Jin Wei

List of Publications by Year
in descending order

126	2,732	201575	233338
papers	citations	27 h-index	45 g-index

126	126	126	1420
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Monolithic Integration of Gate Driver and Protection Modules With P-GaN Gate Power HEMTs. IEEE Transactions on Industrial Electronics, 2022, 69, 6784-6793.	5.2	14
2	I _G- and V _{GS}-Dependent Dynamic R _{ON} Characterization of Commercial High-Voltage p-GaN Gate Power HEMTs. IEEE Transactions on Industrial Electronics, 2022, 69, 8387-8395.	5.2	17
3	650-V Normally-OFF GaN/SiC Cascode Device for Power Switching Applications. IEEE Transactions on Industrial Electronics, 2022, 69, 8997-9006.	5.2	5
4	ON-Resistance Analysis of GaN Reverse-Conducting HEMT With Distributive Built-In SBD. IEEE Transactions on Electron Devices, 2022, 69, 644-649.	1.6	7
5	Double-Gate RESURF Lateral Insulated Gate Bipolar Transistor With Built-In p-Channel MOSFET for Active Conductivity Modulation Control Throughout Drift Region. IEEE Electron Device Letters, 2022, 43, 272-275.	2.2	7
6	Investigation of Thermally Induced Threshold Voltage Shift in Normally-OFF p-GaN Gate HEMTs. IEEE Transactions on Electron Devices, 2022, 69, 2287-2292.	1.6	7
7	Gate/Drain Coupled Barrier Lowering Effect and Negative Threshold Voltage Shift in Schottky-Type p-GaN Gate HEMT. IEEE Transactions on Electron Devices, 2022, 69, 3630-3635.	1.6	10
8	GaN on Engineered Bulk Si (GaN-on-EBUS) Substrate for Monolithic Integration of High-/Low-Side Switches in Bridge Circuits. IEEE Transactions on Electron Devices, 2022, 69, 4162-4169.	1.6	5
9	Substrate and Trench Design for GaN-on-EBUS Power IC Platform. IEEE Transactions on Electron Devices, 2022, 69, 3641-3647.	1.6	1
10	Dynamic Interplays of Gate Junctions in Schottky-type p-GaN Gate Power HEMTs during Switching Operation. , 2022, , .		5
11	Substrate and Trench Design for GaN-on-EBUS Power IC Platform Considering Output Capacitance and Isolation between High-side and Low-side Transistors. , 2022, , .		1
12	Dv/Dt-Control of 1200-V Normally-off SiC-JFET/GaN-HEMT Cascode Device. IEEE Transactions on Power Electronics, 2021, 36, 3312-3322.	5.4	10
13	Short Circuit Capability Characterization and Analysis of p-GaN Gate High-Electron-Mobility Transistors Under Single and Repetitive Tests. IEEE Transactions on Industrial Electronics, 2021, 68, 8798-8807.	5.2	20
14	OFF-State Drain-Voltage-Stress-Induced V _{TH} Instability in Schottky-Type p-GaN Gate HEMTs. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2021, 9, 3686-3694.	3.7	36
15	Monolithically Integrated GaN Ring Oscillator Based on High-Performance Complementary Logic Inverters. IEEE Electron Device Letters, 2021, 42, 26-29.	2.2	31
16	Incorporating the Dynamic Threshold Voltage Into the SPICE Model of Schottky-Type p-GaN Gate Power HEMTs. IEEE Transactions on Power Electronics, 2021, 36, 5904-5914.	5.4	27
17	GaN Integrated Bridge Circuits on Bulk Silicon Substrate: Issues and Proposed Solution. IEEE Journal of the Electron Devices Society, 2021, 9, 545-551.	1.2	11
18	Principles and impacts of dynamic threshold voltage in a p-GaN gate high-electron-mobility transistor. Semiconductor Science and Technology, 2021, 36, 024006.	1.0	3

