Florin Udrea

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/5883453/publications.pdf

Version: 2024-02-01

339 papers	5,443 citations	101384 36 h-index	138251 58 g-index
339 all docs	339 docs citations	339 times ranked	4134 citing authors

#	Article	IF	Citations
1	Superjunction Power Devices, History, Development, and Future Prospects. IEEE Transactions on Electron Devices, 2017, 64, 713-727.	1.6	260
2	CMOS Interfacing for Integrated Gas Sensors: A Review. IEEE Sensors Journal, 2010, 10, 1833-1848.	2.4	175
3	Towards Integrated Mid-Infrared Gas Sensors. Sensors, 2019, 19, 2076.	2.1	173
4	Tungsten-Based SOI Microhotplates for Smart Gas Sensors. Journal of Microelectromechanical Systems, 2008, 17, 1408-1417.	1.7	130
5	CMOS integration of inkjet-printed graphene for humidity sensing. Scientific Reports, 2015, 5, 17374.	1.6	124
6	Diamond power devices: state of the art, modelling, figures of merit and future perspective. Journal Physics D: Applied Physics, 2020, 53, 093001.	1.3	124
7	Design and simulations of SOI CMOS micro-hotplate gas sensors. Sensors and Actuators B: Chemical, 2001, 78, 180-190.	4.0	105
8	ZnO nanowires grown on SOI CMOS substrate for ethanol sensing. Sensors and Actuators B: Chemical, 2010, 146, 559-565.	4.0	101
9	Silicon diode temperature sensorsâ€”A review of applications. Sensors and Actuators A: Physical, 2015, 232, 63-74.	2.0	100
10	On the physical operation and optimization of the p-GaN gate in normally-off GaN HEMT devices. Applied Physics Letters, 2017, 110, .	1.5	96
11	Novel design and characterisation of SOI CMOS micro-hotplates for high temperature gas sensors. Sensors and Actuators B: Chemical, 2007, 127, 260-266.	4.0	88
12	Ultralow Specific On-Resistance High-Voltage SOI Lateral MOSFET. IEEE Electron Device Letters, 2011, 32, 185-187.	2.2	80
13	On the static performance of the RESURF LDMOSFETS for power ICs. Power Semiconductor Devices & IC's, 2009 ISPSD 2009 21st International Symposium on, 2009, , .	0.0	77
14	The Superjunction Insulated Gate Bipolar Transistor Optimization and Modeling. IEEE Transactions on Electron Devices, 2010, 57, 594-600.	1.6	72
15	3D RESURF double-gate MOSFET: A revolutionary power device concept. Electronics Letters, 1998, 34, 808.	0.5	71
16	Understanding the Threshold Voltage Instability During OFF-State Stress in p-GaN HEMTs. IEEE Electron Device Letters, 2019, 40, 1253-1256.	2.2	71
17	Temperature-modulated graphene oxide resistive humidity sensor for indoor air quality monitoring. Nanoscale, 2016, 8, 4565-4572.	2.8	69
18	SOI power devices. Electronics and Communication Engineering Journal, 2000, 12, 27-40.	0.6	68

#	Article	IF	Citations
19	Lateral insulated gate bipolar transistor (LIGBT) structure based on partial isolation SOI technology. Electronics Letters, 1997, 33, 907.	0.5	66
20	Breakdown Voltage for Superjunction Power Devices With Charge Imbalance: An Analytical Model Valid for Both Punch Through and Non Punch Through Devices. IEEE Transactions on Electron Devices, 2009, 56, 3175-3183.	1.6	57
21	Thermo-optical characterization of fluorescent rhodamine B based temperature-sensitive nanosensors using a CMOS MEMS micro-hotplate. Sensors and Actuators B: Chemical, 2014, 192, 126-133.	4.0	50
22	The Soft $hbox{Punchthrough}+$ Superjunction Insulated Gate Bipolar Transistor: A High Speed Structure With Enhanced Electron Injection. IEEE Transactions on Electron Devices, 2011, 58, 769-775.	1.6	49
23	Mask-less deposition of Auâ€“SnO₂nanocomposites on CMOS MEMS platform for ethanol detection. Nanotechnology, 2016, 27, 125502.	1.3	49
24	Dip pen nanolithography-deposited zinc oxide nanorods on a CMOS MEMS platform for ethanol sensing. RSC Advances, 2015, 5, 47609-47616.	1.7	48
25	Deep depletion concept for diamond MOSFET. Applied Physics Letters, 2017, 111, .	1.5	46
26	Optimum carrier distribution of the IGBT. Solid-State Electronics, 2000, 44, 1573-1583.	0.8	44
27	QUANTUM COMPUTATION WITH BALLISTIC ELECTRONS. International Journal of Modern Physics B, 2001, 15, 125-133.	1.0	44
28	LoRaWAN Battery-Free Wireless Sensors Network Designed for Structural Health Monitoring in the Construction Domain. Sensors, 2019, 19, 1510.	2.1	44
29	A highly efficient CMOS nanoplasmonic crystal enhanced slow-wave thermal emitter improves infrared gas-sensing devices. Scientific Reports, 2015, 5, 17451.	1.6	43
30	The Effect of Charge Imbalance on Superjunction Power Devices: An Exact Analytical Solution. IEEE Electron Device Letters, 2008, 29, 249-251.	2.2	42
31	Analysis of SEB and SEGR in super-junction MOSFETs. IEEE Transactions on Nuclear Science, 2000, 47, 2640-2647.	1.2	41
32	Numerical Parameterization of Chemical-Vapor-Deposited (CVD) Single-Crystal Diamond for Device Simulation and Analysis. IEEE Transactions on Electron Devices, 2008, 55, 2744-2756.	1.6	41
33	True Material Limit of Power Devicesâ€”Applied to 2-D Superjunction MOSFET. IEEE Transactions on Electron Devices, 2018, 65, 1432-1439.	1.6	41
34	Impact of Donor Traps on the 2DEG and Electrical Behavior of AlGaN/GaN MISFETs. IEEE Electron Device Letters, 2014, 35, 27-29.	2.2	40
35	A Low-Power, Low-Cost Infra-Red Emitter in CMOS Technology. IEEE Sensors Journal, 2015, 15, 6775-6782.	2.4	40
36	Silicon on Insulator Diode Temperature Sensorâ€“ A Detailed Analysis for Ultra-High Temperature Operation. IEEE Sensors Journal, 2010, 10, 997-1003.	2.4	39

