

# Kin Leong Pey

## List of Publications by Year in descending order

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265  
papers

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266  
docs citations

266  
times ranked

4546  
citing authors

#	ARTICLE	IF	CITATIONS
1	Recommended Methods to Study Resistive Switching Devices. <i>Advanced Electronic Materials</i> , 2019, 5, 1800143.	5.1	452
2	Dielectric breakdown mechanisms in gate oxides. <i>Journal of Applied Physics</i> , 2005, 98, 121301.	2.5	370
3	Carbon nanotube membranes with ultrahigh specific adsorption capacity for water desalination and purification. <i>Nature Communications</i> , 2013, 4, 2220.	12.8	328
4	A study of thermo-mechanical stress and its impact on through-silicon vias. <i>Journal of Micromechanics and Microengineering</i> , 2008, 18, 075018.	2.6	144
5	Standards for the Characterization of Endurance in Resistive Switching Devices. <i>ACS Nano</i> , 2021, 15, 17214-17231.	14.6	128
6	Two-dimensional analytical Mott-Gurney law for a trap-filled solid. <i>Applied Physics Letters</i> , 2007, 90, 153505.	3.3	92
7	Percolation path and dielectric-breakdown-induced-epitaxy evolution during ultrathin gate dielectric breakdown transient. <i>Applied Physics Letters</i> , 2003, 83, 2223-2225.	3.3	90
8	Annealing of ultrashallow p+/n junction by 248 nm excimer laser and rapid thermal processing with different preamorphization depths. <i>Applied Physics Letters</i> , 2000, 76, 3197-3199.	3.3	75
9	The nature of dielectric breakdown. <i>Applied Physics Letters</i> , 2008, 93, .	3.3	75
10	Vertically arrayed Si nanowire/nanorod-based core-shell p-n junction solar cells. <i>Journal of Applied Physics</i> , 2010, 108, .	2.5	71
11	Influence of Bosch Etch Process on Electrical Isolation of TSV Structures. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2011, 1, 1497-1507.	2.5	70
12	Intrinsic nanofilamentation in resistive switching. <i>Journal of Applied Physics</i> , 2013, 113, 114503.	2.5	69
13	Effect of current direction on the lifetime of different levels of Cu dual-damascene metallization. <i>Applied Physics Letters</i> , 2001, 79, 4592-4594.	3.3	66
14	Dopant distribution in the recrystallization transient at the maximum melt depth induced by laser annealing. <i>Applied Physics Letters</i> , 2006, 89, 172111.	3.3	61
15	Interfacial reactions of Ni on Si <sub>1-x</sub> Ge <sub>x</sub> (x=0.2, 0.3) at low temperature by rapid thermal annealing. <i>Journal of Applied Physics</i> , 2002, 92, 214-217.	2.5	57
16	Conductive Atomic Force Microscope Study of Bipolar and Threshold Resistive Switching in 2D Hexagonal Boron Nitride Films. <i>Scientific Reports</i> , 2018, 8, 2854.	3.3	55
17	Experimental characterization and modeling of the reliability of three-terminal dual-damascene Cu interconnect trees. <i>Journal of Applied Physics</i> , 2003, 94, 1222-1228.	2.5	53
18	Thermal reaction of nickel and Si <sub>0.75</sub> Ge <sub>0.25</sub> alloy. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2002, 20, 1903.	2.1	52

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19	A High-Yield $\text{HfO}_x$ -Based Unipolar Resistive RAM Employing Ni Electrode Compatible With Si-Diode Selector for Crossbar Integration. IEEE Electron Device Letters, 2011, 32, 396-398.	3.9	52
20	Designettes: An Approach to Multidisciplinary Engineering Design Education. Journal of Mechanical Design, Transactions of the ASME, 2016, 138, .	2.9	50
21	Microporous Polymeric Materials by Microemulsion Polymerization: Effect of Surfactant Concentration. Langmuir, 1995, 11, 3321-3326.	3.5	49
22	Femtosecond laser induced surface nanostructuring and simultaneous crystallization of amorphous thin silicon film. Optics Express, 2010, 18, 19379.	3.4	45
23	Study of preferential localized degradation and breakdown of $\text{HfO}_2/\text{SiO}_x$ dielectric stacks at grain boundary sites of polycrystalline $\text{HfO}_2$ dielectrics. Microelectronic Engineering, 2013, 109, 364-369.	2.4	45
24	Evidence for compliance controlled oxygen vacancy and metal filament based resistive switching mechanisms in RRAM. Microelectronic Engineering, 2011, 88, 1124-1128.	2.4	44
25	Role of oxygen vacancies in $\text{HfO}_2$ -based gate stack breakdown. Applied Physics Letters, 2010, 96, .	3.3	41
26	A Compact Model for Undoped Silicon-Nanowire MOSFETs With Schottky-Barrier Source/Drain. IEEE Transactions on Electron Devices, 2009, 56, 1100-1109.	3.0	40
27	Thermal stability of TiN metal gate prepared by atomic layer deposition or physical vapor deposition on $\text{HfO}_2$ high-K dielectric. Applied Physics Letters, 2010, 96, .	3.3	40
28	Bilayer gate dielectric study by scanning tunneling microscopy. Applied Physics Letters, 2007, 91, 102905.	3.3	38
29	High- $\hat{\rho}$ dielectric breakdown in nanoscale logic devices â€“ Scientific insight and technology impact. Microelectronics Reliability, 2014, 54, 847-860.	1.7	38
30	Evolution of Filament Formation in $\text{Ni}/\text{HfO}_2/\text{SiO}_x/\text{Si}$ -Based RRAM Devices. Advanced Electronic Materials, 2015, 1, 1500130.	5.1	37
31	Comparative study of current-voltage characteristics of Ni and Ni(Pt)-alloy silicided p+/n diodes. Applied Physics Letters, 2001, 78, 3256-3258.	3.3	34
32	Germanium coated vertically-aligned multiwall carbon nanotubes as lithium-ion battery anodes. Carbon, 2014, 77, 551-559.	10.3	33
33	Direct visualization and in-depth physical study of metal filament formation in percolated high- $\hat{\rho}$ dielectrics. Applied Physics Letters, 2010, 96, .	3.3	31
34	Modified Percolation Model for Polycrystalline High- $\kappa$ Gate Stack With Grain Boundary Defects. IEEE Electron Device Letters, 2011, 32, 78-80.	3.9	30
35	Grain boundary assisted degradation and breakdown study in cerium oxide gate dielectric using scanning tunneling microscopy. Applied Physics Letters, 2011, 98, 072902.	3.3	30
36	Effect of a titanium cap in reducing interfacial oxides in the formation of nickel silicide. Journal of Applied Physics, 2002, 91, 2901-2909.	2.5	28

