

# Kin Leong Pey

## List of Publications by Year in descending order

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265  
papers

4,833  
citations

136885

32  
h-index

133188

59  
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266  
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266  
docs citations

266  
times ranked

4546  
citing authors

#	ARTICLE	IF	CITATIONS
1	Silicon-Controlled Rectifier Embedded Diode for 7 nm FinFET Process Electrostatic Discharge Protection. <i>Nanomaterials</i> , 2022, 12, 1743.	1.9	4
2	Analysis and Simulation of Interface Quality and Defect Induced Variability in MgO Spin-Transfer Torque Magnetic RAMs. <i>IEEE Electron Device Letters</i> , 2021, 42, 34-37.	2.2	4
3	Dielectric Breakdown in Single-Crystal Hexagonal Boron Nitride. <i>ACS Applied Electronic Materials</i> , 2021, 3, 3547-3554.	2.0	28
4	Standards for the Characterization of Endurance in Resistive Switching Devices. <i>ACS Nano</i> , 2021, 15, 17214-17231.	7.3	128
5	Localized Probing of Dielectric Breakdown in Multilayer Hexagonal Boron Nitride. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 55000-55010.	4.0	11
6	Reliability and Breakdown Study of Erase Gate Oxide in Split-Gate Non-Volatile Memory Device. , 2020, , .		0
7	Origins and Signatures of Tail Bit Failures in Ultrathin MgO Based STT-MRAM. , 2020, , .		2
8	Random Telegraph Noise Nano-spectroscopy in High- $\hat{\epsilon}$ Dielectrics Using Scanning Probe Microscopy Techniques. , 2020, , 417-440.		3
9	A transformative engineering and architecture education. , 2020, , .		1
10	The interplay between drift and electrical measurement in conduction atomic force microscopy. <i>Review of Scientific Instruments</i> , 2019, 90, 073701.	0.6	8
11	Boron Vacancies Causing Breakdown in 2D Layered Hexagonal Boron Nitride Dielectrics. <i>IEEE Electron Device Letters</i> , 2019, 40, 1321-1324.	2.2	16
12	New Insights into Dielectric Breakdown of MgO in STT-MRAM Devices. , 2019, , .		5
13	Spatio-Temporal Defect Generation Process in Irradiated HfO <sub>2</sub> MOS Stacks: Correlated Versus Uncorrelated Mechanisms. , 2019, , .		1
14	New Physics of Breakdown in 2D Hexagonal Boron Nitride Dielectrics and Its Potential Applications. , 2019, , .		1
15	Recommended Methods to Study Resistive Switching Devices. <i>Advanced Electronic Materials</i> , 2019, 5, 1800143.	2.6	452
16	Micro-tags for art: covert visible and infrared images using gap plasmons in native aluminum oxide. <i>Optical Materials Express</i> , 2019, 9, 788.	1.6	17
17	Conductive Atomic Force Microscope Study of Bipolar and Threshold Resistive Switching in 2D Hexagonal Boron Nitride Films. <i>Scientific Reports</i> , 2018, 8, 2854.	1.6	55
18	Impact of Carbon Doping on Polysilicon Grain Size Distribution and Yield Enhancement for 40-nm Embedded Nonvolatile Memory Technology. <i>IEEE Transactions on Device and Materials Reliability</i> , 2018, 18, 64-69.	1.5	4

