

# Shinji Yokogawa

## List of Publications by Year in descending order

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66  
papers

533  
citations

840776

11  
h-index

794594

19  
g-index

72  
all docs

72  
docs citations

72  
times ranked

197  
citing authors

#	ARTICLE	IF	CITATIONS
1	Electromigration Performance of Multi-level Damascene Copper Interconnects. Microelectronics Reliability, 2001, 41, 1409-1416.	1.7	47
2	Direct observation of RTN-induced SRAM failure by accelerated testing and its application to product reliability assessment. , 2010, , .		46
3	Electromigration lifetimes and void growth at low cumulative failure probability. Microelectronics Reliability, 2006, 46, 1415-1420.	1.7	41
4	Effects of Al doping on the electromigration performance of damascene Cu interconnects. Journal of Applied Physics, 2007, 101, 013513.	2.5	37
5	Analysis of Al Doping Effects on Resistivity and Electromigration of Copper Interconnects. IEEE Transactions on Device and Materials Reliability, 2008, 8, 216-221.	2.0	35
6	Scaling Impacts on Electromigration in Narrow Single-Damascene Cu Interconnects. Japanese Journal of Applied Physics, 2005, 44, 1717-1721.	1.5	34
7	Electromigration-Induced Void Growth Kinetics in SiNx-Passivated Single-Damascene Cu Lines. Japanese Journal of Applied Physics, 2004, 43, 5990-5996.	1.5	27
8	Tradeoff Characteristics Between Resistivity and Reliability for Scaled-Down Cu-Based Interconnects. IEEE Transactions on Electron Devices, 2008, 55, 350-357.	3.0	24
9	Statistics of breakdown field and time-dependent dielectric breakdown in contact-to-poly modules. , 2011, , .		21
10	Stress relaxation in dual-damascene Cu interconnects to suppress stress-induced voiding. , 0, , .		13
11	A Robust Embedded Ladder-Oxide/Cu Multilevel Interconnect Technology for 0.13 $\mu\text{m}$ Complementary Metal Oxide Semiconductor Generation. Japanese Journal of Applied Physics, 2007, 46, 954-961.	1.5	13
12	Statistical Analysis of Lifetime Distribution of Time-Dependent Dielectric Breakdown in Cu/Low-k Interconnects by Incorporation of Overlay Error Model. Japanese Journal of Applied Physics, 2010, 49, 05FE01.	1.5	13
13	Liner- and barrier-free NiAl metallization: A perspective from TDDB reliability and interface status. Applied Surface Science, 2019, 497, 143810.	6.1	13
14	Lifetime Distribution Analysis of Stress-Induced Voiding Based on Void Nucleation and Growth in Cu/Low- $\kappa$ Interconnects. IEEE Transactions on Device and Materials Reliability, 2013, 13, 272-276.	2.0	11
15	Statistical characteristics of lifetime distribution based on defect clustering for time-dependent dielectric breakdown in middle- and back-end-of-line. Japanese Journal of Applied Physics, 2015, 54, 05EC02.	1.5	11
16	Prediction of early failure due to non-visual defect on time-dependent dielectric breakdown of low-k dielectrics: Experimental verification of a yield-reliability model. , 2008, , .		9
17	Simulation study for lifetime distribution of middle-of-line time-dependent dielectric breakdown affected by global and local spacing variations. Japanese Journal of Applied Physics, 2016, 55, 06JF02.	1.5	9
18	Role of Impurity Segregation into Cu/Cap Interface and Grain Boundary in Resistivity and Electromigration of Cu/Low-k Interconnects. Japanese Journal of Applied Physics, 2011, 50, 05EA02.	1.5	8