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37	Effect of Pt on agglomeration and Ge out diffusion in Ni(Pt) germanosilicide. Journal of Applied Physics, 2005, 98, 033520.	2.5	28
38	The development of a tapered silicon micro-micromachining process for 3D microsystems packaging. Journal of Micromechanics and Microengineering, 2008, 18, 115028.	2.6	28
39	Identifying the First Layer to Fail in Dual-Layer $\text{SiO}_2/\text{HfSiON}$ Gate Dielectric Stacks. IEEE Electron Device Letters, 2013, 34, 1289-1291.	3.9	28
40	Dielectric Breakdown in Single-Crystal Hexagonal Boron Nitride. ACS Applied Electronic Materials, 2021, 3, 3547-3554.	4.3	28
41	The radial distribution of defects in a percolation path. Applied Physics Letters, 2008, 93, .	3.3	27
42	Resistive switching in NiSi gate metal-oxide-semiconductor transistors. Applied Physics Letters, 2010, 97, 202904.	3.3	27
43	Very Low Reset Current for an RRAM Device Achieved in the Oxygen-Vacancy-Controlled Regime. IEEE Electron Device Letters, 2011, 32, 716-718.	3.9	27
44	Microstructural Control of Porous Polymeric Materials via a Microemulsion Pathway Using Mixed Nonpolymerizable and Polymerizable Anionic Surfactants. Langmuir, 1996, 12, 319-324.	3.5	26
45	Control of transient enhanced diffusion of boron after laser thermal processing of preamorphized silicon. Journal of Applied Physics, 2002, 92, 1344-1350.	2.5	25
46	The physical origin of random telegraph noise after dielectric breakdown. Applied Physics Letters, 2009, 94, .	3.3	25
47	Subcircuit Compact Model for Dopant-Segregated Schottky Gate-All-Around Si-Nanowire MOSFETs. IEEE Transactions on Electron Devices, 2010, 57, 772-781.	3.0	25
48	Electrode material dependent breakdown and recovery in advanced high- $\kappa$ gate stacks. Applied Physics Letters, 2010, 96, .	3.3	25
49	The distribution of chemical elements in Al- or La-capped high- $\kappa$ metal gate stacks. Applied Physics Letters, 2010, 97, 103504.	3.3	25
50	Phase and Layer Stability of Ni- and Ni(Pt)-Silicides on Narrow Poly-Si Lines. Journal of the Electrochemical Society, 2002, 149, G331.	2.9	24
51	Uncorrelated multiple conductive filament nucleation and rupture in ultra-thin high- $\kappa$ dielectric based resistive random access memory. Applied Physics Letters, 2011, 99, 093502.	3.3	24
52	Experimental characterization and modeling of the mechanical properties of Cu-Cu thermocompression bonds for three-dimensional integrated circuits. Acta Materialia, 2012, 60, 578-587.	7.9	24
53	Random telegraph noise in 2D hexagonal boron nitride dielectric films. Applied Physics Letters, 2018, 112, .	3.3	23
54	Size difference in dielectric-breakdown-induced epitaxy in narrow n- and p-metal oxide semiconductor field effect transistors. Applied Physics Letters, 2003, 83, 2940-2942.	3.3	22

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55	Electromigration resistance in a short three-contact interconnect tree. Journal of Applied Physics, 2006, 99, 094505.	2.5	22
56	Demonstration of Schottky Barrier NMOS Transistors With Erbium Silicided Source/Drain and Silicon Nanowire Channel. IEEE Electron Device Letters, 2008, 29, 1167-1170.	3.9	22
57	The chemistry of gate dielectric breakdown. , 2008, , .		22
58	Photovoltaic nanopillar radial junction diode architecture enhanced by integrating semiconductor quantum dot nanocrystals as light harvesters. Applied Physics Letters, 2010, 97, 093111.	3.3	20
59	Oxygen-Soluble Gate Electrodes for Prolonged High- $\kappa$ Gate-Stack Reliability. IEEE Electron Device Letters, 2011, 32, 252-254.	3.9	20
60	Single vacancy defect spectroscopy on HfO <sub>2</sub> using random telegraph noise signals from scanning tunneling microscopy. Journal of Applied Physics, 2016, 119, .	2.5	20
61	Formation of microporous polymeric materials by microemulsion polymerization of methyl methacrylate and 2-hydroxyethyl methacrylate. Journal of Applied Polymer Science, 1996, 60, 1561-1568.	2.6	19
62	Nickel-Silicided Schottky Junction CMOS Transistors With Gate-All-Around Nanowire Channels. IEEE Electron Device Letters, 2008, 29, 902-905.	3.9	19
63	The effect of stress migration on electromigration in dual damascene copper interconnects. Journal of Applied Physics, 2011, 109, .	2.5	19
64	Physical analysis of breakdown in high- $\hat{\rho}$ /metal gate stacks using TEM/EELS and STM for reliability enhancement (invited). Microelectronic Engineering, 2011, 88, 1365-1372.	2.4	19
65	Percolative Model and Thermodynamic Analysis of Oxygen-Ion-Mediated Resistive Switching. IEEE Electron Device Letters, 2012, 33, 712-714.	3.9	19
66	Charge transport in lightly reduced graphene oxide: A transport energy perspective. Journal of Applied Physics, 2013, 113, .	2.5	19
67	Laser-induced amorphization of silicon during pulsed-laser irradiation of TiN/Ti/polycrystalline silicon/SiO <sub>2</sub> /silicon. Applied Physics Letters, 2002, 81, 3786-3788.	3.3	18
68	Pyramidal structural defects in erbium silicide thin films. Applied Physics Letters, 2006, 88, 021908.	3.3	18
69	Dopant-Segregated Schottky Silicon-Nanowire MOSFETs With Gate-All-Around Channels. IEEE Electron Device Letters, 2009, 30, 843-845.	3.9	18
70	Liquid-phase epitaxial growth of amorphous silicon during laser annealing of ultrashallow p+/n junctions. Applied Physics Letters, 2000, 77, 2994-2996.	3.3	17
71	Detection of high- $\hat{\rho}$ and interfacial layer breakdown using the tunneling mechanism in a dual layer dielectric stack. Applied Physics Letters, 2009, 95, 222903.	3.3	17
72	Fabrication of silicon nanobump arrays by near-field enhanced laser irradiation. Applied Physics Letters, 2010, 96, .	3.3	17