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19	Random telegraph noise in 2D hexagonal boron nitride dielectric films. Applied Physics Letters, 2018, 112, .	1.5	23
20	Stochastic Modeling of FinFET Degradation Based on a Resistor Network Embedded Metropolis Monte Carlo Method. IEEE Transactions on Electron Devices, 2018, 65, 440-447.	1.6	6
21	Guest Editorial for IRSP 2018 Conference. IEEE Transactions on Device and Materials Reliability, 2018, 18, 487-489.	1.5	0
22	Area and pulsewidth dependence of bipolar TDDB in MgO magnetic tunnel junction. , 2018, , .		7
23	Crowdfunding Campaign As a Design-Based Pedagogical Approach for Experiential Learning of Technology Entrepreneurship. , 2018, , .		2
24	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.	1.9	9
25	Nanoscale investigations of soft breakdown events in few layered fluorinated graphene. , 2017, , .		0
26	Preliminary study of integrated physics and mathematics bridging course. , 2017, , .		3
27	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.	1.1	11
28	Coexistence of volatile and non-volatile resistive switching in 2D h-BN based electronic synapses. , 2017, , .		17
29	Percolation Framework and Monte Carlo Techniques for Improved Probabilistic Design of Variability in Products and Systems. Smart Innovation, Systems and Technologies, 2017, , 433-445.	0.5	0
30	Performance of ultra-thin HfO <sub>2</sub> -based MIM devices after oxygen modulation and post-metalization annealing in N <sub>2</sub> . Physica Status Solidi (A) Applications and Materials Science, 2016, 213, 1807-1813.	0.8	3
31	Single vacancy defect spectroscopy on HfO <sub>2</sub> using random telegraph noise signals from scanning tunneling microscopy. Journal of Applied Physics, 2016, 119, .	1.1	20
32	Multiphysics based 3D percolation framework model for multi-stage degradation and breakdown in high- $\epsilon_r$ Interfacial layer stacks. , 2016, , .		2
33	Observation of resistive switching by physical analysis techniques. , 2016, , .		0
34	New understanding of dielectric breakdown in advanced FinFET devices – physical, electrical, statistical and multiphysics study. , 2016, , .		8
35	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
36	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

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37	Compliance current dominates evolution of NiSi <sub>2</sub> defect size in Ni/dielectric/Si RRAM devices. <i>Microelectronics Reliability</i> , 2016, 61, 71-77.	0.9	13
38	Designettes: An Approach to Multidisciplinary Engineering Design Education. <i>Journal of Mechanical Design, Transactions of the ASME</i> , 2016, 138, .	1.7	50
39	Probabilistic insight to possibility of new metal filament nucleation during repeated cycling of conducting bridge memory. <i>Microelectronics Reliability</i> , 2015, 55, 1412-1416.	0.9	0
40	Evolution of Filament Formation in Ni/HfO <sub>2</sub> /SiO <sub>x</sub> /Si-Based RRAM Devices. <i>Advanced Electronic Materials</i> , 2015, 1, 1500130.	2.6	37
41	Understanding defect kinetics in ultra-thin dielectric logic and memory devices using random telegraph noise analysis. , 2015, , .		0
42	Localized Random Telegraphic Noise Study in HfO <sub>2</sub> /dielectric stacks using Scanning Tunneling Microscopy &#x2014; Analysis of process and stress-induced traps. , 2015, , .		2
43	SRAM V <sub>MIN</sub> yield challenge in 40nm embedded NVM process. , 2015, , .		1
44	Statistics of retention failure in the low resistance state for hafnium oxide RRAM using a Kinetic Monte Carlo approach. <i>Microelectronics Reliability</i> , 2015, 55, 1422-1426.	0.9	14
45	Monte Carlo model of reset stochasticity and failure rate estimation of read disturb mechanism in HfO <sub>2</sub> /RRAM. , 2015, , .		3
46	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. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2014, 32, 03D125.	0.6	4
47	Spatial correlation of conductive filaments for multiple switching cycles in CBRAM. , 2014, , .		1
48	High- $\hat{\rho}$ dielectric breakdown in nanoscale logic devices â€“ Scientific insight and technology impact. <i>Microelectronics Reliability</i> , 2014, 54, 847-860.	0.9	38
49	Analysis of Correlated Gate and Drain Random Telegraph Noise in Post-Soft Breakdown TiN/HfLaO <sub>m</sub> SiO <sub>x</sub> nMOSFETs. <i>IEEE Electron Device Letters</i> , 2014, 35, 157-159.	2.2	17
50	Prognostic methodology for remaining useful life estimation of retention loss in nanoscale resistive switching memory. <i>Microelectronics Reliability</i> , 2014, 54, 1729-1734.	0.9	3
51	Assessment of read disturb immunity in conducting bridge memory devices â€“ A thermodynamic perspective. <i>Microelectronics Reliability</i> , 2014, 54, 2295-2299.	0.9	0
52	Variability model for forming process in oxygen vacancy modulated high- $\hat{\rho}$ based resistive switching memory devices. <i>Microelectronics Reliability</i> , 2014, 54, 2266-2271.	0.9	4
53	Robust Electromigration reliability through engineering optimization. <i>Microelectronics Reliability</i> , 2014, 54, 1666-1670.	0.9	0
54	Impact of ionic drift and vacancy defect passivation on TDDB statistics and lifetime enhancement of metal gate high- $\hat{\rho}$ stacks. , 2014, , .		2

