Tetsuo Narita

List of Publications by Year
in descending order

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94	1,922	24	37
papers	citations	h-index	g-index

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94	94	94	1073
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Highly effective activation of Mg-implanted p-type GaN by ultra-high-pressure annealing. Applied Physics Letters, 2019, 115, .	1.5	110
2	P-type doping of GaN by magnesium ion implantation. Applied Physics Express, 2017, 10, 016501.	1.1	83
3	Hall-effect measurements of metalorganic vapor-phase epitaxy-grown p-type homoepitaxial GaN layers with various Mg concentrations. Japanese Journal of Applied Physics, 2017, 56, 031001.	0.8	82
4	Design and Fabrication of GaN p-n Junction Diodes With Negative Beveled-Mesa Termination. IEEE Electron Device Letters, 2019, 40, 941-944.	2.2	78
5	The origin of carbon-related carrier compensation in p-type GaN layers grown by MOVPE. Journal of Applied Physics, 2018, 124, .	1.1	71
6	Optical and electrical properties of (1-101)GaN grown on a 7Â° off-axis (001)Si substrate. Applied Physics Letters, 2004, 84, 4717-4719.	1.5	55
7	Impact ionization coefficients and critical electric field in GaN. Journal of Applied Physics, 2021, 129, .	1.1	55
8	Progress on and challenges of p-type formation for GaN power devices. Journal of Applied Physics, 2020, 128, .	1.1	54
9	Al2O3/SiO2 nanolaminate for a gate oxide in a GaN-based MOS device. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, .	0.9	52
10	The trap states in lightly Mg-doped GaN grown by MOVPE on a freestanding GaN substrate. Journal of Applied Physics, 2018, 123, .	1.1	51
11	Wide range doping control and defect characterization of GaN layers with various Mg concentrations. Journal of Applied Physics, 2018, 124, .	1.1	46
12	Room-temperature photoluminescence lifetime for the near-band-edge emission of (0001Â¯) p-type GaN fabricated by sequential ion-implantation of Mg and H. Applied Physics Letters, 2018, 113, .	1.5	40
13	Overview of carrier compensation in GaN layers grown by MOVPE: toward the application of vertical power devices. Japanese Journal of Applied Physics, 2020, 59, SA0804.	0.8	39
14	Defect evolution in Mg ions implanted GaN upon high temperature and ultrahigh N2 partial pressure annealing: Transmission electron microscopy analysis. Journal of Applied Physics, 2020, 127, .	1.1	38
15	Deep-level transient spectroscopy studies of electron and hole traps in n-type GaN homoepitaxial layers grown by quartz-free hydride-vapor-phase epitaxy. Applied Physics Letters, 2019, 115, .	1.5	37
16	Study of etchingâ€induced damage in GaN by hard Xâ€ray photoelectron spectroscopy. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1541-1544.	0.8	36
17	Parallel-Plane Breakdown Fields of 2.8-3.5 MV/cm in GaN-on-GaN p-n Junction Diodes with Double-Side-Depleted Shallow Bevel Termination. , 2018, , .		30
18	Redistribution of Mg and H atoms in Mg-implanted GaN through ultra-high-pressure annealing. Applied Physics Express, 2020, 13, 086501.	1.1	30