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73	Analysis of Correlated Gate and Drain Random Telegraph Noise in Post-Soft Breakdown TiN/HfLaO <sub>x</sub> nMOSFETs. IEEE Electron Device Letters, 2014, 35, 157-159.	3.9	17
74	Stable cyclic performance of nickel oxide-carbon composite anode for lithium-ion batteries. Thin Solid Films, 2014, 558, 356-364.	1.8	17
75	Coexistence of volatile and non-volatile resistive switching in 2D h-BN based electronic synapses. , 2017, , .		17
76	Micro-tags for art: covert visible and infrared images using gap plasmons in native aluminum oxide. Optical Materials Express, 2019, 9, 788.	3.0	17
77	Nickel silicide formation on Si(100) and Poly-Si with a presilicide N <sub>2</sub> + implantation. Journal of Electronic Materials, 2001, 30, 1554-1559.	2.2	16
78	Effects of microvoids on the linewidth dependence of electromigration failure of dual-damascene copper interconnects. Applied Physics Letters, 2007, 90, 193505.	3.3	16
79	Application of contact theory to metal-metal bonding of silicon wafers. Journal of Applied Physics, 2007, 102, 103510.	2.5	16
80	Boron Vacancies Causing Breakdown in 2D Layered Hexagonal Boron Nitride Dielectrics. IEEE Electron Device Letters, 2019, 40, 1321-1324.	3.9	16
81	Dielectric-breakdown-induced epitaxy: a universal breakdown defect in ultrathin gate dielectrics. IEEE Transactions on Device and Materials Reliability, 2005, 5, 190-197.	2.0	15
82	Structure and Conductance of the Breakdown Spot During the Early Stages of Progressive Breakdown. IEEE Transactions on Device and Materials Reliability, 2006, 6, 534-541.	2.0	15
83	Ultrafast progressive breakdown associated with metal-like filament formation of a breakdown path in a HfO <sub>2</sub> -TaN-TiN transistor. Applied Physics Letters, 2006, 88, 122907.	3.3	15
84	Laser-induced Ni(Ti) silicide formation. Applied Physics Letters, 2006, 88, 113108.	3.3	15
85	Understanding Asymmetric Transportation Behavior in Graphene Field-Effect Transistors Using Scanning Kelvin Probe Microscopy. IEEE Electron Device Letters, 2011, 32, 128-130.	3.9	15
86	Suppression of oxidation in nickel germanosilicides by Pt incorporation. Applied Physics Letters, 2005, 87, 182116.	3.3	14
87	Highly oriented Ni(Pd)SiGe formation at 400°C. Journal of Applied Physics, 2005, 97, 104917.	2.5	14
88	Laser annealing induced high Ge concentration epitaxial SiGe layer in Si <sub>1-x</sub> Ge <sub>x</sub> virtual substrate. Applied Physics Letters, 2008, 93, .	3.3	14
89	Electronic trap characterization of the Sc <sub>2</sub> O <sub>3</sub> -La <sub>2</sub> O <sub>3</sub> high- $\kappa$ gate stack by scanning tunneling microscopy. Applied Physics Letters, 2008, 92, 022904.	3.3	14
90	Experimental characterization and modeling of the contact resistance of Cu-Cu bonded interconnects. Journal of Applied Physics, 2009, 105, 033514.	2.5	14

