence of crystal orientation on the current gain in 4H-SiC BJTs. , 2010, , .		0
147	(Invited) Silicon Carbide Bipolar Power Devices. ECS Transactions, 2011, 41, 189-200.	0.5	Ο
148	Effects of 3 MeV protons on 4H-SiC bipolar devices and integrated OR-NOR gates. , 2013, , .		0
149	Wide Bandgap Integrated Circuits for High Power Management in Extreme Environments. , 2020, , 167-178.		Ο