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55	Stochastic failure model for endurance degradation in vacancy modulated HfO <sub>2</sub> /SiO <sub>2</sub> RRAM using the percolation cell framework. , 2014, , .		7
56	Stable cyclic performance of nickel oxide-carbon composite anode for lithium-ion batteries. Thin Solid Films, 2014, 558, 356-364.	0.8	17
57	Germanium coated vertically-aligned multiwall carbon nanotubes as lithium-ion battery anodes. Carbon, 2014, 77, 551-559.	5.4	33
58	Carbon nanotube membranes with ultrahigh specific adsorption capacity for water desalination and purification. Nature Communications, 2013, 4, 2220.	5.8	328
59	Noise-based prognostic design for real-time degradation analysis of nanodevice dielectric breakdown. , 2013, , .		2
60	Study of preferential localized degradation and breakdown of HfO <sub>2</sub> /SiO <sub>2</sub> dielectric stacks at grain boundary sites of polycrystalline HfO <sub>2</sub> dielectrics. Microelectronic Engineering, 2013, 109, 364-369.	1.1	45
61	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.	2.2	28
62	Design for reliability through engineering optimization. , 2013, , .		0
63	Impact of local variations in high-k dielectric on breakdown and recovery characteristics of advanced gate stacks. , 2013, , .		2
64	Feasibility of SILC Recovery in Sub-10-Å... EOT Advanced Metal Gate-High- $\kappa$ Stacks. IEEE Electron Device Letters, 2013, 34, 1053-1055.	2.2	8
65	The buffering role of high- $\kappa$ in post breakdown degradation immunity of advanced dual layer dielectric gate stacks. , 2013, , .		6
66	Intrinsic nanofilamentation in resistive switching. Journal of Applied Physics, 2013, 113, 114503.	1.1	69
67	Monte Carlo evidence for need of improved percolation model for non-weibullian degradation in high- $\kappa$ dielectrics. , 2013, , .		2
68	Charge transport in lightly reduced graphene oxide: A transport energy perspective. Journal of Applied Physics, 2013, 113, .	1.1	19
69	Multiphonon ionization of traps formed in hafnium oxide by electrical stress. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 361-366.	0.8	0
70	Nano photoconductive switches for microwave applications. Proceedings of SPIE, 2013, , .	0.8	4
71	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.	1.1	8
72	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

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73	Trap Levels in Graphene Oxide: A Thermally Stimulated Current Study. ECS Solid State Letters, 2012, 2, M17-M19.	1.4	9
74	Vertical Silicon Nanowire Diode with Nickel Silicide Induced Dopant Segregation. Japanese Journal of Applied Physics, 2012, 51, 11PE08.	0.8	0
75	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, .	0.6	2
76	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.	0.9	3
77	Dielectric breakdown &#x2014; Recovery in logic and resistive switching in memory &#x2014; Bridging the gap between the two phenomena. , 2012, , .		2
78	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
79	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.	1.1	1
80	Subthreshold characteristics of ballistic electron emission spectra. Journal of Applied Physics, 2012, 111, .	1.1	7
81	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
82	Trap Energy Levels in Graphene Oxide Determined by Ballistic Electron Emission Spectroscopy. ECS Solid State Letters, 2012, 1, M27-M28.	1.4	2
83	The electronic barrier height of silicon native oxides at different oxidation stages. Journal of Applied Physics, 2012, 111, .	1.1	2
84	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.	1.1	3
85	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.	1.5	1
86	Experimental characterization and modeling of the mechanical properties of Cu-Cu thermocompression bonds for three-dimensional integrated circuits. Acta Materialia, 2012, 60, 578-587.	3.8	24
87	Percolative Model and Thermodynamic Analysis of Oxygen-Ion-Mediated Resistive Switching. IEEE Electron Device Letters, 2012, 33, 712-714.	2.2	19
88	Understanding Asymmetric Transportation Behavior in Graphene Field-Effect Transistors Using Scanning Kelvin Probe Microscopy. IEEE Electron Device Letters, 2011, 32, 128-130.	2.2	15
89	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.	2.2	4
90	A High-Yield $\text{HfO}_2$ -Based Unipolar Resistive RAM Employing Ni Electrode Compatible With Si-Diode Selector for Crossbar Integration. IEEE Electron Device Letters, 2011, 32, 396-398.	2.2	52

