

Masaharu Kobayashi

List of Publications by Year in descending order

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1178
citing authors

#	ARTICLE	IF	CITATIONS
1	Characterization of magnetic components in the diluted magnetic semiconductor $Zn_{1-x}Co_xO$ by x-ray magnetic circular dichroism. <i>Physical Review B</i> , 2005, 72, .	3.2	133
2	Ferroelectric HfO_2 Tunnel Junction Memory With High TER and Multi-Level Operation Featuring Metal Replacement Process. <i>IEEE Journal of the Electron Devices Society</i> , 2019, 7, 134-139.	2.1	87
3	High-energy spectroscopic study of the III-V nitride-based diluted magnetic semiconductor $Ga_{1-x}Mn_xN$. <i>Physical Review B</i> , 2005, 72, .	3.2	66
4	A perspective on steep-subthreshold-slope negative-capacitance field-effect transistor. <i>Applied Physics Express</i> , 2018, 11, 110101.	2.4	60
5	Low-Voltage Operating Ferroelectric FET with Ultrathin IGZO Channel for High-Density Memory Application. <i>IEEE Journal of the Electron Devices Society</i> , 2020, 8, 717-723.	2.1	54
6	Electronic structure and magnetism of the diluted magnetic semiconductor Fe-doped ZnO nanoparticles. <i>Journal of Applied Physics</i> , 2010, 107, 033718.	2.5	51
7	Experimental study on polarization-limited operation speed of negative capacitance FET with ferroelectric HfO_2 . , 2016, , .		39
8	Experimental Observation and Simulation Model for Transient Characteristics of Negative-Capacitance in Ferroelectric $HfZrO_2$ Capacitor. <i>IEEE Journal of the Electron Devices Society</i> , 2018, 6, 346-353.	2.1	35
9	Ion/loff ratio enhancement and scalability of gate-all-around nanowire negative-capacitance FET with ferroelectric HfO_2 . <i>Solid-State Electronics</i> , 2017, 136, 60-67.	1.4	30
10	On the Physical Mechanism of Transient Negative Capacitance Effect in Deep Subthreshold Region. <i>IEEE Journal of the Electron Devices Society</i> , 2019, 7, 368-374.	2.1	28
11	Reliability characteristics of metal/ferroelectric- HfO_2 /IGZO/metal capacitor for non-volatile memory application. <i>Applied Physics Express</i> , 2020, 13, 074005.	2.4	26
12	Electronic Excitations of a Magnetic Impurity State in the Diluted Magnetic Semiconductor (Ga,Mn)As. <i>Physical Review Letters</i> , 2014, 112, 107203.	7.8	22
13	A Monolithic 3-D Integration of RRAM Array and Oxide Semiconductor FET for In-Memory Computing in 3-D Neural Network. <i>IEEE Transactions on Electron Devices</i> , 2020, 67, 5322-5328.	3.0	22
14	Three-dimensional integrated CMOS image sensors with pixel-parallel A/D converters fabricated by direct bonding of SOI layers. , 2014, , .		19
15	Pixel-Parallel 3-D Integrated CMOS Image Sensors With Pulse Frequency Modulation A/D Converters Developed by Direct Bonding of SOI Layers. <i>IEEE Transactions on Electron Devices</i> , 2015, 62, 3530-3535.	3.0	18
16	Quarter Video Graphics Array Digital Pixel Image Sensing With a Linear and Wide-Dynamic-Range Response by Using Pixel-Wise 3-D Integration. <i>IEEE Transactions on Electron Devices</i> , 2019, 66, 969-975.	3.0	17
17	Physical Mechanisms of Reverse DIBL and NDR in FeFETs With Steep Subthreshold Swing. <i>IEEE Journal of the Electron Devices Society</i> , 2020, 8, 429-434.	2.1	17
18	A Monolithic 3D Integration of RRAM Array with Oxide Semiconductor FET for In-Memory Computing in Quantized Neural Network AI Applications. , 2020, , .		17

