

Yoshiyuki Yonezawa

List of Publications by Year in descending order

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74
papers

1,338
citations

516710

16
h-index

434195

31
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75
all docs

75
docs citations

75
times ranked

696
citing authors

#	ARTICLE	IF	CITATIONS
1	Direct visualization of kinetic reversibility of crystallization and dissolution behavior at solution growth interface of SiC in Si-Cr solvent. <i>Surfaces and Interfaces</i> , 2022, 28, 101664.	3.0	5
2	Fast-filling of 4H-SiC trenches at 10 ⁴ Å ² /m/h by enhancing partial pressures of source species in chemical vapor deposition processes. <i>Journal of Crystal Growth</i> , 2020, 546, 125809.	1.5	0
3	Low <i>V_f</i> 4H-SiC N-i-P diodes using newly developed low-resistivity p-type substrates. <i>Japanese Journal of Applied Physics</i> , 2020, 59, SGGD14.	1.5	0
4	Modeling of Al Doping During 4H-SiC Chemical-Vapor-Deposition Trench Filling. <i>IEEE Journal of the Electron Devices Society</i> , 2019, 7, 470-475.	2.1	3
5	Breaking the Theoretical Limit of 6.5 kV-Class 4H-SiC Super-Junction (SJ) MOSFETs by Trench-Filling Epitaxial Growth. , 2019, , .		40
6	Ideal phonon-scattering-limited mobility in inversion channels of 4H-SiC(0001) MOSFETs with ultralow net doping concentrations. <i>Applied Physics Letters</i> , 2019, 115, .	3.3	22
7	Impact of crystal faces of 4H-SiC in SiO ₂ /4H-SiC structures on interface trap densities and mobilities. <i>Applied Physics Express</i> , 2019, 12, 021003.	2.4	21
8	Relationship between depth of basal-plane dislocations and expanded stacking faults by application of forward current to 4H-SiC p-i-n diodes. <i>Applied Physics Express</i> , 2019, 12, 051007.	2.4	16
9	Selection of ion species suited for channeled implantation to be used in multi-epitaxial growth for SiC superjunction devices. <i>Japanese Journal of Applied Physics</i> , 2019, 58, 050905.	1.5	8
10	Gibbs-Thomson effect on aluminum doping during trench-filling epitaxial growth of 4H-SiC. <i>Japanese Journal of Applied Physics</i> , 2019, 58, 051009.	1.5	2
11	Expansion and contraction of single Shockley stacking faults in SiC epitaxial layer under ultraviolet irradiation. <i>Applied Physics Express</i> , 2019, 12, 041006.	2.4	11
12	Effect of HCL on Surface Free Energy of SiC during CVD Trench Filling. <i>Materials Science Forum</i> , 2019, 963, 136-140.	0.3	1
13	Structural analysis of interfacial dislocations and expanded single Shockley-type stacking faults in forward-current degradation of 4H-SiC p-i-n diodes. <i>Japanese Journal of Applied Physics</i> , 2019, 58, 011005.	1.5	7
14	Dynamic Behavior of a Medium-Voltage <i>N</i> -Channel SiC-IGBT With Ultrafast Switching Performance of 300 kV/1 ¹ / ₄ s. <i>IEEE Transactions on Industry Applications</i> , 2018, 54, 3558-3565.	4.9	16
15	Accurate evaluation of fast threshold voltage shift for SiC MOS devices under various gate bias stress conditions. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 04FA07.	1.5	10
16	Influence of basal-plane dislocation structures on expansion of single Shockley-type stacking faults in forward-current degradation of 4H-SiC p-i-n diodes. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 04FR07.	1.5	28
17	Current status and perspectives of ultrahigh-voltage SiC power devices. <i>Materials Science in Semiconductor Processing</i> , 2018, 78, 43-56.	4.0	79
18	Topography Simulation of 4H-SiC-Chemical-Vapor-Deposition Trench Filling Including an Orientation-Dependent Surface Free Energy. , 2018, , .		2

