

Prof. Ohmi's Paper

January–December, 2012

- E1539(F) Xun Gu, Takenao Nemoto, Yugo Tomita, Akinobu Teramoto, Rihito Kuroda, Shigetoshi Sugawa and Tadahiro Ohmi, “Advanced Direct-Polishing Process Development of Non-Porous Ultralow-k Dielectric Fluorocarbon with Plasma Treatment on Cu Interconnect,” Journal of The Electrochemical Society, Volume 159, Issue 4, pp. H407-H411, January 2012.
- E1540(F) Qiu Chen, Koji Kotani, Feifei Lee, and Tadahiro Ohmi, “Face Recognition Using VQ Histogram in Compressed DCT Domain,” Journal of Convergence Information Technology (JCIT), Volume 7, Number1, pp.395-404, January 2012.
- E1541(F) Kazumasa Kawase, Akinobu Teramoto, Hiroshi Umeda, Tomoyuki Suwa, Yasushi Uehara, Takeo Hattori, and Tadahiro Ohmi, “Densification of chemical vapor deposition silicon dioxide film using oxygen radical oxidation,” Journal of Applied Physics, Volume 111, Issue 3, pp. 034101, February 2012.
- E1542 (F) Rihito Kuroda, Akinobu Teramoto, Xiang Li, Tomoyuki Suwa, Shigetoshi Sugawa, and Tadahiro Ohmi, “On the Interface Flattening Effect and Gate Insulator Breakdown Characteristic of Radical Reaction Based Insulator Formation Technology,” Japanese Journal of Applied Physics, Vol.51, No.2, 02BA01, February 2012.
- E1543 (W) Tadahiro Ohmi, “Radical Oxidation and Radical Nitridation for High Integrity Gate Insulator Films on Any Crystal Orientation Silicon Surface for Super High Performance 3D MOS Transistors,” China Semiconductor Technology International Conference 2012 (CSTIC 2012) Abstract, Symposium IV, pp.187-188, March 2012.
- E1544(C) Y. Kumagai, T. Inatsuka, R. Kuroda, A. Teramoto, T. Suwa, S. Sugawa, and T. Ohmi, “A Test Circuit for Extremely Low Gate Leakage Current Measurement of 10 nA for 80,000 MOSFETs in 80s,” 2012 IEEE INTERNATIONAL CONFERENCE ON MICROELECTRONIC TEST STRUCTURES (ICMTS 2012), 5.1, March 2012.
- E1545 (F) Takuya Inatsuka, Yuki Kumagai, Rihito Kuroda, Akinobu Teramoto, Shigetoshi Sugawa, and Tadahiro Ohmi, “Recovery Characteristics of Anomalous Stress-Induced Leakage Current of 5.6nm Oxide Films,” Japanese Journal of Applied Physics, Vol.51, No.4, 04DC02 April 2012.
- E1546 (F) Philippe Gaubert, Akinobu Teramoto, Shigetoshi Sugawa, and Tadahiro Ohmi, “Hole Mobility in Accumulation Mode Metal–Oxide–Semiconductor Field-Effect Transistors,” Japanese Journal of Applied Physics, Vol.51, No.4, 04DC07, April 2012.
- E1547 (F) Hiroshi Kambayashi, Takehiko Nomura, Sadahiro Kato, Hirokazu Ueda, Akinobu Teramoto, Shigetoshi Sugawa, and Tadahiro Ohmi, “High Integrity SiO₂ Gate Insulator Formed by Microwave-Excited Plasma Enhanced Chemical Vapor Deposition for AlGaN/GaN Hybrid Metal–Oxide–Semiconductor Heterojunction Field-Effect Transistor on Si Substrate,” Japanese Journal of Applied Physics, Vol.51, No.4, 04DF03, April 2012.
- E1548 (C) T. Goto, T. Matsuo, M. Iwaki, K. Soeda, R. Hiratsuka, S. Sugawa and T. Ohmi, “Adhesion Characteristics of Magnetron-Sputter Deposited Copper on Smooth Cycloolefin for Realizing High-Performance Printed Wiring Board,” Joint Conference of “International Conference on Electronics Packaging” and “IMAPS All Asia Conference” (ICEP-IAAC 2012), FB4-5, pp.488-492, Tokyo, April 2012.