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91	Chemical insight into origin of forming-free resistive random-access memory devices. Applied Physics Letters, 2011, 99, 133504.	3.3	14
92	Statistics of retention failure in the low resistance state for hafnium oxide RRAM using a Kinetic Monte Carlo approach. Microelectronics Reliability, 2015, 55, 1422-1426.	1.7	14
93	Arrayed Si <sup>n</sup> -SiGe Nanowire and Heterostructure Formations via Au-Assisted Wet Chemical Etching Method. Electrochemical and Solid-State Letters, 2009, 12, K37.	2.2	13
94	Observation of switching behaviors in post-breakdown conduction in NiSi-gated stacks. , 2009, , .		13
95	Filamentation Mechanism of Resistive Switching in Fully Silicided High- $\kappa$ Gate Stacks. IEEE Electron Device Letters, 2011, 32, 455-457.	3.9	13
96	Compliance current dominates evolution of NiSi <sub>2</sub> defect size in Ni/dielectric/Si RRAM devices. Microelectronics Reliability, 2016, 61, 71-77.	1.7	13
97	Structural characterization of rapid thermal oxidized Si <sub>1-x</sub> Ge <sub>x</sub> alloy films grown by rapid thermal chemical vapor deposition. Journal of Applied Physics, 2000, 87, 192-197.	2.5	12
98	On the Morphological Changes of Ni- and Ni(Pt)-Silicides. Journal of the Electrochemical Society, 2005, 152, G305.	2.9	12
99	Dopant activation in subamorphized silicon upon laser annealing. Applied Physics Letters, 2006, 89, 082101.	3.3	12
100	Equivalent Circuit Model for the Gate Leakage Current in Broken Down $\text{HfO}_2/\text{TaN/TiN}$ Gate Stacks. IEEE Electron Device Letters, 2008, 29, 1353-1355.	3.9	12
101	Catalyst proximity effects on the growth rate of Si nanowires. Journal of Applied Physics, 2009, 106, 044311.	2.5	12
102	Effects of boron and arsenic doping in $\hat{\Gamma}^2$ -FeSi <sub>2</sub> . Journal of Applied Physics, 2009, 106, 023712.	2.5	12
103	Unipolar recovery of dielectric breakdown in fully silicided high- $\hat{\Gamma}^0$ gate stack devices and its reliability implications. Applied Physics Letters, 2010, 96, 142901.	3.3	12
104	Using post-breakdown conduction study in a MIS structure to better understand the resistive switching mechanism in an MIM stack. Nanotechnology, 2011, 22, 455702.	2.6	12
105	Optical and electrical characterization of sputter-deposited FeSi <sub>2</sub> and its evolution with annealing temperature. Journal of Applied Physics, 2008, 104, 064117.	2.5	11
106	Mechanism of high-k dielectric-induced breakdown of the interfacial SiO <sub>2</sub> layer. , 2010, , .		11
107	Localized characterization of charge transport and random telegraph noise at the nanoscale in HfO <sub>2</sub> films combining scanning tunneling microscopy and multi-scale simulations. Journal of Applied Physics, 2017, 122, 024301.	2.5	11
108	Localized Probing of Dielectric Breakdown in Multilayer Hexagonal Boron Nitride. ACS Applied Materials & Interfaces, 2020, 12, 55000-55010.	8.0	11

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109	Hot electron transport in Au/HfO <sub>2</sub> /SiO <sub>2</sub> /Si structures studied by ballistic electron emission spectroscopy. Applied Physics Letters, 2007, 90, 142915.	3.3	10
110	Nickel silicide formation using multiple-pulsed laser annealing. Journal of Applied Physics, 2007, 101, 034307.	2.5	10
111	Scanning tunneling microscopy study of nitrogen incorporated HfO <sub>2</sub> . Journal of Applied Physics, 2008, 104, 064119.	2.5	10
112	A Physical Model for Post-Breakdown Digital Gate Current Noise. IEEE Electron Device Letters, 2010, 31, 1032-1034.	3.9	10
113	CAFM based spectroscopy of stress-induced defects in HfO <sub>2</sub> with experimental evidence of the clustering model and metastable vacancy defect state. , 2016, , .		10
114	Nickel-platinum alloy monosilicidation-induced defects in n-type silicon. Applied Physics Letters, 2000, 76, 3385-3387.	3.3	9
115	Effect of Ion Implantation on Layer Inversion of Ni Silicided Poly-Si. Journal of the Electrochemical Society, 2002, 149, G505.	2.9	9
116	Layer Inversion of Ni(Pt)Si on Mixed Phase Si Films. Electrochemical and Solid-State Letters, 2002, 5, G15.	2.2	9
117	Silicide Formation from Laser Thermal Processing of Ti/Co Bilayers. Electrochemical and Solid-State Letters, 2004, 7, G213.	2.2	9
118	A low-cost method of forming epitaxy SiGe on Si substrate by laser annealing. Applied Physics Letters, 2009, 94, 082104.	3.3	9
119	Schottky-Ohmic transition in metal-all-around electrical contacts to silicon nanowires. Journal of Applied Physics, 2009, 105, .	2.5	9
120	Trap Levels in Graphene Oxide: A Thermally Stimulated Current Study. ECS Solid State Letters, 2012, 2, M17-M19.	1.4	9
121	Resistive switching characteristics of MIM structures based on oxygen-variable ultra-thin HfO <sub>2</sub> and fabricated at low temperature. Materials Science in Semiconductor Processing, 2017, 66, 191-199.	4.0	9
122	BEEM studies on metal highK-dielectric HfO <sub>2</sub> interfaces. Journal of Physics: Conference Series, 2007, 61, 1347-1351.	0.4	8
123	Multiple Digital Breakdowns and Its Consequence on Ultrathin Gate Dielectrics Reliability Prediction. , 2007, , .		8
124	A nanoscale analysis of the leakage current in SiO <sub>2</sub> breakdown. Applied Physics Letters, 2008, 93, 022901.	3.3	8
125	Feasibility of SILC Recovery in Sub-10-Å... EOT Advanced Metal Gate/High- $\kappa$ Stacks. IEEE Electron Device Letters, 2013, 34, 1053-1055.	3.9	8
126	Resilience of ultra-thin oxynitride films to percolative wear-out and reliability implications for high- $\kappa$ stacks at low voltage stress. Journal of Applied Physics, 2013, 114, 094504.	2.5	8