#	Article	IF	Citations
37	Theoretical and numerical comparison between DMOS and trench technologies for insulated gate bipolar transistors. IEEE Transactions on Electron Devices, 1995, 42, 1356-1366.	1.6	38
38	Breakdown analysis in JI, SOI and partial SOI power structures. , 0, , .		38
39	Lateral unbalanced super junction (USJ)/3D-RESURF for high breakdown voltage on SOI. , 0, , .		37
40	SOI-based devices and technologies for High Voltage ICs. Bipolar/BiCMOS Circuits and Technology Meeting, IEEE Proceedings of the, 2007, , .	0.0	35
41	Modelling of self-heating effect in thin SOI and Partial SOI LDMOS power devices. Solid-State Electronics, 1999, 43, 1267-1280.	0.8	34
42	The Current Sharing Optimization of Paralleled IGBTs in a Power Module Tile Using a PSpice Frequency Dependent Impedance Model. IEEE Transactions on Power Electronics, 2008, 23, 206-217.	5.4	34
43	On the Investigation of the â€œAnode Sideâ€•SuperJunction IGBT Design Concept. IEEE Electron Device Letters, 2017, 38, 1063-1066.	2.2	33
44	Optimisation of SuperJunction Bipolar Transistor for ultra-fast switching applications. , 2007, , .		32
45	Accurate modeling and parameter extraction for 6H-SiC Schottky barrier diodes (SBDs) with nearly ideal breakdown voltage. IEEE Transactions on Electron Devices, 2001, 48, 2148-2153.	1.6	31
46	Experimental, analytical and numerical investigation of non-linearity of SOI diode temperature sensors at extreme temperatures. Sensors and Actuators A: Physical, 2015, 222, 31-38.	2.0	31
47	The Semi-Superjunction IGBT. IEEE Electron Device Letters, 2010, 31, 591-593.	2.2	30
48	Inkjet-printed CMOS-integrated grapheneâ€“metal oxide sensors for breath analysis. Npj 2D Materials and Applications, 2019, 3, .	3.9	30
49	Reverse-Conducting Insulated Gate Bipolar Transistor: A Review of Current Technologies. IEEE Transactions on Electron Devices, 2019, 66, 219-231.	1.6	30
50	Novel Approach Toward Plasma Enhancement in Trench-Insulated Gate Bipolar Transistors. IEEE Electron Device Letters, 2015, 36, 823-825.	2.2	29
51	A unified analytical model for the carrier dynamics in trench insulated gate bipolar transistors (TIGBT). , 0, , .		28
52	Experimental demonstration of an ultra-fast double gate inversion layer emitter transistor (DG-ILET). IEEE Electron Device Letters, 2002, 23, 725-727.	2.2	28
53	Modelling of single-crystal diamond Schottky diodes for high-voltage applications. Diamond and Related Materials, 2006, 15, 317-323.	1.8	28
54	Advanced SPICE Modeling of Large Power IGBT Modules. IEEE Transactions on Industry Applications, 2004, 40, 710-716.	3.3	27

#	Article	IF	Citations
55	Post-CMOS wafer level growth of carbon nanotubes for low-cost microsensorsâ€"a proof of concept. Nanotechnology, 2010, 21, 485301.	1.3	27
56	200-V Lateral Superjunction LIGBT on Partial SOI. IEEE Electron Device Letters, 2012, 33, 1291-1293.	2.2	27
57	The Destruction Mechanism in GCTs. IEEE Transactions on Electron Devices, 2013, 60, 819-826.	1.6	27
58	1.2 kV trench insulated gate bipolar transistors (IGBT's) with ultralow on-resistance. IEEE Electron Device Letters, 1999, 20, 428-430.	2.2	26
59	Membrane high voltage devices - a milestone concept in power ICs. , 0, , .		26
60	Superjunction IGBT Filling the Gap Between SJ MOSFET and Ultrafast IGBT. IEEE Electron Device Letters, 2012, 33, 1288-1290.	2.2	26
61	Enhanced spectroscopic gas sensors using in-situ grown carbon nanotubes. Applied Physics Letters, 2015, 106, .	1.5	26
62	An analytical model for the 3D-RESURF effect. Solid-State Electronics, 2000, 44, 1753-1764.	0.8	25
63	Zero reverse recovery in SiC and GaN Schottky diodes: A comparison. , 2016, , .		24
64	High performance cooling system for automotive inverters. , 2007, , .		23
65	State-of-the-art technologies and devices for high-voltage integrated circuits. IET Circuits, Devices and Systems, 2007, 1, 357.	0.9	23
66	CMOS temperature sensors - concepts, state-of-the-art and prospects. , 2008, , .		23
67	Graphene-coated Rayleigh SAW Resonators for NO2 Detection. Procedia Engineering, 2014, 87, 999-1002.	1.2	23
68	Material selection for optimum design of MEMS pressure sensors. Microsystem Technologies, 2020, 26, 2751-2766.	1.2	23
69	SOI CMOS-Based Smart Gas Sensor System for Ubiquitous Sensor Networks. ETRI Journal, 2008, 30, 516-525.	1.2	22
70	Dynamic body potential variation in FD SOI MOSFETs operated in deep non-equilibrium regime: Model and applications. Solid-State Electronics, 2010, 54, 104-114.	0.8	22
71	Enhanced infra-red emission from sub-millimeter microelectromechanical systems micro hotplates via inkjet deposited carbon nanoparticles and fullerenes. Journal of Applied Physics, 2013, 113, .	1.1	22
72	MEMS Thermal Flow Sensorsâ€" An Accuracy Investigation. IEEE Sensors Journal, 2019, 19, 2991-2998.	2.4	22