- E1549(C) Akihiro Yonezawa, Akinobu Teramoto, Rihito Kuroda, Hiroyoshi Suzuki, Shigetoshi Sugawa and Tadahiro Ohmi, “Statistical Analysis of Random Telegraph Noise Reduction Effect by Separating Channel From the Interface,” IEEE International Reliability Physics Symposium 2012, 3B.5, Anaheim, April 2012.

- E1550 (F) Qiu Chen, Koji Kotani, Feifei Lee, and Tadahiro Ohmi, "Robust Local Image Descriptor Based on Vector Quantization Histogram," International Journal of Digital Content Technology and its Applications (JDCTA), Volume 6, Number 7, pp.253-260, April 2012.
- E1551-1(C) Tomoyuki Suwa, Yuki Kumagai, Akinobu Teramoto, Takayuki Muro, Toyohiko Kinoshita, Shigetoshi Sugawa, Takeo Hattori, and Tadahiro Ohmi, "Changes in SiO₂/Si(100) Interface Structure Induced by Forming Gas Annealing," 221st Meeting of The Electrochemical Society, Abs.712, Seattle, May 2012.
- E1551-2(P) Tomoyuki Suwa, Yuki Kumagai, Akinobu Teramoto, Takayuki Muro, Toyohiko Kinoshita, Shigetoshi Sugawa, Takeo Hattori, and Tadahiro Ohmi, "Influence of Forming Gas Annealing on SiO₂/Si(100) Interface Structures Formed Utilizing Oxygen Molecules Different From That Utilizing Oxygen Radicals," ECS Transactions, Vol.45, No.3, Dielectrics for Nanosystems 5: Materials Science, Processing, Reliability, and Manufacturing -and- Tutorials in Nanotechnology: More than Moore - Beyond CMOS Emerging Materials and Devices, pp.453-460, May 2012.
- E1552-1(C) Hiroaki Tanaka, Akinobu Teramoto, Shigetoshi Sugawa, and Tadahiro Ohmi, "Low Work Function between Erbium Silicide and n-type Silicon Control by Cap Film Stress," 221st Meeting of The Electrochemical Society, Abs.716, Seattle, May 2012.
- E1552-2(P) Hiroaki Tanaka, Akinobu Teramoto, Shigetoshi Sugawa, and Tadahiro Ohmi, "Low Work Function between Erbium Silicide and n-type Silicon Controlled by Cap Film Stress," ECS Transactions, Vol.45, No.3, Dielectrics for Nanosystems 5: Materials Science, Processing, Reliability, and Manufacturing -and- Tutorials in Nanotechnology: More than Moore - Beyond CMOS Emerging Materials and Devices, pp.371-378, May 2012.
- E1553-1(C) Yukihiisa Nakao, Rihito Kuroda, Hiroaki Tanaka, Akinobu Teramoto, Shigetoshi Sugawa, and Tadahiro Ohmi, "Electrical Properties of Silicon Nitride Using High Density and Low Plasma Damage PECVD Formed at 400°C," 221st Meeting of The Electrochemical Society, Abs.738, Seattle, May 2012.
- E1553-2 (P) Yukihiisa Nakao, Akinobu Teramoto, Tadashi Watanabe, Rihito Kuroda, Tomoyuki Suwa, Shigetoshi Sugawa, and Tadahiro Ohmi, "Electrical Properties of Silicon Nitride Using High Density and Low Plasma Damage PECVD Formed at 400°C," ECS Transactions, Vol.45, No.3, Dielectrics for Nanosystems 5: Materials Science, Processing, Reliability, and Manufacturing -and- Tutorials in Nanotechnology: More than Moore - Beyond CMOS Emerging Materials and Devices, pp.421-428, May 2012.
- E1554-1(C) Michio Yamaji, Satoru Yamashita, Atsushi Hidaka, Masaaki Nagase, Nobukazu Ikeda, Shigetoshi Sugawa, and Tadahiro Ohmi, "New Metal Organic Gas Supply System by Using an Advanced Flow Control System," 221st Meeting of The Electrochemical Society, Abs.739, Seattle, May 2012.
- E1554-2 (P) Michio Yamaji, Satoru Yamashita, Atsushi Hidaka, Masaaki Nagase, and Nobukazu Ikeda, Shigetoshi Sugawa and Tadahiro Ohmi, "New Metal Organic Gas Supply System by Using an Advanced Flow Control System," ECS Transactions, Vol.45, No.3, Dielectrics for Nanosystems 5: Materials Science, Processing, Reliability, and Manufacturing -and- Tutorials in Nanotechnology: More than Moore - Beyond CMOS Emerging Materials and Devices, pp.429-435, May 2012.