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19	Transient Negative Capacitance as Cause of Reverse Drain-induced Barrier Lowering and Negative Differential Resistance in Ferroelectric FETs. , 2019, , .		16
20	Monolithic Integration of Oxide Semiconductor FET and Ferroelectric Capacitor Enabled by Sn-Doped InGaZnO for 3-D Embedded RAM Application. IEEE Transactions on Electron Devices, 2021, 68, 6617-6622.	3.0	15
21	A 3D Vertical-Channel Ferroelectric/Anti-Ferroelectric FET With Indium Oxide. IEEE Electron Device Letters, 2022, 43, 1227-1230.	3.9	14
22	Scalability Study on Ferroelectric-HfO ₂ Tunnel Junction Memory Based on Non-equilibrium Green Function Method. , 2019, , .		13
23	Study on the Roles of Charge Trapping and Fixed Charge on Subthreshold Characteristics of FeFETs. IEEE Transactions on Electron Devices, 2021, 68, 1304-1312.	3.0	11
24	Experimental Demonstration of a Nonvolatile SRAM With Ferroelectric HfO ₂ Capacitor for Normally Off Application. IEEE Journal of the Electron Devices Society, 2018, 6, 280-285.	2.1	10
25	A simulation study on memory characteristics of InGaZnO-channel ferroelectric FETs with 2D planar and 3D structures. Japanese Journal of Applied Physics, 2022, 61, SC1013.	1.5	9
26	Photoemission and X-ray absorption studies of the electronic structure of GaN-based diluted magnetic semiconductors. Physica Status Solidi (B): Basic Research, 2006, 243, 1696-1700.	1.5	7
27	Electronic structure of Ga _{1-x} Cr _x N and Si-doping effects studied by photoemission and x-ray absorption spectroscopy. Physical Review B, 2008, 78, .	3.2	7
28	Quarter Video Graphics Array Full-Digital Image Sensing with Wide Dynamic Range and Linear Output Using Pixel-Wise 3D Integration. , 2018, , .		7
29	Superior subthreshold characteristics of gate-all-around p-type junctionless poly-Si nanowire transistor with ideal subthreshold slope. Japanese Journal of Applied Physics, 2020, 59, 070908.	1.5	7
30	Depth profile photoemission study of thermally diffused Mn/GaAs (001) interfaces. Journal of Applied Physics, 2008, 103, .	2.5	5
31	In-pixel A/D converters with 120-dB dynamic range using event-driven correlated double sampling for stacked SOI image sensors. , 2016, , .		4
32	A Feasibility Study on Ferroelectric Shadow SRAMs Based on Variability-Aware Design Optimization. IEEE Journal of the Electron Devices Society, 2019, 7, 1284-1292.	2.1	4
33	A simulation study on low voltage operability of hafnium oxide based ferroelectric FET memories. Japanese Journal of Applied Physics, 2020, 59, SGGB11.	1.5	4
34	TCAD Validation of an Intercept-at-Zero-Gate-Length MOSFET Series Resistance Extraction Method. , 2021, , .		4
35	Subthreshold Swing in Silicon Gate-All-Around Nanowire and Fully Depleted SOI MOSFETs at Cryogenic Temperature. IEEE Journal of the Electron Devices Society, 2021, 9, 1151-1154.	2.1	4
36	A robust single device MOSFET series resistance extraction method considering horizontal-field-dependent mobility. Japanese Journal of Applied Physics, 2022, 61, SC1016.	1.5	4