#	Article	IF	Citations
73	The MOS inversion layer as a minority carrier injector. IEEE Electron Device Letters, 1996, 17, 425-427.	2.2	20
74	An SOI CMOS-Based Multi-Sensor MEMS Chip for Fluidic Applications. Sensors, 2016, 16, 1608.	2.1	20
75	Retrograde p-Well for 10-kV Class SiC IGBTs. IEEE Transactions on Electron Devices, 2019, 66, 3066-3072.	1.6	20
76	Machine-intelligent inkjet-printed Î±-Fe2O3/rGO towards NO2 quantification in ambient humidity. Sensors and Actuators B: Chemical, 2020, 321, 128446.	4.0	20
77	Use of nanocomposites to increase electrical â€œgainâ€•in chemical sensors. Applied Physics Letters, 2007, 91, 203111.	1.5	19
78	The Nanoscale Silicon Accumulation-Mode MOSFET—A Comprehensive Numerical Study. IEEE Transactions on Electron Devices, 2008, 55, 2946-2959.	1.6	19
79	High-Sensitivity Single Thermopile SOI CMOS MEMS Thermal Wall Shear Stress Sensor. IEEE Sensors Journal, 2015, 15, 5561-5568.	2.4	19
80	On the Source of Oscillatory Behaviour during Switching of Power Enhancement Mode GaN HEMTs. Energies, 2017, 10, 407.	1.6	19
81	Highly sensitive NO2 sensor array based on undecorated single-walled carbon nanotube monolayer junctions. Applied Physics Letters, 2008, 93, 113111.	1.5	18
82	Ultra-high temperature (>300Â°C) suspended thermodiode in SOI CMOS technology. Microelectronics Journal, 2010, 41, 540-546.	1.1	18
83	Low-Loss 800-V Lateral IGBT in Bulk Si Technology Using a Floating Electrode. IEEE Electron Device Letters, 2018, 39, 866-868.	2.2	18
84	A dynamic n-buffer insulated gate bipolar transistor. Solid-State Electronics, 2001, 45, 173-182.	0.8	17
85	Normally-off trench JFET technology in 4H silicon carbide. Microelectronic Engineering, 2006, 83, 107-111.	1.1	17
86	Gate driver for SiC JFETs with protection against normally-on behaviour induced fault. Electronics Letters, 2011, 47, 375.	0.5	17
87	Silicon-on-insulator power integrated circuits. Microelectronics Journal, 2001, 32, 517-526.	1.1	16
88	A novel partial silicon on insulator high voltage LDMOS with low-k dielectric buried layer. Chinese Physics B, 2010, 19, 077306.	0.7	16
89	A CMOS-MEMS Thermopile with an Integrated Temperature Sensing Diode for Mid-IR Thermometry. Procedia Engineering, 2014, 87, 1127-1130.	1.2	16
90	SOI Hall cells design selection using three-dimensional physical simulations. Journal of Magnetism and Magnetic Materials, 2014, 372, 141-146.	1.0	16

#	Article	IF	Citations
91	Static and Dynamic Effects of the Incomplete Ionization in Superjunction Devices. IEEE Transactions on Electron Devices, 2018, 65, 4469-4475.	1.6	16
92	Smart CMOS mid-infrared sensor array. Optics Letters, 2019, 44, 4111.	1.7	16
93	200 V Superjunction N-Type Lateral Insulated-Gate Bipolar Transistor With Improved Latch-Up Characteristics. IEEE Transactions on Electron Devices, 2013, 60, 1412-1415.	1.6	15
94	Parameters influencing the maximum controllable current in gate commutated thyristors. IET Circuits, Devices and Systems, 2014, 8, 221-226.	0.9	15
95	Material Limit of Power Devicesâ€"Applied to Asymmetric 2-D Superjunction MOSFET. IEEE Transactions on Electron Devices, 2018, 65, 3326-3332.	1.6	15
96	On-state analytical modeling of IGBTs with local lifetime control. IEEE Transactions on Power Electronics, 2002, 17, 815-823.	5.4	14
97	Ramp oxide termination structure using high-k dielectrics for high voltage diamond Schottky diodes. Diamond and Related Materials, 2007, 16, 1020-1024.	1.8	14
98	Numerical and Experimental Investigation on a Novel High-Voltage ($>$ 600-V) SOI LDMOS in a Self-Isolation HVIC. IEEE Transactions on Electron Devices, 2010, 57, 3033-3043.	1.6	14
99	MEMS Infrared Emitter and Detector for Capnography Applications. Procedia Engineering, 2016, 168, 1204-1207.	1.2	14
100	Design of a normally-off diamond JFET for high power integrated applications. Diamond and Related Materials, 2017, 78, 73-82.	1.8	14
101	Static and Dynamic Figures of Merits (FOM) for Superjunction MOSFETs. , 2019, , .		14
102	The effect of the hole current on the channel inversion in trench insulated gate bipolar transistors (TIGBT). Solid-State Electronics, 1994, 37, 507-514.	0.8	13
103	The injection efficiency controlled IGBT. IEEE Electron Device Letters, 2002, 23, 88-90.	2.2	13
104	SOI diode temperature sensor operated at ultra high temperatures - a critical analysis. , 2008, , .		13
105	On-state behaviour of diamond Schottky diodes. Diamond and Related Materials, 2008, 17, 736-740.	1.8	13
106	Identification and quantification of different vapours using a single polymer chemoresistor and the novel dual transient temperature modulation technique. Sensors and Actuators B: Chemical, 2009, 141, 370-380.	4.0	13
107	Point injection in trench insulated gate bipolar transistor for ultra low losses. , 2012, , .		13
108	Experimental demonstration of the p-ring FS+ Trench IGBT concept: A new design for minimizing the conduction losses. , 2015, , .		13