#	Article	IF	Citations
19	Threshold Voltage Instability of Enhancement-Mode GaN Buried p-Channel MOSFETs. IEEE Electron Device Letters, 2021, 42, 1584-1587.	2.2	14
20	Gate Current Transport in Enhancement-Mode p-n Junction/AlGaN/GaN (PNJ) HEMT. IEEE Electron Device Letters, 2021, 42, 669-672.	2.2	11
21	Gallium nitride-based complementary logic integrated circuits. Nature Electronics, 2021, 4, 595-603.	13.1	115
22	Decoupling of Forward and Reverse Turn-on Threshold Voltages in Schottky-Type p-GaN Gate HEMTs. IEEE Electron Device Letters, 2021, 42, 986-989.	2.2	10
23	RF Linearity Enhancement of GaN-on-Si HEMTs With a Closely Coupled Double-Channel Structure. IEEE Electron Device Letters, 2021, 42, 1116-1119.	2.2	21
24	A Physics-Based Empirical Model of Dynamic I _{OFF} Under Switching Operation in p-GaN Gate Power HEMTs. IEEE Transactions on Power Electronics, 2021, 36, 9796-9805.	5.4	4
25	A New SiC Planar-Gate IGBT for Injection Enhancement Effect and Low Oxide Field. Energies, 2021, 14, 82.	1.6	1
26	A GaN Power Integration Platform Based on Engineered Bulk Si Substrate with Eliminated Crosstalk between High-Side and Low-Side HEMTs. , 2021, , .		8
27	Characterization of Static and Dynamic Behavior of 1200 V Normally off GaN/SiC Cascode Devices. IEEE Transactions on Industrial Electronics, 2020, 67, 10284-10294.	5.2	21
28	Hole-Induced Degradation in ${E}$ -Mode GaN MIS-FETs: Impact of Substrate Terminations. IEEE Transactions on Electron Devices, 2020, 67, 217-223.	1.6	9
29	GaN power IC technology on p-GaN gate HEMT platform. Japanese Journal of Applied Physics, 2020, 59, SG0801.	0.8	43
30	High ${I}_{ext{ON}}$ and ${I}_{ext{ON}}$ /${I}_{ext{OFF}}$ Ratio Enhancement-Mode Buried ${p}$ -Channel GaN MOSFETs on ${p}$ -GaN Gate Power HEMT Platform. IEEE Electron Device Letters, 2020, 41, 26-29.	2.2	77
31	GaN HEMT With Convergent Channel for Low Intrinsic Knee Voltage. IEEE Electron Device Letters, 2020, 41, 1304-1307.	2.2	15
32	Investigation of Electrical Contacts to p-Grid in SiC Power Devices Based on Charge Storage Effect and Dynamic Degradation. Electronics (Switzerland), 2020, 9, 1723.	1.8	0
33	Enhancement-Mode GaN p-Channel MOSFETs for Power Integration. , 2020, , .		15
34	Low-Temperature Accelerated Gate Reliability of Schottky-type p-GaN Gate HEMTs. , 2020, , .		4
35	A SPICE-Compatible Equivalent-Circuit Model of Schottky Type p-GaN Gate Power HEMTs with Dynamic Threshold Voltage. , 2020, , .		9
36	700-V p-GaN Gate HEMT with Low-Voltage Third Quadrant Operation Using Area-Efficient Built-in Diode. , 2020, , .		4

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37	Dv/Dt-control of 1200-V Co-packaged SiC- JFET/GaN-HEMT Cascode Device. , 2020, , .		3
38	Impact of Hole-Deficiency and Charge Trapping on Threshold Voltage Stability of p-GaN HEMT under Reverse-bias Stress. , 2020, , .		11
39	Design of Dual-Gate Superjunction IGBT towards Fully Conductivity-Modulated Bipolar Conduction and Near-Unipolar Turn-Off. , 2020, , .		3
40	Distinct Short Circuit Capability of 650-V p-GaN Gate HEMTs under Single and Repetitive Tests. , 2020, , .		12
41	Exploring SiC Planar IGBTs towards Enhanced Conductivity Modulation Comparable to SiC Trench IGBTs. Crystals, 2020, 10, 417.	1.0	3
