

# Fumimasa Horikiri

## List of Publications by Year in descending order

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57  
papers

953  
citations

567281

15  
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454955

30  
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all docs

57  
docs citations

57  
times ranked

820  
citing authors

#	ARTICLE	IF	CITATIONS
1	Vertical GaN p-n Junction Diodes With High Breakdown Voltages Over 4 kV. IEEE Electron Device Letters, 2015, 36, 1180-1182.	3.9	195
2	5.0 kV breakdown-voltage vertical GaN p-n junction diodes. Japanese Journal of Applied Physics, 2018, 57, 04FG09.	1.5	88
3	Hydride-vapor-phase epitaxial growth of highly pure GaN layers with smooth as-grown surfaces on freestanding GaN substrates. Japanese Journal of Applied Physics, 2017, 56, 085503.	1.5	74
4	4.9 kV breakdown voltage vertical GaN p-n junction diodes with high avalanche capability. Japanese Journal of Applied Physics, 2019, 58, SCCD03.	1.5	45
5	Improvement of Piezoelectric Properties of (K,Na)NbO <sub>3</sub> Films Deposited by Sputtering. Japanese Journal of Applied Physics, 2011, 50, 041503.	1.5	42
6	Two-Step Mesa Structure GaN p-n Diodes With Low ON-Resistance, High Breakdown Voltage, and Excellent Avalanche Capabilities. IEEE Electron Device Letters, 2020, 41, 123-126.	3.9	42
7	Homo-epitaxial growth of n-GaN layers free from carbon-induced mobility collapse and off-angle-dependent doping variation by quartz-free hydride vapor phase epitaxy. Applied Physics Letters, 2020, 117, .	3.3	42
8	Excellent potential of photo-electrochemical etching for fabricating high-aspect-ratio deep trenches in gallium nitride. Applied Physics Express, 2018, 11, 091001.	2.4	37
9	Excellent wet etching technique using pulsed anodic oxidation for homoepitaxially grown GaN layer. Japanese Journal of Applied Physics, 2018, 57, 086502.	1.5	33
10	Bulk micromachined energy harvesters employing (K, Na)NbO <sub>3</sub> thin film. Journal of Micromechanics and Microengineering, 2013, 23, 035029.	2.6	26
11	Elimination of macrostep-induced current flow nonuniformity in vertical GaN PN diode using carbon-free drift layer grown by hydride vapor phase epitaxy. Applied Physics Express, 2018, 11, 045502.	2.4	26
12	Effect of Lattice Strain and Improvement of the Piezoelectric Properties of (K,Na)NbO <sub>3</sub> Lead-Free Film. Japanese Journal of Applied Physics, 2010, 49, 09MA05.	1.5	23
13	Simple wet-etching technology for GaN using an electrodeless photo-assisted electrochemical reaction with a luminous array film as the UV source. Applied Physics Express, 2019, 12, 031003.	2.4	21
14	Roles of carbon impurities and intrinsic nonradiative recombination centers on the carrier recombination processes of GaN crystals. Applied Physics Express, 2020, 13, 012004.	2.4	20
15	High- $\kappa$ Dielectric Passivation for GaN Diode with a Field Plate Termination. Electronics (Switzerland), 2016, 5, 15.	3.1	16
16	Wafer-level nondestructive inspection of substrate off-angle and net donor concentration of the n <sup>+</sup> -drift layer in vertical GaN-on-GaN Schottky diodes. Japanese Journal of Applied Physics, 2017, 56, 061001.	1.5	16
17	The influence of grain boundary on the conductivity of donor doped SrTiO <sub>3</sub> . Solid State Ionics, 2006, 177, 2555-2559.	2.7	15
18	Electrical Properties of Nb-Doped SrTiO <sub>3</sub> Ceramics with Excess TiO <sub>2</sub> for SOFC Anodes and Interconnects. Journal of the Electrochemical Society, 2008, 155, B16.	2.9	15

