

# Masaharu Kobayashi

## List of Publications by Year in descending order

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docs citations

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times ranked

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citing authors

#	ARTICLE	IF	CITATIONS
1	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
2	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
3	Ultrathin MoS <sub>2</sub> -Channel FeFET Memory With Enhanced Ferroelectricity in HfZrO <sub>2</sub> and Body-Potential Control. IEEE Journal of the Electron Devices Society, 2022, 10, 72-77.	2.1	2
4	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
5	A Threshold Voltage Definition Based on a Standardized Charge Versus Voltage Relationship. IEEE Transactions on Electron Devices, 2022, 69, 942-948.	3.0	2
6	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
7	Monolithic 3D Integration of Oxide Semiconductor FETs and Memory Devices for AI Acceleration (Invited). , 2022, , .		0
8	A 3D Vertical-Channel Ferroelectric/Anti-Ferroelectric FET With Indium Oxide. IEEE Electron Device Letters, 2022, 43, 1227-1230.	3.9	14
9	Effect of Random Potential Fluctuations on Threshold Voltage Variability in Bulk MOSFETs at Cryogenic Temperature. , 2022, , .		0
10	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
11	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
12	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
13	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, SBB02.	1.5	0
14	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
15	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
16	Subthreshold Swing in Silicon Gate-All-Around Nanowire MOSFET at Cryogenic Temperature. , 2021, , .		3
17	Physics and Applications of Emerging Ferroelectric Devices. , 2021, , .		0
18	TCAD Validation of an Intercept-at-Zero-Gate-Length MOSFET Series Resistance Extraction Method. , 2021, , .		4

#	ARTICLE	IF	CITATIONS
19	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
20	Source/Drain Engineering by Tantalum Nitride (TaN <sub>x</sub> ) Electrode for Boosting OSFET Performance. , 2021, , .		1
21	Low-Voltage Operating Ferroelectric FET with Ultrathin IGZO Channel for High-Density Memory Application. IEEE Journal of the Electron Devices Society, 2020, 8, 717-723.	2.1	54
22	Reliability characteristics of metal/ferroelectric-HfO <sub>2</sub> /IGZO/metal capacitor for non-volatile memory application. Applied Physics Express, 2020, 13, 074005.	2.4	26
23	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
24	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
25	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
26	Physical Mechanisms of Reverse DIBL and NDR in FeFETs With Steep Subthreshold Swing. IEEE Journal of the Electron Devices Society, 2020, 8, 429-434.	2.1	17
27	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
28	A Monolithic 3-D Integration of RRAM Array and Oxide Semiconductor FET for In-Memory Computing in 3-D Neural Network. IEEE Transactions on Electron Devices, 2020, 67, 5322-5328.	3.0	22
29	A Monolithic 3D Integration of RRAM Array with Oxide Semiconductor FET for In-Memory Computing in Quantized Neural Network AI Applications. , 2020, , .		17
30	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
31	On the Physical Mechanism of Negative Capacitance Effect in Ferroelectric FET. , 2020, , .		0
32	Transient Negative Capacitance as Cause of Reverse Drain-induced Barrier Lowering and Negative Differential Resistance in Ferroelectric FETs. , 2019, , .		16
33	Triple-Stacked Au/SiO <sub>2</sub> Hybrid Bonding With 6- $\mu$ m-Pitch Au Electrodes on Silicon-on-Insulator Substrates Using O <sub>2</sub> Plasma Surface Activation for 3-D Integration. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2019, 9, 1904-1911.	2.5	2
34	On the Physical Mechanism of Transient Negative Capacitance Effect in Deep Subthreshold Region. IEEE Journal of the Electron Devices Society, 2019, 7, 368-374.	2.1	28
35	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
36	Comprehensive Understanding of Negative Capacitance FET From the Perspective of Transient Ferroelectric Model. , 2019, , .		2