42	Extracting the Critical Breakdown Electrical Field of Amorphous Indium-Gallium-Zinc-Oxide From the Avalanche Breakdown of n-Indium-Gallium-Zinc-Oxide/p⁺-Nickel-Oxide Heterojunction Diode. IEEE Electron Device Letters, 2020, 41, 1017-1020.	2.2	7
43	Characterization and analysis of low-temperature time-to-failure behavior in forward-biased Schottky-type p-GaN gate HEMTs. Applied Physics Letters, 2020, 116, .	1.5	17
44	Identification of Trap States in p-GaN Layer of a p-GaN/AlGaN/GaN Power HEMT Structure by Deep-Level Transient Spectroscopy. IEEE Electron Device Letters, 2020, 41, 685-688.	2.2	52
45	Investigation of SiN_x and AlN Passivation for AlGaN/GaN High-Electron-Mobility Transistors: Role of Interface Traps and Polarization Charges. IEEE Journal of the Electron Devices Society, 2020, 8, 358-364.	1.2	19
46	New Power MOSFET with Beyond-1D-Limit RSP-BV Trade-Off and Superior Reverse Recovery Characteristics. Materials, 2020, 13, 2581.	1.3	1
47	E-Mode p-n Junction/AlGaN/GaN (PNJ) HEMTs. IEEE Electron Device Letters, 2020, 41, 545-548.	2.2	45
48	A Normally-off Copackaged SiC-JFET/GaN-HEMT Cascode Device for High-Voltage and High-Frequency Applications. IEEE Transactions on Power Electronics, 2020, 35, 9669-9679.	5.4	24
49	p -GaN Gate Power Transistor With Distributed Built-in Schottky Barrier Diode for Low-loss Reverse Conduction. IEEE Electron Device Letters, 2020, 41, 341-344.	2.2	22
50	Planar GaN Power Integration â€“ The World is Flat. , 2020, , .		30
51	All-WBG Cascode Device with p-GaN Gate HEMT and SiC JFET for High-Frequency and High-Temperature Power Switching Applications. , 2020, , .		0
52	Substrate Effects in GaN-on-Si Integrated Bridge Circuit and Proposal of Engineered Bulk Silicon Substrate for GaN Power ICs. , 2020, , .		2
53	Superjunction IGBT With Conductivity Modulation Actively Controlled by Two Separate Driving Signals. IEEE Transactions on Electron Devices, 2020, 67, 4335-4339.	1.6	10
54	Dynamic $V_{mathrm{th}}$ in p-GaN Gate Power HEMTs and Its Impacts upon Power Switching Circuits. , 2020, , .		1

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55	Switching Transient Analysis for Normally-<sc>off</sc> GaN Transistor With p-GaN Gate in a Phase-Leg Circuit. IEEE Transactions on Power Electronics, 2019, 34, 3711-3728.	5.4	32
56	Investigation of Dynamic ${I}_{ mathrm{scriptscriptstyle OFF}}$ Under Switching Operation in Schottky-Type p-GaN Gate HEMTs. IEEE Transactions on Electron Devices, 2019, 66, 3789-3794.	1.6	15
57	Frequency- and Temperature-Dependent Gate Reliability of Schottky-Type ${p}$ -GaN Gate HEMTs. IEEE Transactions on Electron Devices, 2019, 66, 3453-3458.	1.6	79
58	Superjunction MOSFET With Dual Built-In Schottky Diodes for Fast Reverse Recovery: A Numerical Simulation Study. IEEE Electron Device Letters, 2019, 40, 1155-1158.	2.2	25
59	Temperature-Dependent Gate Degradation of p-GaN Gate HEMTs under Static and Dynamic Positive Gate Stress. , 2019, , .		10
60	Charge-Modulated Schottky Barrier Lowering Effect in GaN Double-Channel Lateral Power SBDs with Gated Anode. , 2019, , .		2
61	Integrated High-Speed Over-Current Protection Circuit for GaN Power Transistors. , 2019, , .		12
62	Dynamic Threshold Voltage in p-GaN Gate HEMT. , 2019, , .		14
63	Identifying the Location of Hole-Induced Gate Degradation in $ext{LPCVD} -ext{SiN}_{x}/ext{GaN}$ MIS-FETs under High Reverse-Bias Stress. , 2019, , .		3