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127	New understanding of dielectric breakdown in advanced FinFET devices – physical, electrical, statistical and multiphysics study. , 2016, , .		8
128	Functionality Demonstration of a High-Density 2.5V Self-Aligned Split-Gate NVM Cell Embedded into 40nm CMOS Logic Process for Automotive Microcontrollers. , 2016, , .		8
129	The interplay between drift and electrical measurement in conduction atomic force microscopy. Review of Scientific Instruments, 2019, 90, 073701.	1.3	8
130	A Comparative Study of Nickel Silicide Formation Using a Titanium Cap Layer and a Titanium Interlayer. Materials Research Society Symposia Proceedings, 2001, 670, 1.	0.1	7
131	Breakdown-induced thermochemical reactions in HfO <sub>2</sub> high- $\kappa$ /polycrystalline silicon gate stacks. Applied Physics Letters, 2005, 87, 242907.	3.3	7
132	Work function tuning of n-channel metal-oxide field-effect transistors using interfacial yttrium layer in fully silicided nickel gate. Applied Physics Letters, 2006, 89, 233520.	3.3	7
133	Laser-induced Ni(Pt) germanosilicide formation through a self-limiting melting phenomenon on Si <sub>1-x</sub> Ge <sub>x</sub> /Si heterostructure. Applied Physics Letters, 2007, 90, 073108.	3.3	7
134	A Critical Gate Voltage Triggering Irreversible Gate Dielectric Degradation. , 2007, , .		7
135	Polarity dependent breakdown of the high- $\kappa$ -SiO <sub>x</sub> gate stack: A phenomenological explanation by scanning tunneling microscopy. Applied Physics Letters, 2008, 92, 192904.	3.3	7
136	Tri-Level Resistive Switching in Metal-Nanocrystal-Based Al <sub>2</sub> O <sub>3</sub> /SiO <sub>2</sub> Gate Stack. IEEE Transactions on Electron Devices, 2010, 57, 3001-3005.	3.0	7
137	Electrical and Physical Properties of Er-Doped HfO <sub>2</sub> High- $\kappa$ Dielectrics Prepared by Atomic Layer Deposition. Electrochemical and Solid-State Letters, 2010, 13, G21.	2.2	7
138	Localized charge trapping and lateral charge diffusion in metal nanocrystal-embedded High- $\kappa$ /SiO <sub>2</sub> gate stack. Applied Physics Letters, 2011, 99, 222102.	3.3	7
139	Subthreshold characteristics of ballistic electron emission spectra. Journal of Applied Physics, 2012, 111, .	2.5	7
140	Stochastic failure model for endurance degradation in vacancy modulated HfO <sub>2</sub> RRAM using the percolation cell framework. , 2014, , .		7
141	Area and pulsewidth dependence of bipolar TDDB in MgO magnetic tunnel junction. , 2018, , .		7
142	Textured Ni(Pt) Germanosilicide Formation on a Condensed Si <sub>1-x</sub> Ge <sub>x</sub> /Si Substrate. Journal of the Electrochemical Society, 2009, 156, H500.	2.9	6
143	Investigation of ALD or PVD (Ti-rich vs. N-rich) TiN metal gate thermal stability on HfO <sub>2</sub> high- $\kappa$ . , 2010, , .		6
144	Stress migration risk on electromigration reliability in advanced narrow line copper interconnects. Journal of Applied Physics, 2011, 110, 083702.	2.5	6

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145	The &#x201C;buffering&#x201D; role of high- $\kappa$ in post breakdown degradation immunity of advanced dual layer dielectric gate stacks. , 2013, , .		6
146	Stochastic Modeling of FinFET Degradation Based on a Resistor Network Embedded Metropolis Monte Carlo Method. IEEE Transactions on Electron Devices, 2018, 65, 440-447.	3.0	6
147	Line-Width Dependence of Void Formation in Ti-Saliced BF <sub>2</sub> -Doped Polysilicon Lines. Materials Research Society Symposia Proceedings, 1999, 564, 91.	0.1	5
148	Laser-induced titanium disilicide formation for submicron technologies. Journal of Electronic Materials, 2001, 30, 1549-1553.	2.2	5
149	Understanding of Boron Junction Stability in Preamorphized Silicon after Optimized Flash Annealing. Journal of the Electrochemical Society, 2008, 155, H508.	2.9	5
150	Electromigration-induced bond improvement for three-dimensional integrated circuits. Applied Physics Letters, 2009, 94, 081901.	3.3	5
151	Critical gate voltage and digital breakdown: Extending post-breakdown reliability margin in ultrathin gate dielectric with thickness $\approx$ 1.6 nm. , 2009, , .		5
152	Understanding the contact characteristics in single or multi-layer graphene devices: The impact of defects (carbon vacancies) and the asymmetric transportation behavior. , 2010, , .		5
153	Postbreakdown Gate-Current Low-Frequency Noise Spectrum as a Detection Tool for High- $\kappa$ and Interfacial Layer Breakdown. IEEE Electron Device Letters, 2010, 31, 1035-1037.	3.9	5
154	New Insights into Dielectric Breakdown of MgO in STT-MRAM Devices. , 2019, , .		5
155	Formation of voids in Ti-saliced BF <sub>2</sub> -doped submicron polysilicon lines. Journal of Applied Physics, 2000, 87, 8401-8406.	2.5	4
156	Length Effects on the Reliability of Dual-Damascene Cu Interconnects. Materials Research Society Symposia Proceedings, 2002, 716, 1331.	0.1	4
157	Fatal Void Size Comparisons in Via-Below and Via-Above Cu Dual-Damascene Interconnects. Materials Research Society Symposia Proceedings, 2004, 812, F7.6.1.	0.1	4
158	Role of low temperature rapid thermal annealing in post-laser-annealed p-channel metal-oxide-semiconductor field effect transistor. Applied Physics Letters, 2006, 89, 122113.	3.3	4
159	Erbium silicided Schottky Source/Drain Silicon Nanowire N-Metalâ€™Oxideâ€™Semiconductor Field-Effect Transistors. Japanese Journal of Applied Physics, 2008, 47, 3277-3281.	1.5	4
160	Charging and discharging characteristics of metal nanocrystals in degraded dielectric stacks. , 2010, , .		4
161	New Leakage Mechanism and Dielectric Breakdown Layer Detection in Metal-Nanocrystal-Embedded Dual-Layer Memory Gate Stack. IEEE Electron Device Letters, 2011, 32, 800-802.	3.9	4
162	Threshold shift observed in resistive switching in metal-oxide-semiconductor transistors and the effect of forming gas anneal. Applied Physics Letters, 2011, 99, 232909.	3.3	4

