Kazuki Nomoto

List of Publications by Year
in descending order

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75 papers	2,745 citations	218592 26 h-index	189801 50 g-index
75 all docs	75 docs citations	75 times ranked	1957 citing authors

#	Article	IF	Citations
1	Enhancement-Mode Ga₂O₃ Vertical Transistors With Breakdown Voltage >1 kV. IEEE Electron Device Letters, 2018, 39, 869-872.	2.2	241
2	Field-Plated Ga₂O₃ Trench Schottky Barrier Diodes With a BV²/$R_{ext{on,sp}}$ of up to 0.95 GW/cm². IEEE Electron Device Letters, 2020, 41, 107-110.	2.2	184
3	1.9-kV AlGaN/GaN Lateral Schottky Barrier Diodes on Silicon. IEEE Electron Device Letters, 2015, 36, 375-377.	2.2	160
4	1.7-kV and 0.55-$ext{m}Omega cdot ext {cm}^{2}$ GaN p-n Diodes on Bulk GaN Substrates With Avalanche Capability. IEEE Electron Device Letters, 2016, 37, 161-164.	2.2	153
5	Near unity ideality factor and Shockley-Read-Hall lifetime in GaN-on-GaN p-n diodes with avalanche breakdown. Applied Physics Letters, 2015, 107, .	1.5	146
6	Breakdown mechanism in 1 kA/cm2 and 960 V E-mode Î²-Ga2O3 vertical transistors. Applied Physics Letters, 2018, 113, .	1.5	128
7	Over 3.0 $hbox{GW/cm}^{2}$ Figure-of-Merit GaN p-n Junction Diodes on Free-Standing GaN Substrates. IEEE Electron Device Letters, 2011, 32, 1674-1676.	2.2	113
8	High-Breakdown-Voltage and Low-Specific-on-Resistance GaN pâ€“n Junction Diodes on Free-Standing GaN Substrates Fabricated Through Low-Damage Field-Plate Process. Japanese Journal of Applied Physics, 2013, 52, 028007.	0.8	99
9	1230â€‰V Î²-Ga2O3 trench Schottky barrier diodes with an ultra-low leakage current of <1 Î¼A/cm2. Applied Physics Letters, 2018, 113, .	1.5	94
10	Near-ideal reverse leakage current and practical maximum electric field in Î²-Ga2O3 Schottky barrier diodes. Applied Physics Letters, 2020, 116, .	1.5	86
11	High Breakdown Voltage in RF AlN/GaN/AlN Quantum Well HEMTs. IEEE Electron Device Letters, 2019, 40, 1293-1296.	2.2	79
12	Design and Realization of GaN Trench Junction-Barrier-Schottky-Diodes. IEEE Transactions on Electron Devices, 2017, 64, 1635-1641.	1.6	76
13	GaN HEMTs on Si With Regrown Contacts and Cutoff/Maximum Oscillation Frequencies of 250/204 GHz. IEEE Electron Device Letters, 2020, 41, 689-692.	2.2	69
14	Fiber Reinforced Layered Dielectric Nanocomposite. Advanced Functional Materials, 2019, 29, 1900056.	7.8	64
15	Gate-Recessed E-mode p-Channel HFET With High On-Current Based on GaN/AlN 2D Hole Gas. IEEE Electron Device Letters, 2018, 39, 1848-1851.	2.2	62
16	1.1-kV Vertical GaN p-n Diodes With p-GaN Regrown by Molecular Beam Epitaxy. IEEE Electron Device Letters, 2017, 38, 1071-1074.	2.2	60
17	High breakdown single-crystal GaN p-n diodes by molecular beam epitaxy. Applied Physics Letters, 2015, 107, .	1.5	53
18	Fin-channel orientation dependence of forward conduction in kV-class Ga₂O₃ trench Schottky barrier diodes. Applied Physics Express, 2019, 12, 061007.	1.1	50