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19	Identification of origin of <i>E</i> _C â€“0.6 eV electron trap level by correlation with iron concentration in n-type GaN grown on GaN freestanding substrate by metalorganic vapor phase epitaxy. Applied Physics Express, 2020, 13, 071007.	1.1	30
20	Highly reliable AlSiO gate oxides formed through post-deposition annealing for GaN-based MOS devices. Applied Physics Express, 2020, 13, 026504.	1.1	29
21	Low resistivity of highly Si-doped n-type Al_{0.62}Ga_{0.38}N layer by suppressing self-compensation. Applied Physics Express, 2020, 13, 025504.	1.1	28
22	Annealing Behavior of Vacancyâ€Type Defects in Mgâ€•and Hâ€Implanted GaN Studied Using Monoenergetic Positron Beams. Physica Status Solidi (B): Basic Research, 2019, 256, 1900104.	0.7	27
23	Space charge profile study of AlGaN-based p-type distributed polarization doped claddings without impurity doping for UV-C laser diodes. Applied Physics Letters, 2020, 117, .	1.5	26
24	Effects of a photo-assisted electrochemical etching process removing dry-etching damage in GaN. Japanese Journal of Applied Physics, 2018, 57, 121001.	0.8	25
25	Accurate method for estimating hole trap concentration in n-type GaN via minority carrier transient spectroscopy. Applied Physics Express, 2018, 11, 071002.	1.1	25
26	Characterization of hole traps in MOVPE-grown p-type GaN layers using low-frequency capacitance deep-level transient spectroscopy. Japanese Journal of Applied Physics, 2019, 58, SCCB36.	0.8	25
27	Room temperature photoluminescence lifetime for the near-band-edge emission of epitaxial and ion-implanted GaN on GaN structures. Japanese Journal of Applied Physics, 2019, 58, SC0802.	0.8	25
28	Electric-field-induced simultaneous diffusion of Mg and H in Mg-doped GaN prepared using ultra-high-pressure annealing. Applied Physics Express, 2019, 12, 111005.	1.1	24
29	Nitrogen-displacement-related electron traps in <i>n</i>-type GaN grown on a GaN freestanding substrate. Applied Physics Letters, 2021, 118, .	1.5	24
30	Shockleyâ€“Readâ€“Hall lifetime in homoepitaxial p-GaN extracted from recombination current in GaN pâ€“n⁺ junction diodes. Japanese Journal of Applied Physics, 2019, 58, SCCB14.	0.8	22
31	Atomic resolution structural analysis of magnesium segregation at a pyramidal inversion domain in a GaN epitaxial layer. Applied Physics Express, 2019, 12, 031004.	1.1	22
32	Impact Ionization Coefficients in GaN Measured by Above- and Sub-E_g Illuminations for p^{âˆ’}/n⁺ Junction. , 2019, , .		22
33	Effects of ultra-high-pressure annealing on characteristics of vacancies in Mg-implanted GaN studied using a monoenergetic positron beam. Scientific Reports, 2020, 10, 17349.	1.6	22
34	Cathodoluminescence Study on Thermal Recovery Process of Mgâ€Ion Implanted Nâ€Polar GaN. Physica Status Solidi (B): Basic Research, 2018, 255, 1700379.	0.7	21
35	Measurement of avalanche multiplication utilizing Franz-Keldysh effect in GaN p-n junction diodes with double-side-depleted shallow bevel termination. Applied Physics Letters, 2019, 115, .	1.5	21
36	Mg-implanted bevel edge termination structure for GaN power device applications. Applied Physics Letters, 2021, 118, .	1.5	20