#	Article	IF	Citations
109	Silicon-on-Insulator Photodiode on Micro-Hotplate Platform With Improved Responsivity and High-Temperature Application. IEEE Sensors Journal, 2016, 16, 3017-3024.	2.4	13
110	Benchmarking of Homojunction Strained-Si NW Tunnel FETs for Basic Analog Functions. IEEE Transactions on Electron Devices, 2017, 64, 1441-1448.	1.6	13
111	Silicon MOS controlled bipolar power switching devices using trench technology. International Journal of Electronics, 1999, 86, 1153-1168.	0.9	12
112	Three technologies for a smart miniaturized gas-sensor: SOI CMOS, micromachining, and CNTs - challenges and performance. , 2007, , .		12
113	Low Power Consumption and High Sensitivity Carbon Monoxide Gas Sensor Using Indium Oxide Nanowire. Journal of Nanoscience and Nanotechnology, 2010, 10, 3189-3192.	0.9	12
114	Superjunction IGBT vs. FS IGBT for 200°C operation. , 2015, , .		12
115	Gate Oxide Electrical Stability of p-type Diamond MOS Capacitors. IEEE Transactions on Electron Devices, 2018, 65, 3361-3364.	1.6	12
116	Analysis of lifetime control in high-voltage IGBTs. Solid-State Electronics, 2002, 46, 75-81.	0.8	11
117	Simulations results of some Diamond On Insulator nano-MISFETs. Diamond and Related Materials, 2006, 15, 777-782.	1.8	11
118	An Analytical Model for the Lateral Insulated Gate Bipolar Transistor (LIGBT) on Thin SOI. IEEE Transactions on Power Electronics, 2006, 21, 1521-1528.	5.4	11
119	High Performance SOI-CMOS Wall Shear Stress Sensors. , 2007, , .		11
120	DRAM concept based on the hole gas transient effect in a AlGaN/GaN HEMT. Solid-State Electronics, 2010, 54, 616-620.	0.8	11
121	Experimentally validated three dimensional GCT wafer level simulations. , 2012, , .		11
122	Evaluation of thin film p-type single crystal silicon for use as a CMOS Resistance Temperature Detector (RTD). Sensors and Actuators A: Physical, 2018, 283, 159-168.	2.0	11
123	Gate stress induced threshold voltage instability and its significance for reliable threshold voltage measurement in p-GaN HEMT. , 2019, , .		11
124	Theory of 3-D Superjunction MOSFET. IEEE Transactions on Electron Devices, 2019, 66, 5254-5259.	1.6	11
125	A highly stable, nanotube-enhanced, CMOS-MEMS thermal emitter for mid-IR gas sensing. Scientific Reports, 2021, 11, 22915.	1.6	11
126	The inversion layer emitter thyristor - a novel power device concept. , 0, , .		10

#	Article	IF	Citations
127	A study of the CoolMOS integral diode: analysis and optimisation. , 0, , .		10
128	Analysis of static and dynamic behaviour of SiC and Si devices connected in cascode configuration. , 0, , .		10
129	Advanced SPICE modeling of large power IGBT modules. , 0, , .		10
130	A numerical comparison between MOS control and junction control high voltage devices in SiC technology. Solid-State Electronics, 2003, 47, 607-615.	0.8	10
131	Optically triggered Schottky barrier diodes in single crystal diamond. Diamond and Related Materials, 2005, 14, 499-503.	1.8	10
132	Single crystal diamond Mâ€“iâ€“P diodes for power electronics. IET Circuits, Devices and Systems, 2007, 1, 380.	0.9	10
133	High Sensitive NO₂ Gas Sensor with Low Power Consumption Using Selectively Grown ZnO Nanorods. Journal of Nanoscience and Nanotechnology, 2010, 10, 3385-3388.	0.9	10
134	A CMOS-Based Thermopile Array Fabricated on a Single SiO2 Membrane. Proceedings (mdpi), 2018, 2, .	0.2	10
135	Investigation of the Dual Implant Reverse-Conducting SuperJunction Insulated-Gate Bipolar Transistor. IEEE Electron Device Letters, 2019, 40, 862-865.	2.2	10
136	Analytic Model of Specific ON-State Resistance for Superjunction MOSFETs With an Oxide Pillar. IEEE Electron Device Letters, 2019, 40, 761-764.	2.2	10
137	The trench Insulated Gate Bipolar Transistorâ€" a high power switching device. Microelectronics Journal, 1997, 28, 1-12.	1.1	9
138	An on-state analytical model for the Trench Insulated Gate Bipolar Transistor (TIGBT). Solid-State Electronics, 1997, 41, 1111-1118.	0.8	9
139	The 3D RESURF junction. , 0, , .		9
140	A comprehensive analysis of breakdown mechanisms in 4H-SiC MOSFET and JFET. , 0, , .		9
141	Resistive gas sensor with integrated MOSFET micro hot-plate based on an analogue SOI CMOS process. , 0, , .		9
142	Towards fully integrated SiC cascade power switches for high voltage applications. , 0, , .		9
143	Numerical and Experimental Analysis of Single Crystal Diamond Schottky Barrier Diodes. , 0, , .		9
144	Modeling Voltage Derivative During Inductive Turnoff in Thin SOI LIGBT. IEEE Transactions on Electron Devices, 2005, 52, 2776-2783.	1.6	9

#	Article	IF	Citations
145	Towards Achieving the Soft-Punch-Through Superjunction Insulated-Gate Bipolar Transistor Breakdown Capability. IEEE Electron Device Letters, 2011, 32, 1275-1277.	2.2	9
146	Zinc Oxide Nanowire Based Hydrogen Sensor On SOI CMOS Platform. Procedia Engineering, 2011, 25, 1473-1476.	1.2	9
147	Gate Commutated Thyristor With Voltage Independent Maximum Controllable Current. IEEE Electron Device Letters, 2013, 34, 954-956.	2.2	9
148	The dynamics of surface donor traps in AlGaN/GaN MISFETs using transient measurements and TCAD modelling. , 2014, , .		9
149	Low Power Resistive Oxygen Sensor Based on Sonochemical SrTi0.6Fe0.4O2.8 (STFO40). Sensors, 2015, 15, 17495-17506.	2.1	9
150	On the models used for TCAD simulations of Diamond Schottky Barrier Diodes. , 2015, , .		9
151	In-situthermal annealing of on-membrane silicon-on-insulator semiconductor-based devices after high gamma dose irradiation. Nanotechnology, 2017, 28, 184001.	1.3	9
152	On the Specific on-State Resistance of Superjunction MOSFETs With a Compensated Pillar. IEEE Electron Device Letters, 2018, 39, 1904-1907.	2.2	9
153	On the Challenges of Reliable Threshold Voltage Measurement in Ohmic and Schottky Gate p-GaN HEMTs. IEEE Journal of the Electron Devices Society, 2021, 9, 831-838.	1.2	9
154	The trench insulated gate bipolar transistor a high power switching device. , 0, , .		8
155	Design of a silicon microsensor array device for gas analysis. Microelectronics Journal, 1996, 27, 449-457.	1.1	8
156	An analytic model for turn off in the silicon-on-insulator LIGBT. Solid-State Electronics, 1999, 43, 1855-1868.	0.8	8
157	Power integrated circuits: devices and applications. , 0, , .		8
158	Ultra-high voltage device termination using the 3D RESURF (super-junction) concept - experimental demonstration at 6.5 kV. , 0, , .		8
159	Substrate deep depletion: an innovative design concept to improve the voltage rating of SOI power devices. , 0, , .		8
160	Modelling 2DEG charges in AlGaN/GaN heterostructures. , 2012, , .		8
161	200V superjunction lateral IGBT fabricated on partial SOI. , 2013, , .		8
162	Ambient Temperature Carbon Nanotube Ammonia Sensor on CMOS Platform. Procedia Engineering, 2014, 87, 224-227.	1.2	8