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163	Nanoscale electrical and physical study of polycrystalline high- $\kappa$ dielectrics and proposed reliability enhancement techniques. , 2011, , .		4
164	Nano photoconductive switches for microwave applications. Proceedings of SPIE, 2013, , .	0.8	4
165	Leakage current and structural analysis of annealed HfO <sub>2</sub> /La <sub>2</sub> O <sub>3</sub> and CeO <sub>2</sub> /La <sub>2</sub> O <sub>3</sub> dielectric stacks: A nanoscopic study. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2014, 32, 03D125.	1.2	4
166	Variability model for forming process in oxygen vacancy modulated high- $\kappa$ based resistive switching memory devices. Microelectronics Reliability, 2014, 54, 2266-2271.	1.7	4
167	Impact of Carbon Doping on Polysilicon Grain Size Distribution and Yield Enhancement for 40-nm Embedded Nonvolatile Memory Technology. IEEE Transactions on Device and Materials Reliability, 2018, 18, 64-69.	2.0	4
168	Analysis and Simulation of Interface Quality and Defect Induced Variability in MgO Spin-Transfer Torque Magnetic RAMs. IEEE Electron Device Letters, 2021, 42, 34-37.	3.9	4
169	Experimental Characterization of the Reliability of 3-Terminal Dual-Damascene Copper Interconnect Trees. Materials Research Society Symposia Proceedings, 2002, 716, 8131.	0.1	4
170	Silicon-Controlled Rectifier Embedded Diode for 7 nm FinFET Process Electrostatic Discharge Protection. Nanomaterials, 2022, 12, 1743.	4.1	4
171	Nanometal-oxide-semiconductor field-effect-transistor contact and gate silicide instability during gate dielectric breakdown. Applied Physics Letters, 2006, 89, 221902.	3.3	3
172	Pulsed laser-induced silicidation on TiN-capped Co $\cdot$ Si bilayers. Journal of Applied Physics, 2006, 99, 044902.	2.5	3
173	Electronic properties of ultrathin high- $\kappa$ dielectrics studied by ballistic electron emission microscopy. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, .	1.2	3
174	Random telegraph noise reduction in metal gate high- $\kappa$ stacks by bipolar switching and the performance boosting technique. , 2011, , .		3
175	Effect of surface contamination on electron tunneling in the high bias range. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2012, 30, 041402.	2.1	3
176	Nanoscale physical analysis of localized breakdown events in HfO <sub>2</sub> /SiO <sub>2</sub> /X dielectric stacks: A correlation study of STM induced BD with C-AFM and TEM. , 2012, , .		3
177	Triggering voltage for post-breakdown random telegraph noise in HfLaO dielectric metal gate metal-oxide-semiconductor field effect transistors and its reliability implications. Journal of Applied Physics, 2012, 111, 024101.	2.5	3
178	Prognostic methodology for remaining useful life estimation of retention loss in nanoscale resistive switching memory. Microelectronics Reliability, 2014, 54, 1729-1734.	1.7	3
179	Monte Carlo model of reset stochastics and failure rate estimation of read disturb mechanism in HfO <sub>2</sub> /RRAM. , 2015, , .		3
180	Performance of ultra-thin HfO <sub>2</sub> -based MIM devices after oxygen modulation and post-metallization annealing in N <sub>2</sub> . Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 1807-1813.	1.8	3

#	ARTICLE	IF	CITATIONS
181	Preliminary study of integrated physics and mathematics bridging course. , 2017, , .		3
182	Random Telegraph Noise Nano-spectroscopy in High- $\epsilon^r$ Dielectrics Using Scanning Probe Microscopy Techniques. , 2020, , 417-440.		3
183	Experimental Characterization of the Reliability of Multi-Terminal Dual-Damascene Copper Interconnect Trees. Materials Research Society Symposia Proceedings, 2003, 766, 151.	0.1	3
184	Thermal Studies on Stress-Induced Void-Like Defects in Epitaxial-CoSi <sub>2</sub> Formation. Materials Research Society Symposia Proceedings, 1999, 564, 109.	0.1	2
185	Effect of BF <sub>2</sub> <sup>+</sup> Implantation on Void Formation in Ti-Salicylated Narrow Polysilicon Lines. Electrochemical and Solid-State Letters, 1999, 3, 442.	2.2	2
186	Combined low-frequency noise and resistance measurements for void extraction in deep-submicrometer interconnects. Journal of Electronic Materials, 2001, 30, 1513-1519.	2.2	2
187	X-ray photoemission spectroscopy study of silicidation of Ti on BF <sub>2</sub> <sup>+</sup> -implanted polysilicon. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2001, 19, 2252.	1.6	2
188	Time-resolved reflectance studies of silicon during laser thermal processing of amorphous silicon gates on ultrathin gate oxides. Journal of Applied Physics, 2004, 95, 6048-6053.	2.5	2
189	Significance of Breakdown Location on Post-Breakdown Transient and MOSFET Degradation. , 2007, , .		2
190	Full Range Work Function Tuning of MOSFETs using Interfacial Yttrium Layer in fully Germanided Ni Gate. ECS Transactions, 2007, 6, 271-277.	0.5	2
191	Laser-Induced Melt-Mediated Ni(Pt) Germanosilicide Formation on Condensed Si <sub>1-x</sub> Ge <sub>x</sub> /Si Substrates. Electrochemical and Solid-State Letters, 2008, 11, H262.	2.2	2
192	Materials and Electrical Characterization of Er(Si <sub>1-x</sub> Ge <sub>x</sub> ) <sub>2y</sub> Films Formed on Si <sub>1-x</sub> Ge <sub>x</sub> (001) (x=0~0.3) via Rapid Thermal Annealing. Journal of the Electrochemical Society, 2008, 155, H26.	2.9	2
193	Schottky-like behavior of progressive breakdown of polycrystalline- silicon/silicon oxynitride gate dielectric stack. Applied Physics Letters, 2008, 92, 012910.	3.3	2
194	Localized breakdown in dielectrics and macroscopic charge transport through the whole gate stack: A comparative study. Applied Physics Letters, 2008, 92, 012914.	3.3	2
195	A Comparative Study on Si Activation in GaAs Between Laser Annealing and Rapid Thermal Annealing. Electrochemical and Solid-State Letters, 2010, 13, H200.	2.2	2
196	Effect of Using Chemical Vapor Deposition WSi <sub>2</sub> and Postmetallization Annealing on GaAs Metal-Oxide-Semiconductor Capacitors. Electrochemical and Solid-State Letters, 2010, 13, H328.	2.2	2
197	An overview of physical analysis of nanosize conductive path in ultrathin SiON and high- $\epsilon^r$ gate dielectrics in nanoelectronic devices. , 2010, , .		2
198	Comparison between chemical vapor deposited and physical vapor deposited WSi <sub>2</sub> metal gate for InGaAs n-metal-oxide-semiconductor field-effect transistors. Applied Physics Letters, 2011, 98, 182102.	3.3	2