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91	Modified Percolation Model for Polycrystalline High- $\kappa$ Gate Stack With Grain Boundary Defects. IEEE Electron Device Letters, 2011, 32, 78-80.	2.2	30
92	Study of the charge leakage of dual layer Pt metal nanocrystal-based high- $\kappa$ /SiO <sub>2</sub> flash memory cell - a relaxation current point of view. , 2011, , .		0
93	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, .	0.6	3
94	Very Low Reset Current for an RRAM Device Achieved in the Oxygen-Vacancy-Controlled Regime. IEEE Electron Device Letters, 2011, 32, 716-718.	2.2	27
95	Filamentation Mechanism of Resistive Switching in Fully Silicided High- $\kappa$ Gate Stacks. IEEE Electron Device Letters, 2011, 32, 455-457.	2.2	13
96	Oxygen-Soluble Gate Electrodes for Prolonged High- $\kappa$ Gate-Stack Reliability. IEEE Electron Device Letters, 2011, 32, 252-254.	2.2	20
97	Influence of Bosch Etch Process on Electrical Isolation of TSV Structures. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2011, 1, 1497-1507.	1.4	70
98	Stress migration risk on electromigration reliability in advanced narrow line copper interconnects. Journal of Applied Physics, 2011, 110, 083702.	1.1	6
99	The effect of stress migration on electromigration in dual damascene copper interconnects. Journal of Applied Physics, 2011, 109, .	1.1	19
100	Physical analysis of breakdown in high- $\kappa$ /metal gate stacks using TEM/EELS and STM for reliability enhancement (invited). Microelectronic Engineering, 2011, 88, 1365-1372.	1.1	19
101	Evidence for compliance controlled oxygen vacancy and metal filament based resistive switching mechanisms in RRAM. Microelectronic Engineering, 2011, 88, 1124-1128.	1.1	44
102	Using post-breakdown conduction study in a MIS structure to better understand the resistive switching mechanism in an MIM stack. Nanotechnology, 2011, 22, 455702.	1.3	12
103	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.	1.5	7
104	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, .	1.5	0
105	Uncorrelated multiple conductive filament nucleation and rupture in ultra-thin high- $\kappa$ dielectric based resistive random access memory. Applied Physics Letters, 2011, 99, 093502.	1.5	24
106	Threshold shift observed in resistive switching in metal-oxide-semiconductor transistors and the effect of forming gas anneal. Applied Physics Letters, 2011, 99, 232909.	1.5	4
107	Nanoscale electrical and physical study of polycrystalline high- $\kappa$ dielectrics and proposed reliability enhancement techniques. , 2011, , .		4
108	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.	1.5	2