#	ARTICLE	IF	CITATIONS
19	Moisture absorption impact on Cu alloy/low-k reliability during process queue time. Microelectronic Engineering, 2013, 106, 205-209.	2.4	8
20	Joule heating effects on electromigration in Cu/low- $\kappa$ interconnects. , 2009, , .		7
21	Comparison of Lifetime Improvements in Electromigration between Ti Barrier Metal and Chemical Vapor Deposition Co Capping. Japanese Journal of Applied Physics, 2010, 49, 04DB08.	1.5	7
22	A robust embedded ladder-oxide/Cu multilevel interconnect technology for 0.13 $\mu$ m CMOS generation. , 0, , .		5
23	Electromigration induced incubation, drift and threshold in single-damascene copper interconnects. , 0, , .		5
24	Effective thermal characteristics to suppress joule heating impacts on electromigration in Cu/low-k interconnects. , 2010, , .		5
25	An Approach to Renewable-Energy Dominant Grids via Distributed Electrical Energy Platform for IoT Systems. , 2019, , .		5
26	Effects of Al Doping on Electromigration Performance of Narrow Single Damascene Cu Interconnects. , 2006, , .		4
27	Two-step probability plot for parameter estimation of lifetime distribution affected by defect clustering in time-dependent dielectric breakdown. Japanese Journal of Applied Physics, 2017, 56, 07KG02.	1.5	4
28	Lifetime prediction model of Cu-based metallization against moisture under temperature and humidity accelerations. Japanese Journal of Applied Physics, 2019, 58, SBBC01.	1.5	4
29	Role of Impurity Segregation into Cu/Cap Interface and Grain Boundary in Resistivity and Electromigration of Cu/Low- $\kappa$ Interconnects. Japanese Journal of Applied Physics, 2011, 50, 05EA02.	1.5	4
30	Full-0.56 $\mu$ m pitch copper interconnects for a high performance 0.15- $\mu$ m CMOS logic device. , 0, , .		3
31	Thermal Transient Response and Its Modeling for Joule Heating in Cu/Low- $\kappa$ Interconnects Under Pulsed Current. Japanese Journal of Applied Physics, 2012, 51, 05EC06.	1.5	3
32	Highly reliable enhanced nitride interface process of barrier low-k using ultra-thin SiN with moisture blocking capability. Microelectronic Engineering, 2013, 112, 97-102.	2.4	3
33	Lifetime prediction model of stress-induced voiding in Cu/low- $\kappa$ interconnects. Japanese Journal of Applied Physics, 2014, 53, 05GA03.	1.5	3
34	Highly reliable molecular-pore-stacking (MPS)/Cu interconnects featuring best combination of post-etching treatment and resputtering processes. Microelectronic Engineering, 2014, 118, 72-78.	2.4	3
35	Impacts of censoring on lifetime analysis by two-step probability plot in defect clustered TDDB. , 2017, , .		3
36	Impurity Doping Effects on Electromigration Performance of Scaled-down Cu Interconnects. AIP Conference Proceedings, 2007, , .	0.4	2