64	Characterization of Dynamic $I_{ext{OFF}}$ in Schottky-Type p-GaN Gate HEMTs. , 2019, , .		1
65	Gate Structure Design of SiC Trench IGBTs for Injection-Enhancement Effect. IEEE Transactions on Electron Devices, 2019, 66, 3034-3039.	1.6	13
66	A 1200-V GaN/SiC cascode device with E-mode p-GaN gate HEMT and D-mode SiC junction field-effect transistor. Applied Physics Express, 2019, 12, 106505.	1.1	9
67	Investigations of p-Shielded SiC Trench IGBT with Considerations on IE Effect, Oxide Protection and Dynamic Degradation. , 2019, , .		3
68	Repetitive Short Circuit Energy Dependent $V_{ext{TH}}$ Instability of 1.2kV SiC Power MOSFETs. , 2019, , .		3
69	Effects of Substrate Termination on Reverse-bias Stress Reliability of Normally-off Lateral GaN-on-Si MIS-FETs. , 2019, , .		1
70	Mechanism and Novel Structure for di/dt Controllability in U-Shaped Channel Silicon-on-Insulator Lateral IGBTs. IEEE Electron Device Letters, 2019, 40, 1658-1661.	2.2	9
71	2D materials as semiconducting gate for field-effect transistors with inherent over-voltage protection and boosted ON-current. Npj 2D Materials and Applications, 2019, 3, .	3.9	32
72	Short Circuit Capability and Short Circuit Induced $V_{mathrm{TH}}$ Instability of a 1.2-kV SiC Power MOSFET. IEEE Journal of Emerging and Selected Topics in Power Electronics, 2019, 7, 1539-1546.	3.7	43

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73	Reverse-Conducting Normally-OFF Double-Channel AlGaN/GaN Power Transistor With Interdigital Built-in Schottky Barrier Diode. IEEE Transactions on Electron Devices, 2019, 66, 2106-2112.	1.6	12
74	Charge Storage Mechanism of Drain Induced Dynamic Threshold Voltage Shift in ${p}$ -GaN Gate HEMTs. IEEE Electron Device Letters, 2019, 40, 526-529.	2.2	110
75	Reverse-Bias Stability and Reliability of Enhancement-mode GaN-based MIS-FET. , 2019, , .		1
76	Enhanced Conduction Characteristics in SiC IGBT with Floating p-Grid Shielded Thick Current Storage Layer. ECS Journal of Solid State Science and Technology, 2019, 8, Q230-Q233.	0.9	0
77	650-V Double-Channel Lateral Schottky Barrier Diode With Dual-Recess Gated Anode. IEEE Electron Device Letters, 2018, 39, 260-263.	2.2	63
78	Dependence of ${V}_{ext {TH}}$ Stability on Gate-Bias Under Reverse-Bias Stress in E-mode GaN MIS-FET. IEEE Electron Device Letters, 2018, 39, 413-416.	2.2	38
79	Bias Temperature Instability of Normallyâ€Off GaN MISâ€FET with Lowâ€Pressure Chemical Vapor Deposition SiN_x Gate Dielectric. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700641.	0.8	5
80	Channel-to-Channel Coupling in Normally-Off GaN Double-Channel MOS-HEMT. IEEE Electron Device Letters, 2018, 39, 59-62.	2.2	24
81	Modeling the gate driver IC for GaN transistor: A black-box approach. , 2018, , .		3
82	Suppressed Hole-Induced Degradation in E-mode GaN MIS-FETs with Crystalline <tex>$ext{GaO}_{mathrm{x}}mathrm{N}_{1-mathrm{x}}$</tex> Channel. , 2018, , .		4
83	Simulation Study of a Power MOSFET with Built-in Channel Diode for Enhanced Reverse Recovery Performance. IEEE Electron Device Letters, 2018, , 1-1.	2.2	26
84	An Analytical Investigation on the Charge Distribution and Gate Control in the Normally-Off GaN Double-Channel MOS-HEMT. IEEE Transactions on Electron Devices, 2018, 65, 2757-2764.	1.6	30