- E1555 (F) Xun Gu, Takenao Nemoto, Yugo Tomita, Akinobu Teramoto, Rihito Kuroda, Shin-Ichiro Kuroki, Kazumasa Kawase, Shigetoshi Sugawa, and Tadahiro Ohmi, "Cu Single Damascene Integration of an Organic Nonporous Ultralow-k Fluorocarbon Dielectric Deposited by Microwave-Excited Plasma-Enhanced CVD," IEEE Transactions on Electron Devices, Vol.59, No.5, pp.1445-1453, May 2012.
- E1556 (F) Shunichi Watabe, Akinobu Teramoto, Kenichi Abe, Takafumi Fujisawa, Naoto Miyamoto, Shigetoshi Sugawa, and Tadahiro Ohmi, "A Simple Test Structure for Evaluating the Variability in Key Characteristics of a Large Number of MOSFETs," IEEE Transactions on Semiconductor Manufacturing, Vol.25, No.2, pp.145-154, May 2012.
-

- E1557(F) Xun Gu, Yugo Tomita, Takenao Nemoto, Kotaro Miyatani, Akane Saito, Yasuo Kobayashi, Akinobu Teramoto, Rihito Kuroda, Shin-Ichiro Kuroki, Kazumasa Kawase, Toshihisa Nozawa, Takaaki Matsuoka, Shigetoshi Sugawa, and Tadahiro Ohmi, "Integration Process Development for Improved Compatibility with Organic Non-Porous Ultralow-k Dielectric Fluorocarbon on Advanced Cu Interconnects," Japanese Journal of Applied Physics, Vol.51, No.5, 05EC03, May 2012.
- E1558(F) Qiu Chen, Koji Kotani, Feifei Lee and Tadahiro Ohmi, "A FAST LOCAL SEARCH ALGORITHM USING HISTOGRAM FEATURES FOR DNA SEQUENCE DATABASE," International Journal of Bioinformatics Research, Vol.4, Issue2, pp.269-272, May 2012.
- E1559(C) Akihiko Hiroe, Tetsuya Goto, Shigetoshi Sugawa, Tadahiro Ohmi, "Deposition of a-InGaZnOx by Rotation Magnet Sputtering," Society for Information Display, Display Week 2012, 56.2, pp.760-763, June 2012.
- E1560(C) Akihiko Hiroe, Tetsuya Goto, Shigetoshi Sugawa, Tadahiro Ohmi, "Low Temperature Crystallization of a-InGaZnO₄ films," Society for Information Display, Display Week 2012, P-51, pp.1251-1253, June 2012.
- E1561(C) X.Gu, A.Teramoto, R.Kuroda, Y.Tomita, T.Nemoto, S.Kuroki, S.Sugawa, and T.Ohmi, "A Novel Chemically, Thermally and Electrically Robust Cu Interconnect Structure with an Organic Non-porous Ultralow-k Dielectric Fluorocarbon (k=2.2)," 2012 Symposium on VLSI Technology Digest of Technical Papers, Hawaii, pp. 119-120, June 2012.
- E1562(C) Hidetoshi Utsumi, Ryohei Kasahara, Yukihiisa Nakao, Rihito Kuroda, Akinobu Teramoto, Shigetoshi Sugawa, Tadahiro Ohmi, "100nm-gate-length Normally-off Accumulation-Mode FD-SOI MOSFETs for Low Noise Analog/RF Circuits," 2012 Asia-Pacific Workshop on Fundamentals and Applications of Advanced Semiconductor Devices (AWAD2012), pp.56-61, Okinawa, June 2012.
- E1563 (F) Feifei Lee, Koji Kotani, Qiu Chen, Tadahiro Ohmi, "A Fast Search Algorithm for MPEG-4 Video Clips Using Adjacent Pixel Intensity Difference Quantization Histogram Feature," International Journal of Digital Content Technology and its Applications (JDCTA), Volume 6, Number 10, pp.43-51, June 2012.