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19	Strained GaN quantum-well FETs on single crystal bulk AlN substrates. Applied Physics Letters, 2017, 110, .	1.5	48
20	Development of GaN Vertical Trench-MOSFET With MBE Regrown Channel. IEEE Transactions on Electron Devices, 2018, 65, 2558-2564.	1.6	46
21	Next generation electronics on the ultrawide-bandgap aluminum nitride platform. Semiconductor Science and Technology, 2021, 36, 044001.	1.0	42
22	2.44 kV Ga<inf>2</inf>O<inf>3</inf> vertical trench Schottky barrier diodes with very low reverse leakage current. , 2018, , .		39
23	Ultralow-Leakage AlGaN/GaN High Electron Mobility Transistors on Si With Non-Alloyed Regrown Ohmic Contacts. IEEE Electron Device Letters, 2016, 37, 16-19.	2.2	37
24	Guiding Principles for Trench Schottky Barrier Diodes Based on Ultrawide Bandgap Semiconductors: A Case Study in Gaâ„Oâ‚ƒ. IEEE Transactions on Electron Devices, 2020, 67, 3938-3947.	1.6	36
25	Activation of buried p-GaN in MOCVD-regrown vertical structures. Applied Physics Letters, 2018, 113, 062105.	1.5	35
26	First RF Power Operation of AlN/GaN/AlN HEMTs With >3 A/mm and 3 W/mm at 10 GHz. IEEE Journal of the Electron Devices Society, 2021, 9, 121-124.	1.2	33
27	1.6 kV Vertical Ga₂O₃ FinFETs With Source-Connected Field Plates and Normally-off Operation. , 2019, , .		31
28	Molecular beam homoepitaxy on bulk AlN enabled by aluminum-assisted surface cleaning. Applied Physics Letters, 2020, 116, .	1.5	26
29	Remarkable Reduction of On-Resistance by Ion Implantation in GaN/AlGaN/GaN HEMTs With Low Gate Leakage Current. IEEE Electron Device Letters, 2007, 28, 939-941.	2.2	25
30	GaN-on-GaN p-n power diodes with 3.48 kV and 0.95 mâ„¦-cm2: A record high figure-of-merit of 12.8 GW/cm2. , 2015, , .		25
31	Thermionic emission or tunneling? The universal transition electric field for ideal Schottky reverse leakage current: A case study in Î² -Ga2O3. Applied Physics Letters, 2020, 117, .	1.5	24
32	Trapping and Detrapping Mechanisms in Î²-Gaâ„Oâ‚ƒ Vertical FinFETs Investigated by Electro-Optical Measurements. IEEE Transactions on Electron Devices, 2020, 67, 3954-3959.	1.6	24
33	Fully transparent field-effect transistor with high drain current and on-off ratio. APL Materials, 2020, 8, .	2.2	23
34	ON-Resistance of Ga₂O₃ Trench-MOS Schottky Barrier Diodes: Role of Sidewall Interface Trapping. IEEE Transactions on Electron Devices, 2021, 68, 2420-2426.	1.6	19
35	Realization of GaN PolarMOS using selective-area regrowth by MBE and its breakdown mechanisms. Japanese Journal of Applied Physics, 2019, 58, SCCD15.	0.8	18
36	Optical-Thermo-Transition Model of Reduction in On-Resistance of Small GaN pâ€“n Diodes. Japanese Journal of Applied Physics, 2013, 52, 08JN10.	0.8	17

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37	Thermal design of multi-fin Ga2O3 vertical transistors. Applied Physics Letters, 2021, 119, .	1.5	17
38	Determination of Lateral Extension of Extrinsic Photon Recycling in p-GaN by Using Transmission-Line-Model Patterns Formed with GaN pâ€“n Junction Epitaxial Layers. Japanese Journal of Applied Physics, 2013, 52, 08JN22.	0.8	16
39	1.5 kV Vertical Ga₂O₃ Trench-MIS Schottky Barrier Diodes. , 2018, , .		16
40	Polarization-induced 2D hole gases in pseudomorphic undoped GaN/AlN heterostructures on single-crystal AlN substrates. Applied Physics Letters, 2021, 119, .	1.5	15
41	Influence of Surface Recombination on Forward Currentâ€“Voltage Characteristics of Mesa GaN $hbox{p}^{+}hbox{n}$ Diodes Formed on GaN Free-Standing Substrates. IEEE Transactions on Electron Devices, 2012, 59, 1091-1098.	1.6	14
42	Single-crystal N-polar GaN p-n diodes by plasma-assisted molecular beam epitaxy. Applied Physics Letters, 2017, 110, .	1.5	14
43	600 V GaN vertical V-trench MOSFET with MBE regrown channel. , 2017, , .		14
44	Bandgap narrowing and Mott transition in Si-doped Al0.7Ga0.3N. Applied Physics Letters, 2019, 114, .	1.5	13
45	Electron mobility in polarization-doped Al0-0.2GaN with a low concentration near 1017 cmâ^'3. Applied Physics Letters, 2017, 110, 182102.	1.5	11
46	Characterization of silicon ion-implanted GaN and AlGaN. Nuclear Instruments & Methods in Physics Research B, 2012, 272, 125-127.	0.6	9
47	Breakdown Walkout in Polarization-Doped Vertical GaN Diodes. IEEE Transactions on Electron Devices, 2019, 66, 4597-4603.	1.6	9
48	SiC Substrate-Integrated Waveguides for High-Power Monolithic Integrated Circuits Above 110 GHz. , 2021, , .		9
49	Breakdown Mechanisms in Î²-Ga₂O₃ Trench-MOS Schottky-Barrier Diodes. IEEE Transactions on Electron Devices, 2022, 69, 75-81.	1.6	9
50	GaN vertical nanowire and fin power MISFETs. , 2017, , .		8
51	Degradation Mechanisms of GaNâ€Based Vertical Devices: A Review. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900750.	0.8	8
52	Very High Parallel-Plane Surface Electric Field of 4.3 MV/cm in Ga₂O₃ Schottky Barrier Diodes with PtO_x Contacts. , 2020, , .		8
53	X-band epi-BAW resonators. Journal of Applied Physics, 2022, 132, .	1.1	8
54	Unique opportunity to harness polarization in GaN to override the conventional power electronics figure-of-merits. , 2015, , .		7