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19	Electrodeless photo-assisted electrochemical etching of GaN using a H <sub>3</sub> PO <sub>4</sub> -based solution containing S <sub>2</sub> O <sub>8</sub> <sup>2-</sup> ions. Applied Physics Express, 2019, 12, 066504.	2.4	14
20	Self-termination of contactless photo-electrochemical (PEC) etching on aluminum gallium nitride/gallium nitride heterostructures. Applied Physics Express, 2020, 13, 026508.	2.4	13
21	Impact of threading dislocations in GaN p-n diodes on forward $I-V$ characteristics. Japanese Journal of Applied Physics, 2020, 59, 106503.	1.5	13
22	Impact of damage-free wet etching process on fabrication of high breakdown voltage GaN p-n junction diodes. Japanese Journal of Applied Physics, 2019, 58, SCCD05.	1.5	12
23	Review—Recent Advancement in Charge- and Photo-Assisted Non-Contact Electrical Characterization of SiC, GaN, and AlGaIn/GaN HEMT. ECS Journal of Solid State Science and Technology, 2017, 6, S3129-S3140.	1.8	11
24	Wafer-Level Donor Uniformity Improvement by Substrate Off-Angle Control for Vertical GaN-on-GaN Power Switching Devices. IEEE Transactions on Semiconductor Manufacturing, 2017, 30, 486-493.	1.7	11
25	Mapping of GaN Schottky Contacts With Wavy Surface Morphology Using Scanning Internal Photoemission Microscopy. Physica Status Solidi (B): Basic Research, 2018, 255, 1700480.	1.5	11
26	Effect of Wafer Off-Angles on Defect Formation in Drift Layers Grown on Free-Standing GaN Substrates. Physica Status Solidi (B): Basic Research, 2020, 257, 1900561.	1.5	9
27	Nb-Doped SrTiO <sub>3</sub> -Based High-Temperature Schottky Solar Cells. Japanese Journal of Applied Physics, 2005, 44, 8023-8026.	1.5	8
28	Defect equilibrium and electron transport in the bulk of single crystal SrTi <sub>1-x</sub> Nb <sub>x</sub> O <sub>3</sub> (x= 0.01, 0.001,) T <sub>j</sub> ETQ <sub>0</sub> 0 0, $\rho_{BT}$ / Overlock 10 Tf	2.7	7
29	Ion-irradiation damage on GaN p-n junction diodes by inductively coupled plasma etching and its recovery by thermal treatment. Nuclear Instruments & Methods in Physics Research B, 2017, 409, 65-68.	1.4	7
30	Direct Observation of High Current Density Area by Microscopic Electroluminescence Mapping in Vertical GaN p-n Junction Diodes. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700501.	1.8	7
31	Photoelectrochemical Etching Technology for Gallium Nitride Power and RF Devices. IEEE Transactions on Semiconductor Manufacturing, 2019, 32, 489-495.	1.7	6
32	Thermal-assisted contactless photoelectrochemical etching for GaN. Applied Physics Express, 2020, 13, 046501.	2.4	6
33	Evaluation of Crystal Orientation for (K,Na)NbO <sub>3</sub> Films Using X-ray Diffraction Reciprocal Space Map and Relationship between Crystal Orientation and Piezoelectric Coefficient. Japanese Journal of Applied Physics, 2012, 51, 075502.	1.5	5
34	Step-edge and kink segregation models for analysis of reported step-velocity dependences of carbon concentration in GaN. Japanese Journal of Applied Physics, 2020, 59, 068001.	1.5	5
35	Breakdown phenomenon dependences on the number and positions of threading dislocations in vertical p-n junction GaN diodes. Japanese Journal of Applied Physics, 2021, 60, SBBD09.	1.5	5
36	Dry Etching of Lead-Free (K,Na)NbO <sub>3</sub> Piezoelectric Films by Ar/C <sub>4</sub> F <sub>8</sub> Plasma. Japanese Journal of Applied Physics, 2012, 51, 076202.	1.5	4