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37	Efficient Erase Operation by GIDL Current for 3D Structure FeFETs With Gate Stack Engineering and Compact Long-Term Retention Model. IEEE Journal of the Electron Devices Society, 2022, 10, 115-122.	2.1	4
38	3-Layer Stacking Technology with Pixel-Wise Interconnections for Image Sensors Using Hybrid Bonding of Silicon-on-Insulator Wafers Mediated by Thin Si Layers. , 2022, , .		4
39	Soft X-ray Magnetic Circular Dichroism and Photoemission Studies of $\text{La}_{1-x}\text{VI}_x$ Diluted Ferromagnetic Semiconductor $\text{Zn}_{1-x}\text{Cr}_x\text{Te}$. Journal of Superconductivity and Novel Magnetism, 2007, 20, 467-471.	1.8	3
40	Reduced variability of drain-induced barrier lowering and subthreshold slope at high temperature in bulk and silicon-on-thin-buried-oxide (SOTB) MOSFETs. Japanese Journal of Applied Physics, 2019, 58, SBBA11.	1.5	3
41	Subthreshold Swing in Silicon Gate-All-Around Nanowire MOSFET at Cryogenic Temperature. , 2021, , .		3
42	Triple-Stacked Au/SiO_2 Hybrid Bonding With 6- μm Pitch Au Electrodes on Silicon-on-Insulator Substrates Using O_2 Plasma Surface Activation for 3-D Integration. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2019, 9, 1904-1911.	2.5	2
43	Comprehensive Understanding of Negative Capacitance FET From the Perspective of Transient Ferroelectric Model. , 2019, , .		2
44	Effect of percolation path on temperature dependence of threshold voltage variability in bulk MOSFETs. Japanese Journal of Applied Physics, 0, , .	1.5	2
45	Ultrathin MoS_2 -Channel FeFET Memory With Enhanced Ferroelectricity in HfZrO_2 and Body-Potential Control. IEEE Journal of the Electron Devices Society, 2022, 10, 72-77.	2.1	2
46	A Threshold Voltage Definition Based on a Standardized Charge Versus Voltage Relationship. IEEE Transactions on Electron Devices, 2022, 69, 942-948.	3.0	2
47	A Novel Encrypted Computing-in-Memory (eCIM) by Implementing Random Telegraph Noise (RTN) as Keys Based on 55 nm NOR Flash Technology. IEEE Electron Device Letters, 2022, 43, 1455-1458.	3.9	2
48	Role of gate current and polarization switching in sub-60 mV/decade steep subthreshold slope in metal-ferroelectric HfZrO_2 -metal-insulator-Si FET. Japanese Journal of Applied Physics, 2018, 57, 114202.	1.5	1
49	Application of Extreme Value Theory to Statistical Analyses of Worst Case SRAM Data Retention Voltage. , 2019, , .		1
50	Triple-Layering Technology for Pixel-Parallel CMOS Image Sensors Developed by Hybrid Bonding of SOI Wafers. , 2019, , .		1
51	Statistical analysis of temperature dependence of worst case static random access memory data retention voltage using extreme value theory. Japanese Journal of Applied Physics, 2020, 59, SGGA10.	1.5	1
52	Width dependence of drain current and carrier mobility in gate-all-around multi-channel polycrystalline silicon nanowire transistors with 10 nm width scale. Japanese Journal of Applied Physics, 2020, 59, 021004.	1.5	1
53	Design space exploration of hysteretic negative capacitance ferroelectric FETs based on static solutions of Landau-Khalatnikov model for nonvolatile memory applications. Japanese Journal of Applied Physics, 2021, 60, 034003.	1.5	1
54	Source/Drain Engineering by Tantalum Nitride (TaN_x) Electrode for Boosting OSFET Performance. , 2021, , .		1

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55	Variability characteristics and corner effects of gate-all-around (GAA) p-type poly-Si junctionless nanowire/nanosheet transistors. Japanese Journal of Applied Physics, 2021, 60, SBBA02.	1.5	0
56	Physics and Applications of Emerging Ferroelectric Devices. , 2021, , .		0
57	Fabrication of Multi-stacked Integrated Circuit for High-Performance Image Sensors. Transactions of the Japan Institute of Electronics Packaging, 2020, 13, E20-004-1-E20-004-3.	0.4	0
58	On the Physical Mechanism of Negative Capacitance Effect in Ferroelectric FET. , 2020, , .		0
59	Cause analysis of width-dependence of on-current variability in thin gate-all-around silicon nanowire MOSFET. Japanese Journal of Applied Physics, 0, , .	1.5	0
60	Oxygen-independent photocleavage of DNA by xanthene dyes. Nucleic Acids Symposium Series, 1992, , 31-2.	0.3	0
61	Effective photocleavage of DNA by pheophorbide a. Nucleic Acids Symposium Series, 1991, , 21-2.	0.3	0
62	Estimation of minimum operating voltage in fully depleted SOI SRAM cells using gamma distribution. Japanese Journal of Applied Physics, 2022, 61, SC1064.	1.5	0
63	Monolithic 3D Integration of Oxide Semiconductor FETs and Memory Devices for AI Acceleration (Invited). , 2022, , .		0
64	Effect of Random Potential Fluctuations on Threshold Voltage Variability in Bulk MOSFETs at Cryogenic Temperature. , 2022, , .		0