#	Article	IF	Citations
163	An experimental demonstration of a 4.5 kV “Bi-mode Gate Commutated Thyristor” (BGCT). , 2015, , .		8
164	Substantiation of buried two dimensional hole gas (2DHG) existence in GaN-on-Si epitaxial heterostructure. Applied Physics Letters, 2017, 110, .	1.5	8
165	Sensitivity Enhancement of Silicon-on-Insulator CMOS MEMS Thermal Hot-Film Flow Sensors by Minimizing Membrane Conductive Heat Losses. Sensors, 2019, 19, 1860.	2.1	8
166	Deep p-Ring Trench Termination: An Innovative and Cost-Effective Way to Reduce Silicon Area. IEEE Electron Device Letters, 2019, 40, 177-180.	2.2	8
167	Dynamic C _{GD} and dV/dt in Superjunction MOSFETs. IEEE Transactions on Electron Devices, 2020, 67, 1523-1529.	1.6	8
168	Switching speed enhancement of the LDMOSFETs using partial-SOI technology. , 0, , .		7
169	New lateral DMOS and IGBT structures realized on a partial SOI substrate based on LEGO process. , 0, , .		7
170	Termination Structures for Diamond Schottky Barrier Diodes. , 0, , .		7
171	Substrate engineering for improved transient breakdown voltage in SOI lateral power MOS. IEEE Electron Device Letters, 2006, 27, 678-680.	2.2	7
172	SQI-CMOS based single crystal silicon micro-heaters for gas sensors. , 2006, , .		7
173	Electrothermal model for an SOI-based LIGBT. IEEE Transactions on Electron Devices, 2006, 53, 1698-1704.	1.6	7
174	Laminar to turbulent flow transition measurements using an array of SOI-CMOS MEMS wall shear stress sensors. , 2008, , .		7
175	Turn-off failure mechanism in large area IGCTs. , 2011, , .		7
176	On the Time-Dependent Transport Mechanism Between Surface Traps and the 2DEG in AlGaN/GaN Devices. IEEE Transactions on Electron Devices, 2017, 64, 4415-4423.	1.6	7
177	Suppression of substrate coupling in GaN high electron mobility transistors (HEMTs) by hole injection from the p-GaN gate. Applied Physics Letters, 2019, 115, .	1.5	7
178	Miniaturized thermal acoustic gas sensor based on a CMOS microhotplate and MEMS microphone. Scientific Reports, 2022, 12, 1690.	1.6	7
179	A numerical study of the RESURF effect in bulk and SOI power devices. , 0, , .		6
180	1.4 kV, 25 A, PT and NPT trench IGBTs with optimum forward characteristics. , 0, , .		6

#	Article	IF	Citations
181	The effect of static and dynamic parasitic charge in the termination area of high voltage devices and possible solutions. , 0, , .		6
182	Minority carrier injection across the 3D RESURF junction. , 0, , .		6
183	CMOS gas sensors and smart devices. , 0, , .		6
184	Suppression of parasitic JFET effect in trench IGBTs by using a self-aligned p base process. Solid-State Electronics, 2002, 46, 1907-1912.	0.8	6
185	SiC junction FETs - a state of the art review. , 0, , .		6
186	High Temperature Characterization of 41-SiC Normally-On Vertical JFETs with Buried Gate and Buried Field Rings. , 0, , .		6
187	Robustness of SuperJunction structures against cosmic ray induced breakdown. Solid-State Electronics, 2010, 54, 385-391.	0.8	6
188	Innovative designs enable 300-V TMBS® with ultra-low on-state voltage and fast switching speed. , 2011, , .		6
189	A thermopile based SOI CMOS MEMS wall shear stress sensor. , 2013, , .		6
190	SOI multidirectional thermoelectric flow sensor for harsh environment applications. , 2015, , .		6
191	Improving Current Controllability in Bi-Mode Gate Commutated Thyristors. IEEE Transactions on Electron Devices, 2015, 62, 2263-2269.	1.6	6
192	Investigation into the capabilities of Hall cells integrated in a non-fully depleted SOI CMOS technological process. Sensors and Actuators A: Physical, 2016, 242, 43-49.	2.0	6
193	Multiple-Wavelength Detection in SOI Lateral PIN Diodes With Backside Reflectors. IEEE Transactions on Industrial Electronics, 2017, 64, 7368-7376.	5.2	6
194	Operation of ultra-high voltage (>10kV) SiC IGBTs at elevated temperatures: benefits & constraints. , 2019, , .		6
195	Suppression technique of vertical leakage current in GaN-on-Si power transistors. Japanese Journal of Applied Physics, 2019, 58, SCCD12.	0.8	6
196	True Origin of Gate Ringing in Superjunction MOSFETs: Device View. IEEE Transactions on Power Electronics, 2021, 36, 5362-5370.	5.4	6
197	A new class of lateral power devices for HVIC's based on the 3D RESURF concept. , 0, , .		5
198	An experimental and numerical investigation of IGBT blocking characteristics. , 0, , .		5