#	ARTICLE	IF	CITATIONS
199	Barrier height determination of Au/Oxidized GaAs/n-GaAs using ballistic electron emission spectroscopy. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2012, 30, .	1.2	2
200	Dielectric breakdown &#x2014; Recovery in logic and resistive switching in memory &#x2014; Bridging the gap between the two phenomena. , 2012, , .		2
201	Trap Energy Levels in Graphene Oxide Determined by Ballistic Electron Emission Spectroscopy. ECS Solid State Letters, 2012, 1, M27-M28.	1.4	2
202	The electronic barrier height of silicon native oxides at different oxidation stages. Journal of Applied Physics, 2012, 111, .	2.5	2
203	Noise-based prognostic design for real-time degradation analysis of nanodevice dielectric breakdown. , 2013, , .		2
204	Impact of local variations in high-k dielectric on breakdown and recovery characteristics of advanced gate stacks. , 2013, , .		2
205	Monte Carlo evidence for need of improved percolation model for non-weibullian degradation in high-#x03BA; dielectrics. , 2013, , .		2
206	Impact of ionic drift and vacancy defect passivation on TDDDB statistics and lifetime enhancement of metal gate high-#x03BA; stacks. , 2014, , .		2
207	Localized Random Telegraphic Noise Study in HfO<inf>2</inf>; dielectric stacks using Scanning Tunneling Microscopy &#x2014; Analysis of process and stress-induced traps. , 2015, , .		2
208	Multiphysics based 3D percolation framework model for multi-stage degradation and breakdown in high-#x03BA; Interfacial layer stacks. , 2016, , .		2
209	Origins and Signatures of Tail Bit Failures in Ultrathin MgO Based STT-MRAM. , 2020, , .		2
210	Crowdfunding Campaign As a Design-Based Pedagogical Approach for Experiential Learning of Technology Entrepreneurship. , 2018, , .		2
211	Reduction of Polysilicon Gate Depletion Effect in NMOS Devices Using Laser Thermal Processing. Electrochemical and Solid-State Letters, 2004, 7, G25.	2.2	1
212	Study of Ge Out-diffusion During Nickel (Platinum $\hat{\sim}$ 0, 5, 10 at.%) Germanosilicide Formation. Materials Research Society Symposia Proceedings, 2004, 810, 213.	0.1	1
213	Uniform Void-Free Epitaxial CoSi[sub 2] Formation on STI Bounded Narrow Si(100) Lines by Template Layer Stress Reduction. Electrochemical and Solid-State Letters, 2004, 7, H49.	2.2	1
214	Effects of Nano-scale Schottky Barrier of Conductor-like Breakdown Path on Progressive Breakdown in MOSFET. , 2006, , .		1
215	The Effect of an Yttrium Interlayer on a Ni Germanided Metal Gate Workfunction in $\$hbox{\text{SiO}}_{2}\$/$hbox{\text{HfO}}_{2}\$. IEEE Electron Device Letters, 2007, 28, 1098-1101.$	3.9	1
216	Analytic Model for the Post-Breakdown Current in HfO<inf>2</inf>/TaN/TiN Gate Stacks. , 2007, , .		1

#	ARTICLE	IF	CITATIONS
217	Vacancy engineering by optimized laser irradiation in boron-implanted, preamorphized silicon substrate. Applied Physics Letters, 2008, 92, 203107.	3.3	1
218	Study of trap generation in the Sc <sub>2</sub> O <sub>3</sub> /La <sub>2</sub> O <sub>3</sub> /SiO <sub>x</sub> gate dielectric stack by scanning tunneling microscopy. Applied Physics Letters, 2008, 93, .	3.3	1
219	Probing the electronic structure of defective oxide: an EELS approach. , 2009, , .		1
220	Impact of Gate Dielectric Breakdown Induced Microstructural Defects on Transistor Reliability. ECS Transactions, 2009, 22, 11-25.	0.5	1
221	Excimer laser-annealed dopant segregated Schottky (ELA-DSS) Si nanowire gate-all-around (GAA) pFET with near zero effective Schottky barrier height (SBH). , 2009, , .		1
222	Light-harvesting semiconductor quantum dot nanocrystals integrated on photovoltaic radial junction nanopillars. , 2010, , .		1
223	Temperature-dependent relaxation current on single and dual layer Pt metal nanocrystal-based Al <sub>2</sub> O <sub>3</sub> /SiO <sub>2</sub> gate stack. Journal of Applied Physics, 2012, 112, 104503.	2.5	1
224	Study of charge distribution and charge loss in dual-layer metal-nanocrystal-embedded high- $\kappa$ /SiO <sub>2</sub> gate stack. Applied Physics Letters, 2012, 100, 193109.	3.3	1
225	Spatial correlation of conductive filaments for multiple switching cycles in CBRAM. , 2014, , .		1
226	SRAM V<sub>th</sub>MIN</sub> yield challenge in 40nm embedded NVM process. , 2015, , .		1
227	Spatio-Temporal Defect Generation Process in Irradiated HfO <sub>2</sub> MOS Stacks: Correlated Versus Uncorrelated Mechanisms. , 2019, , .		1
228	New Physics of Breakdown in 2D Hexagonal Boron Nitride Dielectrics and Its Potential Applications. , 2019, , .		1
229	Decoupling the sequence of dielectric breakdown in single device bilayer stacks by radiation-controlled, spatially localized creation of oxide defects. Applied Physics Express, 0, , .	2.4	1
230	A transformative engineering and architecture education. , 2020, , .		1
231	Title is missing!. Journal of Materials Science Letters, 1999, 18, 743-745.	0.5	0
232	NICKEL SILICIDATION ON POLYCRYSTALLINE SILICON GERMANIUM FILMS. International Journal of Modern Physics B, 2002, 16, 4323-4326.	2.0	0
233	Impacts of Buffer Oxide Layer in Nitride/Oxide Stack Gate Dielectrics on the Device Performance and Dielectric Reliability. Electrochemical and Solid-State Letters, 2002, 5, F7.	2.2	0
234	Effect of current distribution on the reliability of multi-terminal Cu dual-damascene interconnect trees. , 0, , .		0