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37	Efficiency improvement of AlGaN-based deep-ultraviolet light-emitting diodes and their virus inactivation application. Japanese Journal of Applied Physics, 2021, 60, 080501.	0.8	20
38	Band offset of Al_{1âˆ’}<i>_x</i>Si<i>_x</i>O<i>_y</i>mixed oxide on GaN evaluated by hard X-ray photoelectron spectroscopy. Japanese Journal of Applied Physics, 2017, 56, 04CG07.	0.8	19
39	Design and demonstration of nearly-ideal edge termination for GaN pâ€“n junction using Mg-implanted field limiting rings. Applied Physics Express, 2021, 14, 074002.	1.1	19
40	Franz-Keldysh effect in GaN p-n junction diode under high reverse bias voltage. Applied Physics Letters, 2018, 112, .	1.5	18
41	Quantitative investigation of the lateral diffusion of hydrogen in p-type GaN layers having NPN structures. Applied Physics Express, 2019, 12, 011006.	1.1	18
42	Characterization of Ar ion etching induced damage for GaN. Surface and Interface Analysis, 2012, 44, 709-712.	0.8	17
43	Contribution of the carbon-originated hole trap to slow decays of photoluminescence and photoconductivity in homoepitaxial n-type GaN layers. Journal of Applied Physics, 2021, 129, .	1.1	17
44	Why do electron traps at <i>E</i> _C â€“0.6 eV have inverse correlation with carbon concentrations in n-type GaN layers?. Japanese Journal of Applied Physics, 2020, 59, 105505.	0.8	17
45	Enhanced activation of Mg ion-implanted GaN at decreasing annealing temperature by prolonging duration. Applied Physics Express, 2021, 14, 011005.	1.1	17
46	Effect of annealing time and pressure on electrical activation and surface morphology of Mg-implanted GaN annealed at 1300 Â°C in ultra-high-pressure nitrogen ambient. Applied Physics Express, 2021, 14, 121004.	1.1	17
47	Electronic degeneracy conduction in highly Si-doped Al0.6Ga0.4N layers based on the carrier compensation effect. Applied Physics Letters, 2020, 117, .	1.5	16
48	Interface Properties of Al₂O₃/n-GaN Structures with Inductively Coupled Plasma Etching of GaN Surfaces. Japanese Journal of Applied Physics, 2012, 51, 060201.	0.8	14
49	Isochronal annealing study of Mg-implanted p-type GaN activated by ultra-high-pressure annealing. Applied Physics Express, 2021, 14, 056501.	1.1	14
50	TaC-coated graphite prepared via a wet ceramic process: Application to CVD susceptors for epitaxial growth of wide-bandgap semiconductors. Journal of Crystal Growth, 2017, 478, 163-173.	0.7	13
51	Impact of defects on the electrical properties of pâ€“n diodes formed by implanting Mg and H ions into N-polar GaN. Journal of Applied Physics, 2019, 126, .	1.1	13
52	Analysis of channel mobility in GaN-based metal-oxide-semiconductor field-effect transistors. Journal of Applied Physics, 2021, 129, .	1.1	13
53	Formation of highly vertical trenches with rounded corners via inductively coupled plasma reactive ion etching for vertical GaN power devices. Applied Physics Letters, 2021, 118, .	1.5	13
54	Increase of reverse leakage current at homoepitaxial GaN p-n junctions induced by continuous forward current stress. Applied Physics Letters, 2021, 118, .	1.5	13

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55	The surface diffusion of Ga on an AlGaN/GaN facet structure in the MOVPE growth. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 2154-2158.	0.8	12
56	The surface diffusion of Ga on an AlGaN/GaN stripe structure in the selective MOVPE. Physica Status Solidi (B): Basic Research, 2006, 243, 1665-1668.	0.7	12
57	Effects of the sequential implantation of Mg and N ions into GaN for p-type doping. Applied Physics Express, 2021, 14, 111001.	1.1	12
58	Identification of type of threading dislocation causing reverse leakage in GaN pâ€“n junctions after continuous forward current stress. Scientific Reports, 2022, 12, 1458.	1.6	12
59	Analysis of intrinsic reverse leakage current resulting from band-to-band tunneling in dislocation-free GaN pâ€“n junctions. Applied Physics Express, 2021, 14, 114001.	1.1	11
60	Franzâ€“Keldysh effect in n-type GaN Schottky barrier diode under high reverse bias voltage. Applied Physics Express, 2016, 9, 091002.	1.1	8
61	Effects of Dosage Increase on Electrical Properties of Metalâ€Oxideâ€Semiconductor Diodes with Mgâ€Ionâ€Implanted GaN Before Activation Annealing. Physica Status Solidi (B): Basic Research, 2020, 257, 1900367.	0.7	8
62	Absence of Oxygen-Vacancy-Related Deep Levels in the Amorphous Mixed Oxide <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mo stretchy="false">(</mml:mo><mml:msub><mml:mi>Al</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi) Tj ETQq0		