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55	Gallium nitride tunneling field-effect transistors exploiting polarization fields. Applied Physics Letters, 2020, 116, .	1.5	7
56	Optically pumped deep-UV multimode lasing in AlGaN double heterostructure grown by molecular beam homoepitaxy. AIP Advances, 2022, 12, .	0.6	7
57	AlN quasi-vertical Schottky barrier diode on AlN bulk substrate using Al_{0.9}Ga_{0.1}N current spreading layer. Applied Physics Express, 2022, 15, 061007.	1.1	7
58	Low-Frequency Noise Characteristics in Ion-Implanted GaN-Based HEMTs. IEEE Electron Device Letters, 2008, 29, 827-829.	2.2	6
59	Blue (In,Ga)N light-emitting diodes with buried n ⁺â€“p ⁺ tunnel junctions by plasma-assisted molecular beam epitaxy. Japanese Journal of Applied Physics, 2019, 58, 060914.	0.8	6
60	Field-plated Ga₂O₃ Trench Schottky Barrier Diodes with a Record High Figure-of-merit of 0.78 GW/cm². , 2019, , .		5
61	Bottom tunnel junction blue light-emitting field-effect transistors. Applied Physics Letters, 2020, 117, 031107.	1.5	5
62	Large Signal Response of AlN/GaN/AlN HEMTs at 30 GHz. , 2021, , .		5
63	First demonstration of strained AlN/GaN/AlN quantum well FETs on SiC. , 2016, , .		4
64	Impact of Residual Carbon on Avalanche Voltage and Stability of Polarization-Induced Vertical GaN p-n Junction. IEEE Transactions on Electron Devices, 2020, 67, 3978-3982.	1.6	4
65	N-polar GaN p-n junction diodes with low ideality factors. Applied Physics Express, 2022, 15, 064004.	1.1	4
66	Distributed polarization-doped GaN pâ€“n diodes with near-unity ideality factor and avalanche breakdown voltage of 1.25 kV. Applied Physics Letters, 2022, 120, .	1.5	3
67	A Proposal to Apply Effective Acceptor Level for Representing Increased Ionization Ratio of Mg Acceptors in Extrinsically Photon-Recycled GaN. Materials Science Forum, 2014, 778-780, 1189-1192.	0.3	2
68	Comparing buffer leakage in PolarMOSH on SiC and free-standing GaN substrates. , 2016, , .		2
69	Wide-bandgap Gallium Nitride p-channel MISFETs with enhanced performance at high temperature. , 2017, , .		2
70	Enhancement of punch-through voltage in GaN with buried p-type layer utilizing polarization-induced doping. , 2018, , .		2
71	Quantitative scanning microwave microscopy of 2D electron and hole gases in AlN/GaN heterostructures. Applied Physics Letters, 2022, 120, 012103.	1.5	2
72	Vertical Ga<inf>2</inf>O<inf>3</inf> Schottky barrier diodes on single-crystal Î²-Ga<inf>2</inf>O<inf>3</inf> (â¯201) substrates. , 2016, , .		1

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73	Investigation of forward transient characteristics of vertical GaN-on-GaN p-n diodes. , 2016, , .		1
74	Reduction of On-Resistance in Ion-Implanted GaN/AlGaN/GaN HEMTs with Low Gate Leakage Current. IEEJ Transactions on Electronics, Information and Systems, 2008, 128, 885-889.	0.1	0
75	Photoelectric Generation Coefficient of Bâ€Gallium Oxide during Exposure to Highâ€Energy Ionizing Radiation. Physica Status Solidi (A) Applications and Materials Science, 0, , 2100700.	0.8	0