85	Hole-Induced Threshold Voltage Shift Under Reverse-Bias Stress in E-Mode GaN MIS-FET. IEEE Transactions on Electron Devices, 2018, 65, 3831-3838.	1.6	20
86	SiC trench IGBT with diode-clamped p-shield for oxide protection and enhanced conductivity modulation. , 2018, , .		8
87	Reverse-blocking AlGaN/GaN normally-off MIS-HEMT with double-recessed gated Schottky drain. , 2018, , .		9
88	Dynamic OFF-State Current (Dynamic ${I}_{ mathrm{scriptscriptstyle OFF}}$) in ${p}$ -GaN Gate HEMTs With an Ohmic Gate Contact. IEEE Electron Device Letters, 2018, 39, 1366-1369.	2.2	27
89	Reverse-Blocking Normally-OFF GaN Double-Channel MOS-HEMT With Low Reverse Leakage Current and Low ON-State Resistance. IEEE Electron Device Letters, 2018, 39, 1003-1006.	2.2	29
90	Photon emission and current-collapse suppression of AlGaN/GaN field-effect transistors with photonicâ€“ohmic drain at high temperatures. Applied Physics Express, 2018, 11, 071003.	1.1	6

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91	A New SiC Trench MOSFET Structure With Protruded p-Base for Low Oxide Field and Enhanced Switching Performance. IEEE Transactions on Device and Materials Reliability, 2017, 17, 432-437.	1.5	29
92	Dynamic Degradation in SiC Trench MOSFET With a Floating p-Shield Revealed With Numerical Simulations. IEEE Transactions on Electron Devices, 2017, 64, 2592-2598.	1.6	69
93	Normally-Off LPCVD-SiN<italic> _x </italic>/GaN MIS-FET With Crystalline Oxidation Interlayer. IEEE Electron Device Letters, 2017, 38, 929-932.	2.2	67
94	Dynamic $R_{mathrm {ON}}$ of GaN-on-Si Lateral Power Devices With a Floating Substrate Termination. IEEE Electron Device Letters, 2017, 38, 937-940.	2.2	31
95	Simulation design of uniform low turn-on voltage and high reverse blocking AlGaN/GaN power field effect rectifier with trench heterojunction anode. Superlattices and Microstructures, 2017, 105, 132-138.	1.4	12
96	High-speed power MOSFET with low reverse transfer capacitance using a trench/planar gate architecture. , 2017, , .		8
97	Charge storage effect in SiC trench MOSFET with a floating p-shield and its impact on dynamic performances. , 2017, , .		9
98	Impact of substrate termination on dynamic performance of GaN-on-Si lateral power devices. , 2017, , .		4
99	High-performance fully-recessed enhancement-mode GaN MIS-FETs with crystalline oxide interlayer. , 2017, , .		9
100	SiC MOSFET with built-in SBD for reduction of reverse recovery charge and switching loss in 10-kV applications. , 2017, , .		38
101	SiC trench MOSFET with selfâ€biased pâ€shield for low R _{ONâ€SP} and low OFFâ€state oxide field. IET Power Electronics, 2017, 10, 1208-1213.	1.5	13
102	Remote N₂ plasma treatment to deposit ultrathin high-k dielectric as tunneling contact layer for single-layer MoS₂ MOSFET. Applied Physics Express, 2017, 10, 125201.	1.1	2
103	Maximizing the Performance of 650-V p-GaN Gate HEMTs: Dynamic RON Characterization and Circuit Design Considerations. IEEE Transactions on Power Electronics, 2017, 32, 5539-5549.	5.4	205
104	An interdigitated GaN MIS-HEMT/SBD normally-off power switching device with low ON-resistance and low reverse conduction loss. , 2017, , .		25
105	Impact of Substrate Bias Polarity on Buffer-Related Current Collapse in AlGaN/GaN-on-Si Power Devices. IEEE Transactions on Electron Devices, 2017, 64, 5048-5056.	1.6	69