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37	Application of Extreme Value Theory to Statistical Analyses of Worst Case SRAM Data Retention Voltage. , 2019, , .		1
38	Triple-Layering Technology for Pixel-Parallel CMOS Image Sensors Developed by Hybrid Bonding of SOI Wafers. , 2019, , .		1
39	Scalability Study on Ferroelectric-HfO <sub>2</sub> Tunnel Junction Memory Based on Non-equilibrium Green Function Method. , 2019, , .		13
40	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
41	Ferroelectric HfO <sub>2</sub> Tunnel Junction Memory With High TER and Multi-Level Operation Featuring Metal Replacement Process. IEEE Journal of the Electron Devices Society, 2019, 7, 134-139.	2.1	87
42	Quarter Video Graphics Array Digital Pixel Image Sensing With a Linear and Wide- Dynamic-Range Response by Using Pixel-Wise 3-D Integration. IEEE Transactions on Electron Devices, 2019, 66, 969-975.	3.0	17
43	Experimental Demonstration of a Nonvolatile SRAM With Ferroelectric HfO <sub>2</sub> Capacitor for Normally Off Application. IEEE Journal of the Electron Devices Society, 2018, 6, 280-285.	2.1	10
44	Experimental Observation and Simulation Model for Transient Characteristics of Negative-Capacitance in Ferroelectric HfZrO <sub>2</sub> Capacitor. IEEE Journal of the Electron Devices Society, 2018, 6, 346-353.	2.1	35
45	A perspective on steep-subthreshold-slope negative-capacitance field-effect transistor. Applied Physics Express, 2018, 11, 110101.	2.4	60
46	Role of gate current and polarization switching in sub-60 mV/decade steep subthreshold slope in metal-ferroelectric HfZrO <sub>2</sub> -insulator-Si FET. Japanese Journal of Applied Physics, 2018, 57, 114202.	1.5	1
47	Quarter Video Graphics Array Full-Digital Image Sensing with Wide Dynamic Range and Linear Output Using Pixel-Wise 3D Integration. , 2018, , .		7
48	Ion/loff ratio enhancement and scalability of gate-all-around nanowire negative-capacitance FET with ferroelectric HfO <sub>2</sub> . Solid-State Electronics, 2017, 136, 60-67.	1.4	30
49	In-pixel A/D converters with 120-dB dynamic range using event-driven correlated double sampling for stacked SOI image sensors. , 2016, , .		4
50	Experimental study on polarization-limited operation speed of negative capacitance FET with ferroelectric HfO <sub>2</sub> . , 2016, , .		39
51	Pixel-Parallel 3-D Integrated CMOS Image Sensors With Pulse Frequency Modulation A/D Converters Developed by Direct Bonding of SOI Layers. IEEE Transactions on Electron Devices, 2015, 62, 3530-3535.	3.0	18
52	Three-dimensional integrated CMOS image sensors with pixel-parallel A/D converters fabricated by direct bonding of SOI layers. , 2014, , .		19
53	Electronic Excitations of a Magnetic Impurity State in the Diluted Magnetic Semiconductor (Ga,Mn)As. Physical Review Letters, 2014, 112, 107203.	7.8	22
54	Electronic structure and magnetism of the diluted magnetic semiconductor Fe-doped ZnO nanoparticles. Journal of Applied Physics, 2010, 107, 033718.	2.5	51

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55	Depth profile photoemission study of thermally diffused Mn/GaAs (001) interfaces. Journal of Applied Physics, 2008, 103, .	2.5	5
56	Electronic structure of Ga <sub>1-x</sub> Cr <sub>x</sub> N and Si-doping effects studied by photoemission and x-ray absorption spectroscopy. Physical Review B, 2008, 78, .	3.2	7
57	Soft X-ray Magnetic Circular Dichroism and Photoemission Studies of II-VI Diluted Ferromagnetic Semiconductor Zn <sub>1-x</sub> Cr <sub>x</sub> Te. Journal of Superconductivity and Novel Magnetism, 2007, 20, 467-471.	1.8	3
58	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
59	High-energy spectroscopic study of the III-V nitride-based diluted magnetic semiconductor Ga <sub>1-x</sub> Mn <sub>x</sub> N. Physical Review B, 2005, 72, .	3.2	66
60	Characterization of magnetic components in the diluted magnetic semiconductor Zn <sub>1-x</sub> Co <sub>x</sub> O by x-ray magnetic circular dichroism. Physical Review B, 2005, 72, .	3.2	133
61	Oxygen-independent photocleavage of DNA by xanthene dyes. Nucleic Acids Symposium Series, 1992, , 31-2.	0.3	0
62	Effective photocleavage of DNA by pheophorbide a. Nucleic Acids Symposium Series, 1991, , 21-2.	0.3	0
63	Effect of percolation path on temperature dependence of threshold voltage variability in bulk MOSFETs. Japanese Journal of Applied Physics, 0, , .	1.5	2
64	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