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37	Mapping of photo-electrochemical etched Ni/GaN Schottky contacts using scanning internal photoemission microscopy – comparison between n- and p-type GaN samples. Japanese Journal of Applied Physics, 2021, 60, SBBD12.	1.5	4
38	Self-terminating contactless photo-electrochemical (CL-PEC) etching for fabricating highly uniform recessed-gate AlGaIn/GaN high-electron-mobility transistors (HEMTs). Journal of Applied Physics, 2021, 130, .	2.5	4
39	Analysis of step-velocity-dependent concentration of magnesium in GaN based on Burton–Cabrera–Frank theory and step-edge segregation model. Japanese Journal of Applied Physics, 2021, 60, 128003.	1.5	3
40	Nondestructive measurement of homoepitaxially grown GaN film thickness with Fourier transform infrared spectroscopy. Japanese Journal of Applied Physics, 2017, 56, 120301.	1.5	2
41	Models for Impurity Incorporation during Vapor-Phase Epitaxy. Materials Science Forum, 0, 1062, 3-7.	0.3	2
42	Evaluation of High-temperature Electronic and Electrochemical Properties of the Strained $\text{La}_{1-x}\text{Sr}_x\text{CoO}_3$ Films Prepared by a Pulsed Laser Deposition Technique. Electrochemistry, 2014, 82, 884-890.	1.4	1
43	Possible contribution of the Gibbs–Thomson effect to filling nanopipes in GaN homoepitaxial layers. Japanese Journal of Applied Physics, 2021, 60, 078001.	1.5	1
44	Estimation of Shockley–Read–Hall Lifetime in Homoepitaxial GaN on Low-Dislocation Density GaN Substrates Prepared by Hydride Vapor Phase Epitaxy and Maskless 3D. Physica Status Solidi (B): Basic Research, 0, , 2100215.	1.5	1
45	Possible influence of oxygen segregation on reducing specific surface energies for m-plane sides of nanopipes in GaN. Japanese Journal of Applied Physics, 2021, 60, 098002.	1.5	1
46	Uniformity characterization of SiC, GaN, and $\text{In}_x\text{Ga}_{1-x}\text{As}$ Schottky contacts using scanning internal photoemission microscopy. Japanese Journal of Applied Physics, 0, , .	1.5	1
47	Step-edge segregation model for step-velocity dependences of carbon and oxygen concentrations in GaN layers grown on m-plane GaN. Japanese Journal of Applied Physics, 2021, 60, 018002.	1.5	1
48	Mapping of contactless photoelectrochemical etched GaN Schottky contacts using scanning internal photoemission microscopy – difference in electrolytes –. Japanese Journal of Applied Physics, 0, , .	1.5	1
49	Impact on on-resistance of p-n junction diodes by using heavily Ge-doped GaN substrate. Japanese Journal of Applied Physics, 2022, 61, 061009.	1.5	1
50	Electrical Properties of Nb-Doped SrTiO <sub>3</sub> Ceramics with Excess TiO <sub>2</sub> for Anodes and Interconnects of SOFCs. ECS Transactions, 2007, 7, 1639-1644.	0.5	0
51	Design Concept for the High Temperature Photoelectronic Devices Using SrTiO <sub>3</sub> . Journal of the Electrochemical Society, 2009, 156, P107.	2.9	0
52	The Design Concept for High-Temperature Photo-Electronic Devices using SrTiO <sub>3</sub> . ECS Transactions, 2009, 16, 459-469.	0.5	0
53	The Barrier Formation Mechanism on SrTiO <sub>3</sub> for High-Temperature Photo-Electronic Devices. ECS Transactions, 2009, 16, 451-458.	0.5	0
54	Substrate off-angle dependency of Al content in Al <sub>x</sub> Ga <sub>1-x</sub> N/GaN high-electron-mobility transistor structures on free-standing GaN substrates. Japanese Journal of Applied Physics, 2021, 60, 076505.	1.5	0

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55	Dry Etching of Lead-Free (K,Na)NbO <sub>3</sub> Piezoelectric Films by Ar/C <sub>4</sub> F <sub>8</sub> Plasma. Japanese Journal of Applied Physics, 2012, 51, 076202.	1.5	0
56	Evaluation of Crystal Orientation for (K,Na)NbO <sub>3</sub> Films Using X-ray Diffraction Reciprocal Space Map and Relationship between Crystal Orientation and Piezoelectric Coefficient. Japanese Journal of Applied Physics, 2012, 51, 075502.	1.5	0
57	No significant contribution of hole-trap-enhanced conductivity modulation in GaN p <sup>+</sup> n diodes formed on low-dislocation-density GaN substrates. Japanese Journal of Applied Physics, 0, , .	1.5	0