#	Article	IF	Citations
199	Buried field rings - a novel edge termination method for 4H-SiC high voltage devices. , 0, , .		5
200	A tungsten based SOI CMOS MEMS wall shear stress sensor. , 2014, , .		5
201	The effect of the surface fixed charge and donor traps on the C(V) and transfer characteristics of a GaN MISFET — Experiment and TCAD simulations. , 2014, , .		5
202	The Stripe Fortified GCT: A new GCT design for maximizing the controllable current. , 2014, , .		5
203	Geometrical Optimisation of Diode-Based Calorimetric Thermal Flow Sensors through Multiphysics Finite Element Modelling. Proceedings (mdpi), 2017, 1, .	0.2	5
204	Single and repetitive surge current events of 3.3 kV-20 A 4H-SiC JBS rectifiers: the impact of the anode layout. , 2020, , .		5
205	An advanced physical model for the Coulombic scattering mobility in 4H-SiC inversion layers. Journal of Applied Physics, 2020, 127, .	1.1	5
206	Effect of Pillar Ripple on Static and Dynamic Trade-Offs in Superjunction MOSFETs. IEEE Electron Device Letters, 2020, 41, 753-756.	2.2	5
207	Theoretical and numerical investigation of SiC JFET and MOSFET at 6.5 kV. , 0, , .		4
208	Power devices for high voltage integrated circuits: new device and technology concepts. , 0, , .		4
209	A dual-channel IEGT. Microelectronics Journal, 2001, 32, 755-761.	1.1	4
210	SOI CMOS gas sensors. , 0, , .		4
211	A comparative investigation of the MCST with MCT and IGBT. Solid-State Electronics, 2003, 47, 1429-1436.	0.8	4
212	Fully coupled dynamic self heating model for power SOI Lateral Insulated Gate Bipolar Transistors. Bipolar/BiCMOS Circuits and Technology Meeting, IEEE Proceedings of the, 2006, , .	0.0	4
213	Numerical modeling study of the unipolar accumulation transistor. Applied Physics Letters, 2007, 91, 193508.	1.5	4
214	Technology-Based Figure of Merit (FOM) for High Voltage LDMOSFETs - Proof of Value of SOI in Power ICs. SOI Conference, Proceedings of the IEEE International, 2007, , .	0.0	4
215	CMOS Alcohol Sensor Employing ZnO Nanowire Sensing Films. , 2009, , .		4
216	Interface charge trapping and hot carrier reliability in high voltage SOI SJ LDMOSFET. , 2011, , .		4

#	Article	IF	Citations
217	Analysis on the off-state design and characterization of LIGBTs in partial SOI technology. Solid-State Electronics, 2014, 96, 38-43.	0.8	4
218	SOI CMOS MEMS Infra-red Thermal Source with Carbon Nanotubes Coating. Procedia Engineering, 2014, 87, 839-842.	1.2	4
219	Modelling of an AlGaN/GaN Schottky diode and extraction of main parameters. , 2015, , .		4
220	The effect of the collector contact design on the performance and yield of 800V Lateral IGBTs for power ICs. , 2015, , .		4
221	On the Seebeck Coefficient and Its Temperature Dependence for Standard CMOS Materials. IEEE Sensors Journal, 2017, 17, 30-36.	2.4	4
222	CMOS technology platform for ubiquitous microsensors. , 2017, , .		4
223	On-Chip Thermal Insulation Using Porous GaN. Proceedings (mdpi), 2018, 2, .	0.2	4
224	Bonding Pad Over Active Area Layout for Lateral AlGaN/GaN Power HEMTs: A Critical View. IEEE Transactions on Electron Devices, 2019, 66, 2301-2306.	1.6	4
225	Enhanced Performance of 50 nm Ultra-Narrow-Body Silicon Carbide MOSFETs based on FinFET effect. , 2020, , .		4
226	Mechanisms of Asymmetrical Turn-On and Turn-Off and the Origin of Dynamic C_{GD} Hysteresis for Hard-Switching Superjunction MOSFETs. IEEE Transactions on Electron Devices, 2020, 67, 2478-2481.	1.6	4
227	High-Voltage 3-D Partial SOI Technology Platform for Power Integrated Circuits. IEEE Transactions on Electron Devices, 2022, 69, 3296-3301.	1.6	4
228	Partial SOI LDMOSFETs for high-side switching. , 0, , .		3
229	Failure mechanisms of SOI high-voltage LIGBTs and LDMOSes under unclamped inductive switching. , 0, , .		3
230	Advanced 3D RESURF devices for power integrated circuits. , 0, , .		3
231	Characteristics of Trench gate and DMOS IGBTs in a ZCS single-ended resonant inverter. , 0, , .		3
232	A field effect transistor using highly nitrogen-doped CVD diamond for power device applications. Applied Surface Science, 2003, 216, 483-489.	3.1	3
233	A compact model for thin SOI LIGBTs: description, experimental verification and system application. , 0, , .		3
234	On-State Behaviour of Diamond M-i-P Structures. , 2006, , .		3

#	Article	IF	Citations
235	Circuital implementation of deep depletion SOI power devices. , 0, , .		3
236	Technology-Based Static Figure of Merit for High Voltage ICs. , 2006, , .		3
237	Si Diode Temperature Sensor beyond 300Â°C. , 2007, , .		3
238	High frequency 700V PowerBrane LIGBTs in 0.35µm bulk CMOS technology. Power Semiconductor Devices & IC's, 2009 ISPSD 2009 21st International Symposium on, 2009, , .	0.0	3
239	SuperJunction IGBTS: An evolutionary step of silicon power devices with high impact potential. , 2012, , .		3
240	Deposition of Carbon Nanotubes on CMOS. IEEE Nanotechnology Magazine, 2012, 11, 215-219.	1.1	3
241	SOI CMOS integrated zinc oxide nanowire for toluene detection. , 2013, , .		3
242	In-Situ grown carbon nanotubes for enhanced CO<inf>2</inf> detection in non-dispersive-infra-red system. , 2013, , .		3
243	A high temperature and low power SOI CMOS MEMS based thermal conductivity gas sensor. , 2013, , .		3
244	A 3D FEM Model for Heat Transfer Mechanisms in Membrane Based Thermal Conductivity Sensors Developed Using SOI CMOS MEMS Technology. Procedia Engineering, 2014, 87, 476-479.	1.2	3
245	A low-power and in situ annealing mitigation technique for fast neutrons irradiation of integrated temperature sensing diodes. , 2015, , .		3
246	Investigation of surface charges and traps in gallium nitride/aluminium gallium nitride/gallium nitride highâ€voltage transistors via measurements and technology computerâ€aided design simulations of transfer characteristics of metalâ€“insulatorâ€“semiconductor fieldâ€effect transistors and highâ€electronâ€mobility transistors. IET Power Electronics, 2015, 8, 2322-2328.	1.5	3
247	Towards a Graphene-Based Low Intensity Photon Counting Photodetector. Sensors, 2016, 16, 1351.	2.1	3
248	High Pillar Doping Concentration for SiC Superjunction IGBTs. , 2018, , .		3
249	On the Quasi-Saturation in State-of-the-Art Power MOSFETs. IEEE Electron Device Letters, 2019, 40, 754-756.	2.2	3
250	On the robustness of ultra-high voltage 4H-SiC IGBTs with an optimized retrograde p-well. , 2019, , .		3
251	Crosstalk Analysis of a CMOS Single Membrane Thermopile Detector Array. Sensors, 2020, 20, 2573.	2.1	3
252	Simultaneous Flow and Thermal Conductivity Sensing on a Single Chip Using Artificial Neural Networks. IEEE Sensors Journal, 2020, 20, 4985-4991.	2.4	3