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19	Dependences of contraction/expansion of stacking faults on temperature and current density in 4H-SiC p-n diodes. Japanese Journal of Applied Physics, 2018, 57, 061301.	1.5	27
20	Improved channel mobility of 4H-SiC n-MOSFETs by ultrahigh-temperature gate oxidation with low-oxygen partial-pressure cooling. Japanese Journal of Applied Physics, 2018, 57, 120304.	1.5	6
21	Injected carrier concentration dependence of the expansion of single Shockley-type stacking faults in 4H-SiC PiN diodes. Journal of Applied Physics, 2018, 123, .	2.5	48
22	Effect of boron incorporation on slow interface traps in SiO ₂ /4H-SiC structures. Applied Physics A: Materials Science and Processing, 2017, 123, 1.	2.3	16
23	Characterization of traps at nitrided SiO ₂ /SiC interfaces near the conduction band edge by using Hall effect measurements. Applied Physics Express, 2017, 10, 046601.	2.4	96
24	Origin analysis of expanded stacking faults by applying forward current to 4H-SiC p-n diodes. Applied Physics Express, 2017, 10, 081201.	2.4	17
25	An empirical growth window concerning the input ratio of HCl/SiH ₄ gases in filling 4H-SiC trench by CVD. Applied Physics Express, 2017, 10, 055505.	2.4	14
26	Impact of rapid cooling process in ultrahigh-temperature oxidation of 4H-SiC(0001). Japanese Journal of Applied Physics, 2017, 56, 04CR04.	1.5	8
27	Strong impact of slight trench direction misalignment from $[11\bar{1}0]$ on deep trench filling epitaxy for SiC super-junction devices. Japanese Journal of Applied Physics, 2017, 56, 04CR05.	1.5	21
28	Evaluation of drain current decrease by AC gate bias stress in commercially available SiC MOSFETs. , 2017, , .		2
29	Short minority carrier lifetimes in highly nitrogen-doped 4H-SiC epilayers for suppression of the stacking fault formation in PiN diodes. Journal of Applied Physics, 2016, 120, .	2.5	80
30	Analysis of Dislocation Structures in 4H-SiC by Synchrotron X-Ray Topography. Electrical Engineering in Japan (English Translation of Denki Gakkai Ronbunshi), 2016, 197, 3-17.	0.4	7
31	Effect of H ₂ Carrier Gas on CVD Growth Rate for 4H-SiC Trench Filling. Materials Science Forum, 2016, 858, 181-184.	0.3	7
32	Pragmatic Approach to the Characterization of SiC/SiO ₂ Interface Traps near the Conduction Band with Split C-V and Hall Measurements. Materials Science Forum, 2016, 858, 477-480.	0.3	3
33	Threshold-voltage instability in 4H-SiC MOSFETs with nitrided gate oxide revealed by non-relaxation method. Japanese Journal of Applied Physics, 2016, 55, 04ER11.	1.5	28
34	Growth of Shockley type stacking faults upon forward degradation in 4H-SiC p-i-n diodes. Journal of Applied Physics, 2016, 119, .	2.5	85
35	Numerical analysis of the Gibbs-Thomson effect on trench-filling epitaxial growth of 4H-SiC. Applied Physics Express, 2016, 9, 035601.	2.4	14
36	Temperature-dependent analysis of conduction mechanism of leakage current in thermally grown oxide on 4H-SiC. Journal of Applied Physics, 2015, 117, .	2.5	48

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37	Development of Ultrahigh-Voltage SiC Devices. IEEE Transactions on Electron Devices, 2015, 62, 396-404.	3.0	78
38	Development of ultrahigh voltage SiC power devices. , 2014, , .		2
39	Effect of Current-Spreading Layer Formed by Ion Implantation on the Electrical Properties of High-Voltage 4H-SiC p-Channel IGBTs. Materials Science Forum, 2014, 778-780, 1038-1041.	0.3	10
40	Improved Channel Mobility in 4H-SiC MOSFETs by Boron Passivation. IEEE Electron Device Letters, 2014, 35, 1176-1178.	3.9	98
41	13-kV, 20-A 4H-SiC PiN Diodes for Power System Applications. Materials Science Forum, 2014, 778-780, 855-858.	0.3	6
42	Reliability Improvement and Optimization of Trench Orientation of 4H-SiC Trench-Gate Oxide. Materials Science Forum, 2014, 778-780, 537-540.	0.3	3
43	Dynamic characteristics of large current capacity module using 16-kV ultrahigh voltage SiC flip-type n-channel IE-IGBT. , 2014, , .		13
44	Static and dynamic performance evaluation of > 13 kV SiC p-channel IGBTs at high temperatures. , 2014, , .		8
45	Conduction Mechanism of Leakage Current in Thermal Oxide on 4H-SiC. Materials Science Forum, 2014, 778-780, 579-582.	0.3	1
46	Low V<inf>f</inf> and highly reliable 16 kV ultrahigh voltage SiC flip-type n-channel implantation and epitaxial IGBT. , 2013, , .		21
47	Ultrahigh voltage SiC bipolar devices. , 2013, , .		2
48	Screening of metal flux for SiC solution growth by a thin-film combinatorial method. Science and Technology of Advanced Materials, 2011, 12, 054209.	6.1	11
49	Ceramic liquid droplets stabilized in vacuum. Journal of Applied Physics, 2007, 101, 033511.	2.5	10
50	Combinatorial exploration of flux material for Bi4Ti3O12 single crystal film growth. Applied Surface Science, 2006, 252, 2477-2481.	6.1	14
51	Flux-mediated epitaxy for ferroelectric Bi4Ti3O12 single crystal film growth. Journal of Electroceramics, 2006, 17, 189-195.	2.0	0
52	Perfect Bi4Ti3O12 Single-Crystal Films via Flux-Mediated Epitaxy. Advanced Functional Materials, 2006, 16, 485-491.	14.9	39
53	Dislocation-Related Etch Protrusions Formed on 4H-SiC (000-1) Surfaces by Molten KOH Etching. Materials Research Society Symposia Proceedings, 2006, 911, 22.	0.1	3
54	Nanoskyscrapers of ferroelectric Bi4Ti3O12. Applied Physics Letters, 2006, 88, 152904.	3.3	17