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109	Random telegraph noise reduction in metal gate high- $\kappa$ stacks by bipolar switching and the performance boosting technique. , 2011, , .		3
110	Chemical insight into origin of forming-free resistive random-access memory devices. Applied Physics Letters, 2011, 99, 133504.	1.5	14
111	Grain boundary assisted degradation and breakdown study in cerium oxide gate dielectric using scanning tunneling microscopy. Applied Physics Letters, 2011, 98, 072902.	1.5	30
112	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. Journal of the Vacuum Society of Japan, 2011, 54, 427-436.	0.3	0
113	THERMAL FORMATION OF SWITCHING RESISTIVITY NANOWIRES IN HAFNIUM DIOXIDE. , 2011, , .		0
114	Fabrication of silicon nanobump arrays by near-field enhanced laser irradiation. Applied Physics Letters, 2010, 96, .	1.5	17
115	Subcircuit Compact Model for Dopant-Segregated Schottky Gate-All-Around Si-Nanowire MOSFETs. IEEE Transactions on Electron Devices, 2010, 57, 772-781.	1.6	25
116	Tri-Level Resistive Switching in Metal-Nanocrystal-Based $\text{Al}_2\text{O}_3/\text{SiO}_2$ Gate Stack. IEEE Transactions on Electron Devices, 2010, 57, 3001-3005.	1.6	7
117	Direct visualization and in-depth physical study of metal filament formation in percolated high- $\kappa$ dielectrics. Applied Physics Letters, 2010, 96, .	1.5	31
118	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
119	Understanding the contact characteristics in single or multi-layer graphene devices: The impact of defects (carbon vacancies) and the asymmetric transportation behavior. , 2010, , .		5
120	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
121	Role of oxygen vacancies in HfO <sub>2</sub> -based gate stack breakdown. Applied Physics Letters, 2010, 96, .	1.5	41
122	Thermal stability of TiN metal gate prepared by atomic layer deposition or physical vapor deposition on HfO <sub>2</sub> high-K dielectric. Applied Physics Letters, 2010, 96, .	1.5	40
123	Unipolar recovery of dielectric breakdown in fully silicided high- $\kappa$ gate stack devices and its reliability implications. Applied Physics Letters, 2010, 96, 142901.	1.5	12
124	Electrode material dependent breakdown and recovery in advanced high- $\kappa$ gate stacks. Applied Physics Letters, 2010, 96, .	1.5	25
125	Resistive switching in NiSi gate metal-oxide-semiconductor transistors. Applied Physics Letters, 2010, 97, 202904.	1.5	27
126	The distribution of chemical elements in Al- or La-capped high- $\kappa$ metal gate stacks. Applied Physics Letters, 2010, 97, 103504.	1.5	25



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127	Photovoltaic nanopillar radial junction diode architecture enhanced by integrating semiconductor quantum dot nanocrystals as light harvesters. Applied Physics Letters, 2010, 97, 093111.	1.5	20
128	Electrical and Physical Properties of Er-Doped HfO <sub>2</sub> High-k Dielectrics Prepared by Atomic Layer Deposition. Electrochemical and Solid-State Letters, 2010, 13, G21.	2.2	7
129	Vertically arrayed Si nanowire/nanorod-based core-shell p-n junction solar cells. Journal of Applied Physics, 2010, 108, .	1.1	71
130	Femtosecond laser induced surface nanostructuring and simultaneous crystallization of amorphous thin silicon film. Optics Express, 2010, 18, 19379.	1.7	45
131	Investigation of ALD or PVD (Ti-rich vs. N-rich) TiN metal gate thermal stability on HfO <sub>2</sub> /high-K. , 2010, , .		6
132	A Physical Model for Post-Breakdown Digital Gate Current Noise. IEEE Electron Device Letters, 2010, 31, 1032-1034.	2.2	10
133	An overview of physical analysis of nanosize conductive path in ultrathin SiON and high- $\kappa$ gate dielectrics in nanoelectronic devices. , 2010, , .		2
134	Mechanism of high-k dielectric-induced breakdown of the interfacial SiO <sub>2</sub> layer. , 2010, , .		11
135	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.	2.2	5
136	Light-harvesting semiconductor quantum dot nanocrystals integrated on photovoltaic radial junction nanopillars. , 2010, , .		1
137	Charging and discharging characteristics of metal nanocrystals in degraded dielectric stacks. , 2010, , .		4
138	Laser fabrication of nanobump arrays on Si substrate via optical near-field enhancement. , 2010, , .		0
139	Catalyst proximity effects on the growth rate of Si nanowires. Journal of Applied Physics, 2009, 106, 044311.	1.1	12
140	Detection of high- $\kappa$ and interfacial layer breakdown using the tunneling mechanism in a dual layer dielectric stack. Applied Physics Letters, 2009, 95, 222903.	1.5	17
141	Electromigration-induced bond improvement for three-dimensional integrated circuits. Applied Physics Letters, 2009, 94, 081901.	1.5	5
142	Experimental characterization and modeling of the contact resistance of Cu-Cu bonded interconnects. Journal of Applied Physics, 2009, 105, 033514.	1.1	14
143	The physical origin of random telegraph noise after dielectric breakdown. Applied Physics Letters, 2009, 94, .	1.5	25
144	Effects of boron and arsenic doping in $\hat{\Gamma}^2$ -FeSi <sub>2</sub> . Journal of Applied Physics, 2009, 106, 023712.	1.1	12