#	ARTICLE	IF	CITATIONS
37	Failure analysis of fine Cu patterning by shave-off profiling. Surface and Interface Analysis, 2011, 43, 621-624.	1.8	2
38	Virtual grid for renewable energy society. , 2015, , .		2
39	Survey of critical failure events in on-chip interconnect by fault tree analysis. Japanese Journal of Applied Physics, 2018, 57, 07MG01.	1.5	2
40	Statistical evaluation method for lifetime distribution in field-accelerated time-dependent dielectric breakdown using two-step probability plot and multilink test scheme. Japanese Journal of Applied Physics, 2018, 57, 07MG02.	1.5	2
41	Reliability evaluation of defect accounted time-dependent dielectric breakdown with competing-mixture distribution. , 2018, , .		2
42	Bayesian inference of a lifetime distribution parameter on the time-dependent dielectric breakdown with clustering defects. Japanese Journal of Applied Physics, 2019, 58, SHHG02.	1.5	2
43	A Simple Prediction Method for Chip-Level Electromigration Lifetime Using Generalized Gamma Distribution. , 2019, , .		2
44	Applications of lifetime distribution functions with two shape parameters for reliability analysis in advanced interconnect technologies: a brief review. Japanese Journal of Applied Physics, 2020, 59, SL0802.	1.5	2
45	Humidity reliability of commercial flash memories for long-term storage. Japanese Journal of Applied Physics, 2020, 59, SLLC01.	1.5	2
46	Analysis of the Trends Between Indoor Carbon Dioxide Concentration and Plug-Level Electricity Usage Through Topological Data Analysis. IEEE Sensors Journal, 2022, 22, 1424-1434.	4.7	2
47	Suppression of Electromigration Early Failure of Cu/Porous Low-k Interconnects Using Dummy Metal. Japanese Journal of Applied Physics, 2009, 48, 096504.	1.5	1
48	Optimization of metallization processes for 32-nm-node highly reliable ultralow-k ( $k=2.4$ )/Cu multilevel interconnects incorporating a bilayer low-k barrier cap ( $k=3.9$ ). , 2009, , .		1
49	Impact of low-k moisture absorption during queue-time on Cu-alloy/low-k reliability and its suppression. , 2011, , .		1
50	Lifetime prediction for stress-induced voiding in nose-shape lines by using a stress-diffusion analytical model. , 2014, , .		1
51	Oxidation Structure Change of Copper Surface Depending on Accelerated Humidity. , 2018, , .		1
52	Seven View Points and Reliability Engineering Scheme for Preventing Reliability Problems. International Journal of Reliability, Quality and Safety Engineering, 2020, 27, 2050006.	0.6	1
53	Trends between indoor CO2 concentration and electricity usage through topological data analysis. , 2021, , .		1
54	Compact model for estimating area-level photovoltaic power generation on facade surface using 3D city model and solar radiation simulation. , 2021, , .		1

#	ARTICLE	IF	CITATIONS
55	Controlling Power Supply Paths in VG Hub Networks Using a Hybrid Type Control Algorithm. Ambient Intelligence and Smart Environments, 2022, , .	0.3	1
56	Distributed Power-Delivery Decision for a USB-PD-based Network. , 2022, , .		1
57	Analytical Study of Impurity Doping Effects on Electromigration of CU Interconnects by Employing Comprehensive Scattering Model. , 2007, , .		0
58	V&lt;inf&gt;th&lt;/inf&gt; fluctuations due to random telegraph signal on work function control in Hf-doped silicate gate stack. Reliability Physics Symposium, 2009 IEEE International, 2009, , .	0.0	0
59	Novel scalable TDDB model for large-area MIM decoupling capacitors in high performance LSIs. , 2009, , .		0
60	Highly reliable Enhanced Nitride Interface (ENI) process of barrier Low-k using absorption-free Ultra-Thin SiN (UT-SiN). , 2011, , .		0
61	Highly reliable molecular-pore-stacking (MPS)/Cu interconnects using novel post-etching treatment (PET) for 28 nm-node and beyond. , 2011, , .		0
62	Reliability and Interface in Cu Interconnects: Contribution and Control of Interface for EM, SIV, and TDDB. Hyomen Kagaku, 2014, 35, 256-261.	0.0	0
63	Advanced Metallization for ULSI Applications. Japanese Journal of Applied Physics, 2017, 56, 07K001.	1.5	0
64	Thermal Transient Response and Its Modeling for Joule Heating in Cu/Low- $\hat{\eta}$ Interconnects Under Pulsed Current. Japanese Journal of Applied Physics, 2012, 51, 05EC06.	1.5	0
65	On the Overlapping Decentralized Operation for Wind-Photovoltaic-Battery Hybrid System. IEEJ Transactions on Electronics, Information and Systems, 2018, 138, 1554-1565.	0.2	0
66	Overlapped Grouping Optimization for Wind-Photovoltaic-Battery Hybrid System by Graph Enumeration. IEEJ Transactions on Electronics, Information and Systems, 2019, 139, 786-795.	0.2	0