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55	45° rotational epitaxy of SrTiO ₃ thin films on sulfide-buffered Si. Applied Physics Letters, 2003, 82, 4125-4127.	3.3	13
56	Growth and Electrical Properties of Fe doped (Ba,Sr)TiO ₃ Thin Films Deposited by Pulsed Laser Deposition. Materials Research Society Symposia Proceedings, 2001, 688, 1.	0.1	1
57	Composition Distribution of Compound Oxide Films Deposited by Magnetron Sputtering. Japanese Journal of Applied Physics, 2000, 39, 5379-5383.	1.5	5
58	Mechanical-Stress Induced Nd:YAG Active Quarter-Wave Plate. Japanese Journal of Applied Physics, 1994, 33, 4905-4906.	1.5	0
59	High-sensitivity two-dimensional thermal- and mechanical-stress-induced birefringence measurements in a Nd:YAG rod. Applied Optics, 1994, 33, 6368.	2.1	25
60	Overlapping repulsive energies between ions (Y ³⁺ , Ba ²⁺ , Cu ³⁺ , Cu ²⁺ and O ²⁻) and their effects on the nature of the bonds in Y ₂ O ₃ , BaO, CuO and YBa ₂ Cu ₃ O _x . Journal of Physics and Chemistry of Solids, 1990, 51, 313-322.	4.0	14
61	Effects of repulsive interactions on bondings in YBa ₂ Cu ₃ O _x . Solid State Ionics, 1990, 40-41, 795-798.	2.7	0
62	Madelung Potentials in YBa ₂ Cu ₃ O _x (x=7 and 8). Japanese Journal of Applied Physics, 1987, 26, L1492-L1494.	1.5	13
63	Characterization of Screw Dislocations in a 4H-Silicon Carbide Diode Using X-Ray Microbeam Three-Dimensional Topography. Materials Science Forum, 0, 615-617, 251-254.	0.3	10
64	Analyses of High Leakage Currents in Al ⁺ Implanted 4H SiC pn Diodes Caused by Threading Screw Dislocations. Materials Science Forum, 0, 645-648, 913-916.	0.3	30
65	Effect of Post-Oxidation Annealing in Wet O ₂ and N ₂ O Ambient on Thermally Grown SiO ₂ /4H-SiC Interface for P-Channel MOS Devices. Materials Science Forum, 0, 717-720, 709-712.	0.3	8
66	Fabrication of a P-Channel SiC-IGBT with High Channel Mobility. Materials Science Forum, 0, 740-742, 958-961.	0.3	37
67	High Voltage and Fast Switching Reverse Recovery Characteristics of 4H-SiC PiN Diode. Materials Science Forum, 0, 778-780, 841-844.	0.3	1
68	Device Performance and Switching Characteristics of 16 kV Ultrahigh-Voltage SiC Flip-Type n-Channel IE-IGBTs. Materials Science Forum, 0, 821-823, 842-846.	0.3	22
69	Exact Characterization of Threshold Voltage Instability in 4H-SiC MOSFETs by Non-Relaxation Method. Materials Science Forum, 0, 821-823, 685-688.	0.3	10
70	CVD Filling of Narrow Deep 4H-SiC Trenches in a Quasi-Selective Epitaxial Growth Mode. Materials Science Forum, 0, 924, 116-119.	0.3	3
71	A Study of CVD Growth Parameters to Fill 50-µm-Deep 4H-SiC Trenches. Materials Science Forum, 0, 963, 131-135.	0.3	1
72	Initiation of Shockley Stacking Fault Expansion in 4H-SiC P-i-N Diodes. Materials Science Forum, 0, 963, 280-283.	0.3	7

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73	Crystalline Quality Evaluation of SiC p/n Column Layers Formed by Trench-Filling-Epitaxial Growth. Materials Science Forum, 0, 1004, 445-450.	0.3	0
74	Depth Distribution of Defects in SiC PiN Diodes Formed Using Ion Implantation or Epitaxial Growth. Physica Status Solidi (B): Basic Research, 0, , 2100419.	1.5	0