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145	Probing the electronic structure of defective oxide: an EELS approach. , 2009, , .		1
146	A low-cost method of forming epitaxy SiGe on Si substrate by laser annealing. Applied Physics Letters, 2009, 94, 082104.	1.5	9
147	Real-time observation of trap generation by scanning tunneling microscopy and the correlation to high- $\gamma$ gate stack breakdown. Reliability Physics Symposium, 2009 IEEE International, 2009, , .	0.0	0
148	Can a MOSFET survive from multiple breakdowns?. , 2009, , .		0
149	Dopant-Segregated Schottky Silicon-Nanowire MOSFETs With Gate-All-Around Channels. IEEE Electron Device Letters, 2009, 30, 843-845.	2.2	18
150	Impact of Gate Dielectric Breakdown Induced Microstructural Defects on Transistor Reliability. ECS Transactions, 2009, 22, 11-25.	0.3	1
151	Schottky-Ohmic transition in metal-all-around electrical contacts to silicon nanowires. Journal of Applied Physics, 2009, 105, .	1.1	9
152	Arrayed Si <sup>δ</sup> -SiGe Nanowire and Heterostructure Formations via Au-Assisted Wet Chemical Etching Method. Electrochemical and Solid-State Letters, 2009, 12, K37.	2.2	13
153	A Compact Model for Undoped Silicon-Nanowire MOSFETs With Schottky-Barrier Source/Drain. IEEE Transactions on Electron Devices, 2009, 56, 1100-1109.	1.6	40
154	Critical gate voltage and digital breakdown: Extending post-breakdown reliability margin in ultrathin gate dielectric with thickness $\approx$ 1.6 nm. , 2009, , .		5
155	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.	1.3	6
156	Observation of switching behaviors in post-breakdown conduction in NiSi-gated stacks. , 2009, , .		13
157	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
158	Vacancy Generation by Laser Preirradiation for Junction Leakage Suppression. IEEE Electron Device Letters, 2009, 30, 1263-1265.	2.2	0
159	THE CHEMISTRY OF NANOSIZE DEFECTIVE BREAKDOWN PATH IN ULTRATHIN SiON AND HIGH-K GATE DIELECTRIC MATERIALS. , 2009, , .		0
160	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, .	1.5	14
161	Demonstration of Schottky Barrier NMOS Transistors With Erbium Silicided Source/Drain and Silicon Nanowire Channel. IEEE Electron Device Letters, 2008, 29, 1167-1170.	2.2	22
162	Vacancy engineering by optimized laser irradiation in boron-implanted, preamorphized silicon substrate. Applied Physics Letters, 2008, 92, 203107.	1.5	1

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163	A study of thermo-mechanical stress and its impact on through-silicon vias. Journal of Micromechanics and Microengineering, 2008, 18, 075018.	1.5	144
164	Nickel-Silicided Schottky Junction CMOS Transistors With Gate-All-Around Nanowire Channels. IEEE Electron Device Letters, 2008, 29, 902-905.	2.2	19
165	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.	2.2	12
166	The nature of dielectric breakdown. Applied Physics Letters, 2008, 93, .	1.5	75
167	The chemistry of gate dielectric breakdown. , 2008, , .		22
168	Laser-Induced Melt-Mediated Ni(Pt) Germanosilicide Formation on Condensed $\text{Si}_{1-x}\text{Ge}_x/\text{Si}$ Substrates. Electrochemical and Solid-State Letters, 2008, 11, H262.	2.2	2
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