106	Reverse-bias stability and reliability of hole-barrier-free E-mode LPCVD-SiN<inf>x</inf>/GaN MIS-FETs. , 2017, , .		17
107	Maximizing the performance of 650 V p-GaN gate HEMTs: Dynamic ron characterization and gate-drive design considerations. , 2016, , .		9
108	Critical heterostructure design for low on-resistance normally-off double-channel MOS-HEMT. , 2016, , .		0

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109	Integration of LPCVD-SiN<inf>x</inf> gate dielectric with recessed-gate E-mode GaN MIS-FETs: Toward high performance, high stability and long TDDB lifetime. , 2016, , .		43
110	Characterization of Static and Dynamic Behaviors in AlGaN/GaN-on-Si Power Transistors With Photonic-Ohmic Drain. IEEE Transactions on Electron Devices, 2016, 63, 2831-2837.	1.6	16
111	Proposal of a GaN/SiC Hybrid Field-Effect Transistor for Power Switching Applications. IEEE Transactions on Electron Devices, 2016, 63, 2469-2473.	1.6	53
112	Proposal of a novel GaN/SiC hybrid FET (HyFET) with enhanced performance for high-voltage switching applications. , 2016, , .		4
113	Silicon carbide split-gate MOSFET with merged Schottky barrier diode and reduced switching loss. , 2016, , .		45
114	SiC Trench MOSFET With Shielded Fin-Shaped Gate to Reduce Oxide Field and Switching Loss. IEEE Electron Device Letters, 2016, 37, 1324-1327.	2.2	57
115	Switching Behaviors of On-Chip Photon Source on AlGaN/GaN-on-Si Power HEMTs Platform. IEEE Photonics Technology Letters, 2016, 28, 2803-2806.	1.3	3
116	Low ON-Resistance SiC Trench/Planar MOSFET With Reduced OFF-State Oxide Field and Low Gate Charges. IEEE Electron Device Letters, 2016, 37, 1458-1461.	2.2	71
117	Impact of integrated photonic-ohmic drain on static and dynamic characteristics of GaN-on-Si heterojunction power transistors. , 2016, , .		1
118	Enhancement-mode GaN double-channel MOS-HEMT with low on-resistance and robust gate recess. , 2015, , .		38
119	III-Nitride transistors with photonic-ohmic drain for enhanced dynamic performances. , 2015, , .		18
120	Low On-Resistance Normally-Off GaN Double-Channel Metalâ€“Oxideâ€“Semiconductor High-Electron-Mobility Transistor. IEEE Electron Device Letters, 2015, 36, 1287-1290.	2.2	88
121	Investigations of leakage current properties in semi-insulating GaN grown on Si(1â€‰1â€‰1) substrate with low-temperature AlN interlayers. Journal Physics D: Applied Physics, 2014, 47, 045103.	1.3	15
122	Electric Field Distribution Around Drain-Side Gate Edge in AlGaN/GaN HEMTs: Analytical Approach. IEEE Transactions on Electron Devices, 2013, 60, 3223-3229.	1.6	49
123	Investigation of device geometry- and temperature-dependent characteristics of AlGaN/GaN lateral field-effect rectifier. Semiconductor Science and Technology, 2013, 28, 015021.	1.0	5
124	A novel rectifier with low turn-on voltage utilizing three conducting mechanisms at different voltage levels. , 2012, , .		0
125	Band-to-Band Tunneling Injection Insulated-Gate Bipolar Transistor with a Soft Reverse-Recovery Built-In Diode. IEEE Electron Device Letters, 2012, 33, 1684-1686.	2.2	28
126	High Voltage SiC JBS Diodes with Multiple Zone Junction Termination Extension Using Single Etching Step. Materials Science Forum, 0, 778-780, 808-811.	0.3	1