#	ARTICLE	IF	CITATIONS
235	Study of Ni(Pt) germanosilicides formation on fully-strained Si <sub>0.9</sub> Ge <sub>0.1</sub> and Si <sub>0.899</sub> Ge <sub>0.1</sub> C <sub>0.001</sub> by Raman Spectroscopy. Materials Research Society Symposia Proceedings, 2004, 810, 13.	0.1	0
236	Multi-Via Electromigration Test Structures for Identification and Characterization of Different Failure Mechanisms. Materials Research Society Symposia Proceedings, 2005, 863, B9.4-1.	0.1	0
237	Design and characterisation of a single-€reflection, solid-€state detector with high discrimination against backscattered electrons for cathodoluminescence microscopy. Scanning, 1996, 18, 35-44.	1.5	0
238	Enhanced Boron Activation in Strained-Si/Si <sub>1-x</sub> Ge <sub>x</sub> Substrate Using Laser Annealing. ECS Transactions, 2006, 1, 1-6.	0.5	0
239	Influence of Oxide Breakdown Percolation Resistance on MOSFETs (Invited Paper). ECS Transactions, 2007, 6, 431-447.	0.5	0
240	Atomic Scale Strain Measurement for Nanoelectronic Devices. , 2007, , .		0
241	CMOS &#x0026; Interconnect Reliability - Advanced Dielectric Reliability. , 2007, , .		0
242	An Extensive Study on the Boron Junctions Formed by Optimized Pre-Spike-€Multiple-Pulse Flash Lamp Annealing Schemes: Junction Formation, Stability and Leakage. , 2008, , .		0
243	Real-time observation of trap generation by scanning tunneling microscopy and the correlation to high-€ gate stack breakdown. Reliability Physics Symposium, 2009 IEEE International, 2009, , .	0.0	0
244	Can a MOSFET survive from multiple breakdowns?. , 2009, , .		0
245	Vacancy Generation by Laser Preirradiation for Junction Leakage Suppression. IEEE Electron Device Letters, 2009, 30, 1263-1265.	3.9	0
246	Study of the charge leakage of dual layer Pt metal nanocrystal-based high-€SiO <sub>2</sub> flash memory cell - a relaxation current point of view. , 2011, , .		0
247	Study of automatic recovery on the metal nanocrystal-based Al <sub>2</sub> O <sub>3</sub> /SiO <sub>2</sub> gate stack. Applied Physics Letters, 2011, 98, .	3.3	0
248	Effect of Nickel Silicide Induced Dopant Segregation on Vertical Silicon Nanowire Diode Performance. Materials Research Society Symposia Proceedings, 2012, 1439, 89-94.	0.1	0
249	Vertical Silicon Nanowire Diode with Nickel Silicide Induced Dopant Segregation. Japanese Journal of Applied Physics, 2012, 51, 11PE08.	1.5	0
250	Ballistic Electron Emission Microscopy Study of Charge Transport Across an Au/Graphene-Oxide/Modified-Si Stack. ECS Solid State Letters, 2012, 1, M13-M15.	1.4	0
251	Design for reliability through engineering optimization. , 2013, , .		0
252	Multiphonon ionization of traps formed in hafnium oxide by electrical stress. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 361-366.	1.8	0

#	ARTICLE	IF	CITATIONS
253	Assessment of read disturb immunity in conducting bridge memory devices – A thermodynamic perspective. Microelectronics Reliability, 2014, 54, 2295-2299.	1.7	0
254	Robust Electromigration reliability through engineering optimization. Microelectronics Reliability, 2014, 54, 1666-1670.	1.7	0
255	Probabilistic insight to possibility of new metal filament nucleation during repeated cycling of conducting bridge memory. Microelectronics Reliability, 2015, 55, 1412-1416.	1.7	0
256	Understanding defect kinetics in ultra-thin dielectric logic and memory devices using random telegraph noise analysis. , 2015, , .		0
257	Observation of resistive switching by physical analysis techniques. , 2016, , .		0
258	Nanoscale investigations of soft breakdown events in few layered fluorinated graphene. , 2017, , .		0
259	Guest Editorial for IRSP 2018 Conference. IEEE Transactions on Device and Materials Reliability, 2018, 18, 487-489.	2.0	0
260	Reliability and Breakdown Study of Erase Gate Oxide in Split-Gate Non-Volatile Memory Device. , 2020, , .		0
261	THE CHEMISTRY OF NANOSIZE DEFECTIVE BREAKDOWN PATH IN ULTRATHIN SiON AND HIGH-K GATE DIELECTRIC MATERIALS. , 2009, , .		0
262	Laser fabrication of nanobump arrays on Si substrate via optical near-field enhancement. , 2010, , .		0
263	Study of Trap Generation in the Sc2O3/La2O3/SiOx Gate Dielectric Stack by Scanning Tunneling Microscopy. Journal of the Vacuum Society of Japan, 2011, 54, 427-436.	0.3	0
264	THERMAL FORMATION OF SWITCHING RESISTIVITY NANOWIRES IN HAFNIUM DIOXIDE. , 2011, , .		0
265	Percolation Framework and Monte Carlo Techniques for Improved Probabilistic Design of Variability in Products and Systems. Smart Innovation, Systems and Technologies, 2017, , 433-445.	0.6	0