#	Article	IF	Citations
253	Operation and performance of the 4H-SiC junctionless FinFET. Engineering Research Express, 2021, 3, 035008.	0.8	3
254	Experimental demonstration, challenges, and prospects of the vertical SiC FinFET. , 2022, , .		3
255	Inversion layer emitter devices for HV ICs. , 0, , .		2
256	The integration of high-side and low-side LIGBTs on partial silicon-on-insulator. Solid-State Electronics, 2000, 44, 929-935.	0.8	2
257	The quasi-punch-through structure for power semiconductor devices. , 0, , .		2
258	Dual gate lateral inversion layer emitter transistor. , 0, , .		2
259	Mixed-mode investigation of hybrid SiC/Si cascode configurations. , 0, , .		2
260	Single to double gate TIGBTs-possible road-map to ultra-high voltage bipolar-MOS devices. , 0, , .		2
261	A novel single gate MOS controlled current saturated thyristor. IEEE Electron Device Letters, 2001, 22, 438-440.	2.2	2
262	Advanced electro-thermal SPICE modeling of large power IGBTs. , 0, , .		2
263	3D-RESURF SOI LDMOSFET for RF power amplifiers. , 0, , .		2
264	Inversion layer injection devices from concept to applications in HVICs. , 0, , .		2
265	A Complete Isothermal Model for the Lateral Insulated Gate Bipolar Transistor on SOI technology. , 2005, , .		2
266	A fully Coupled Compact Self-Heating Model for a Thin SOI LIGBT with Packaging. , 2006, , .		2
267	Growth of Carbon Nanotubes on Fully Processed Silicon-On-Insulator CMOS Substrates. Journal of Nanoscience and Nanotechnology, 2008, 8, 5667-5672.	0.9	2
268	The lateral superjunction PSOI LIGBT and LDMOSFET. , 2012, , .		2
269	700V Smart Trench IGBT with monolithic over-voltage and over-current protecting functions. , 2012, , .		2
270	Compact three-dimensional silicon termination solutions for high voltage SOI SuperJunction. , 2012, , .		2

#	Article	IF	Citations
271	Effect of Bandgap Narrowing on Performance of Modern Power Devices. IEEE Transactions on Electron Devices, 2013, 60, 4185-4190.	1.6	2
272	A dual mode SOI CMOS MEMS based thermal conductivity and IR absorption gas sensor. , 2013, , .		2
273	3D Multiphysics Modelling of an SOI CMOS MEMS Thermal Wall Shear Stress Sensor. Procedia Engineering, 2014, 87, 628-631.	1.2	2
274	On the application of a numerical model to improve the accuracy of the seebeck coefficient in CMOS materials. , 2017, , .		2
275	Impact of underfill and other physical dimensions on Silicon Lateral IGBT package reliability using computer model with discrete and continuous design variables. Microelectronics Reliability, 2018, 83, 146-156.	0.9	2
276	Mechanical Modelling of High Power Lateral IGBT for LED Driver Applications. , 2018, , .		2
277	Performance Improvement of >10kV SiC IGBTs with Retrograde p-Well. Materials Science Forum, 0, 963, 639-642.	0.3	2
278	Optimal edge termination for high oxide reliability aiming 10kV SiC n-IGBTs. , 2019, , .		2
279	Analysis of a MOS-controllable thyristor utilizing an inversion layer emitter. Solid-State Electronics, 1994, 37, 1999-2002.	0.8	1
280	The trench inversion layer emitter thyristor (ILET). , 0, , .		1
281	Enhanced on-state performance trench IGBT with a self-aligned p base. , 0, , .		1
282	Numerical study of smart pressure sensors: the piezoMOS effect. , 0, , .		1
283	Trench gate IGBTs for zero current switching applications. , 0, , .		1
284	Dual Gate Lateral Inversion Layer Emitter Transistor for power and high voltage integrated circuits. , 0, , .		1
285	Dynamic behavior optimization of the junctions with SIPOS layer termination. , 0, , .		1
286	Analysis of high temperature SOI micro-hotplates. , 0, , .		1
287	Highly efficient edge terminations for diamond schottky diodes. , 0, , .		1
288	Numerical and Experimental Investigation on Bipolar Operation of 4H-SIC Normally-on Vertical JFETs. , 2006, , .		1