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73	Study on postâ€etching processes for pâ€type GaN using HAXâ€PES. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 927-930.	0.8	5
74	Positron annihilation and cathodoluminescence study on inductively coupled plasma etched GaN. Physica Status Solidi (B): Basic Research, 2015, 252, 913-916.	0.7	5
75	Resistive heater element made of highly durable TaC-coated graphite for high-temperature and highly corrosive processes: application to MOCVD GaN epitaxial growth. Japanese Journal of Applied Physics, 2019, 58, 075509.	0.8	5
76	Breakdown Electric Field of GaN p⁺-n and p-n⁺Junction Diodes With Various Doping Concentrations. IEEE Electron Device Letters, 2022, 43, 96-99.	2.2	5
77	Hole traps related to nitrogen displacement in p-type GaN grown by metalorganic vapor phase epitaxy on freestanding GaN. Applied Physics Letters, 2022, 120, .	1.5	5
78	Hole-Trapping Process at Al2O3/GaN Interface Formed by Atomic Layer Deposition. IEEE Electron Device Letters, 2017, 38, 1309-1312.	2.2	4
79	X-ray photoelectron spectroscopy study on effects of ultra-high-pressure annealing on surface of Mg-ion-implanted GaN. Japanese Journal of Applied Physics, 2021, 60, 036503.	0.8	4
80	Growth of thick AlGaN by mixed-source hydride vapor phase epitaxy. Applied Surface Science, 2005, 243, 178-182.	3.1	3
81	Reduction of peak electric field strength in GaN-HEMT with carbon doping layer. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 915-918.	0.8	3
82	Estimation of Impact Ionization Coefficient in GaN by Photomulitiplication Measurement Utilizing Franz-Keldysh Effect. , 2019, , .		3
83	Photoionization cross section ratio of nitrogen-site carbon in GaN under sub-bandgap-light irradiation determined by isothermal capacitance transient spectroscopy. Applied Physics Express, 2021, 14, 091004.	1.1	3
84	Effect of Schottky barrier height on quantitative analysis of deep-levels in n-type GaN by deep-level transient spectroscopy. AIP Advances, 2021, 11, 115124.	0.6	3
85	Relationship of carbon concentration and slow decays of photoluminescence in homoepitaxial n-type GaN layers. Japanese Journal of Applied Physics, 2022, 61, 078004.	0.8	3
86	Optical spectra of GaN/InGaN/GaN MQW structure grown on a (1â€“101) GaN facet. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 2512-2515.	0.8	2
87	Anomalously low Ga incorporation in high Al-content AlGaN grown on $(11{ar {2}}0)$ non-polar plane by molecular beam epitaxy. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1498-1500.	0.8	2
88	Franzâ€“Keldysh effect in 4H-SiC pâ€“n junction diodes under high electric field along the âŒ©11$ar{{f{2}}}$0âŒª direction. Japanese Journal of Applied Physics, 2019, 58, 091007.	0.8	2
89	Time-resolved photoluminescence spectroscopy in a GaN/AlGaN SQW structure grown on a (111) Si substrate. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 2838-2841.	0.8	1
90	Characterization of n-type and p-type GaN layers grown on free-standing GaN substrates. , 2016, , .		1

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91	Inhibition of Mg activation in p-type GaN caused by thin AlGaN capping layer and impact of designing hydrogen desorption pathway. Applied Physics Express, 2021, 14, 071001.	1.1	1
92	Increase in net donor concentration due to introduction of donor-like defects by ultra-low-dose Si-ion implantation and subsequent annealing in homoepitaxial n-type GaN. Applied Physics Express, 0, , .	1.1	1
93	Low-dislocation-density Nonpolar AlN Grown on 4H-SiC (11-20) Substrates. Materials Research Society Symposia Proceedings, 2006, 955, 1.	0.1	0
94	Subband structure and transport properties of two-dimensional electron gas in AlxGa1â€“xN/GaN heterostructures. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 2334-2337.	0.8	0