#	Article	IF	Citations
289	Modeling turn-off voltage rise in SOI LIGBT. Journal of Computational Electronics, 2006, 5, 181-186.	1.3	1
290	Bidirectional current 4H-SiC VJFET. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 1544-1547.	0.8	1
291	Ultra-high temperature (≫ 300°C) suspended thermodiode in SOI CMOS technology. , 2008, , .		1
292	CMOS micro-hotplate array design for nanomaterial-based gas sensors. , 2008, , .		1
293	A novel double-gate Trench Insulated Gate Bipolar transistor with ultra-low on-state voltage. Power Semiconductor Devices & IC's, 2009 ISPSD 2009 21st International Symposium on, 2009, , .	0.0	1
294	High Temperature Robust SOI Ethanol Sensor. Procedia Engineering, 2011, 25, 1317-1320.	1.2	1
295	Design and optimization of a 250nm SOI LDMOSFET. , 2011, , .		1
296	A fast 600-V Tandem PiN Schottky (TPS) rectifier with ultra-low on-state voltage. , 2012, , .		1
297	New Bi-Mode Gate-Commutated Thyristor Design Concept for High-Current Controllability and Low ON-State Voltage Drop. IEEE Electron Device Letters, 2016, 37, 467-470.	2.2	1
298	4.5 kV Bi-mode Gate Commutated Thyristor design with High Power Technology and shallow diode-anode. , 2016, , .		1
299	Modeling of Large Area Trench IGBTs: The Effect of Birds-Beak. IEEE Transactions on Electron Devices, 2019, 66, 2686-2691.	1.6	1
300	The p-ring Trench Schottky IGBT: A solution towards latch-up immunity and an enhanced safe-operating area. , 2020, , .		1
301	Integrated Gate Commutated Thyristor: From Trench to Planar. , 2020, , .		1
302	Current density and Gate Ringing in Superjunction MOSFETs. , 2020, , .		1
303	High temperature characterization of a CMOS based infra-red source using thermal-incandescence microscopy. Solid-State Electronics, 2020, 166, 107773.	0.8	1
304	A Novel MEMS-Based Probe for Unsteady Aerodynamic Measurements: A Proof-of-Concept Study. Journal of the Global Power and Propulsion Society, 2020, 4, 145-160.	0.8	1
305	Analytic modeling of a hybrid power module based on diamond and SiC devices. Diamond and Related Materials, 2022, 124, 108936.	1.8	1
306	Compact Trench Floating Field Rings Termination for 10kV+ Rated SiC n-IGBTs. Materials Science Forum, 0, 1062, 598-602.	0.3	1

#	Article	IF	Citations
307	Optimisation of the carrier lifetime profile in 1.2kV planar and trench SiC MOSFETs. , 2022, , .		1
308	The double gate lateral inversion layer emitter transistor-a novel power device concept with a dynamic emitter. , 0, , .		0
309	Quantum computation with ballistic qubits. , 0, , .		0
310	A new single gate MOS controlled thyristor with current saturation and large SOA. , 0, , .		0
311	Optimisation of local lifetime control in high power diode. , 0, , .		0
312	Novel 3D SOI RF power MOSFET. , 0, , .		0
313	Trench oxide protection for 10 kV 4H-SiC Trench MOSFETs. , 0, , .		0
314	Characterising trench IGBTs in resonant switching using single ended and half-bridge application circuits. , 0, , .		0
315	High voltage Schottky barrier diodes in synthetic single crystal diamond. , 0, , .		0
316	A simulation study for very low power 5 GHz CMOS voltage-controlled oscillators and frequency dividers. , 0, , .		0
317	SiC junction-controlled transistors. Microelectronic Engineering, 2006, 83, 176-180.	1.1	0
318	Fabrication of Diamond based Schottky Barrier Diodes with Oxide Ramp Termination. Semiconductor Conference, 2009 CAS 2009 International, 2007, , .	0.0	0
319	High Conductivity δ-Doped Single Crystal Diamond Schottky m-i-p⁺ Diodes. , 2008, , .		0
320	CMOS Compatibility of Carbon Nanotubes?. , 2008, , .		0
321	Advanced carrier density enhancement technologies in insulated gate bipolar transistors. , 2009, , .		0
322	SOI CMOS Platform for Gas Sensing Applications. ECS Transactions, 2009, 22, 281-292.	0.3	0
323	Spinning off a Semiconductor company from University premises — The story of Camsemi. , 2011, , .		0
324	Local lifetime engineering in 600V pin diode using mix-mode simulation. , 2013, , .		0

#	Article	IF	Citations
325	On the variation of the 2DEG charge density with the density of the surface donor traps in AiGaN/GaN transistors. , 2013, , .		0
326	3D modelling of a thermopile-based SOI CMOS thermal wall shear stress sensor. , 2014, , .		0
327	Guest Editorial Special Issue on Power Semiconductor Devices and Smart Power IC Technologies. IEEE Transactions on Electron Devices, 2017, 64, 654-658.	1.6	0
328	Integration of Au-SnO<inf>2</inf> nanocomposites with power efficient MEMS substrate for acetone sensing. , 2017, , .		0
329	Co-design/simulation of flip-chip assembly for high voltage IGBT packages. , 2017, , .		0
330	Membrane Deflection and Stress in Thermal Flow Sensors. Proceedings (mdpi), 2018, 2, 1089.	0.2	0
331	Optimal Gate Commutated Thyristor Design for Bi-Mode Gate Commutated Thyristors Underpinning High, Temperature Independent, Current Controllability. IEEE Electron Device Letters, 2018, 39, 1342-1345.	2.2	0
332	A CMOS-Based Thermo-Electrocatalytic Gas Sensor for Selective and Low-Level Detection of Carbon Monoxide and Hydrogen. , 2019, , .		0
333	Transient Performance of >10kV SiC IGBT with an Optimized Retrograde p-Well. Materials Science Forum, 0, 1004, 917-922.	0.3	0
334	Miniaturized Thermal Acoustic Gas Sensor Based on a CMOS Microhotplate and MEMS Microphone. Proceedings (mdpi), 2020, 56, 3.	0.2	0
335	Light-Free Cross-Talk Analysis of a CMOS Infrared Detector Array. Proceedings (mdpi), 2020, 56, 10.	0.2	0
336	Snap-back free 3.3kV RC-IGBT with enhanced safe operating area. , 2021, , .		0
337	Termination area design for reduced leakage current and improved ruggedness of HV IGBTs. Japanese Journal of Applied Physics, 0, , .	0.8	0
338	Investigations of Short Circuit Robustness of SiC IGBTs with Considerations on Physics Properties and Design. Materials Science Forum, 0, 1062, 504-508.	0.3	0
339	The Effect of the Pillar Ripple on the Reverse Recovery in Superjunction MOSFETs. , 2022, 2, 100009.		0