- E1564 (F) Feifei Lee, Koji Kotani, Qiu Chen, Tadahiro Ohmi, "Face Recognition Using Adjacent Pixel Intensity Difference Quantization Histogram Combined with Markov Stationary Features," International Journal of Advancements in Computing Technology (IJACT), Volume 4, Number 12, pp.327-335, July 2012.
- E1565 (F) Kenichi Abe, Takafumi Fujisawa, Hiroyoshi Suzuki, Shunichi Watabe, Rihito Kuroda, Shigetoshi Sugawa, Akinobu Teramoto, and Tadahiro Ohmi, "A Test Circuit for Statistical Evaluation of p-n Junction Leakage Current and Its Noise," IEEE Transactions on Semiconductor Manufacturing, Vol. 25, No. 3, pp.303-309, August 2012.
- E1566 (C) Philippe Gaubert, Akinobu Teramoto, Shigetoshi Sugawa, Tadahiro Ohmi, "The role of the temperature on the scattering mechanisms limiting the electron mobility in metal-oxide-semiconductor field-effect-transistors fabricated on (110) silicon-oriented wafers," 42nd European Solid-State Device Research Conference (ESSDERC 2012), pp.213-216, Bordeaux, September 2012.
- E1567 (C) Philippe Gaubert, Akinobu Teramoto, Shigetoshi Sugawa and Tadahiro Ohmi, "Low frequency noise assessment of accumulation Si p-MOSFETs," Extended Abstracts of the 2012 International Conference on Solid State Devices and Materials, E-8-4, pp.839-840, Kyoto, September 2012.
- E1568 (C) Hiroshi Kambayashi, Takehoko Nomura, Hirokazu Ueda, Katsushige Harada, Yuichiro Morozumi, Kazuhide Hasebe, Akinobu Teramoto, Shigetoshi Sugawa, and Tadahiro Ohmi "High Quality SiO₂/Al₂O₃ Gate Stack for GaN MOSFET," Extended Abstracts of the 2012 International Conference on Solid State Devices and Materials, F-7-1, pp.901-902, Kyoto, September 2012.
-

- E1569 (C) Tomoyuki Suwa, Akinobu Teramoto, Takayuki Muro, Toyohiko Kinoshita, Shigetoshi Sugawa, Takeo Hattori, Tadahiro Ohmi, "Dependence of chemical structures of transition layer at SiO₂/Si(100) interface on oxidation temperature, annealing in forming gas, and oxidizing species," Extended Abstracts of the 2012 International Conference on Solid State Devices and Materials, PS-1-11, pp.28-29, Kyoto, September 2012.
- E1570-1(C) Tomoyuki Suwa, Akinobu Teramoto, Takayuki Muro, Toyohiko Kinoshita, Shigetoshi Sugawa, Takeo Hattori, Tadahiro Ohmi, "Comprehensive study on chemical structures of compositional transition layer at SiO₂/Si(100) interface," PACIFIC RIM MEETING ON ELECTROCHEMICAL AND SOLID-STATE SCIENCE (PRiME2012) 222nd Meeting of The Electrochemical Society, Abs.2609, Honolulu, October 2012.
- E1570-2(P) T. Suwa, A. Teramoto, T. Muro, T. Kinoshita, S. Sugawa, T. Hattori, T. Ohmi, "Comprehensive Study on Chemical Structures of Compositional Transition Layer at SiO₂/Si(100) Interface," ECS Transactions, Vol.50, No.4, Dielectric Materials and Metals for Nanoelectronics and Photonics10, pp.313-318, October 2012.
- E1571-1(C) H. Tanaka, A. Teramoto, S. Sugawa, and T Ohmi, "Effect of erbium silicide crystallinity for low barrier contact between erbium silicide and n-type silicon," PACIFIC RIM MEETING ON ELECTROCHEMICAL AND SOLID-STATE SCIENCE (PRiME2012) 222nd Meeting of The Electrochemical Society, Abs.2600, Honolulu, October 2012.
- E1571-2(P) Hiroaki Tanaka, Akinobu Teramoto, Shigetoshi Sugawa, and Tadahiro Ohmi, "Effect of Erbium Silicide Crystallinity for Low Barrier Contact between Erbium Silicide and n-type Silicon," ECS Transactions, Vol.50, No.4, Dielectric Materials and Metals for Nanoelectronics and Photonics10, pp.343-348, October 2012.
- E1572 (W) Philippe Gaubert, Akinobu Teramoto, Shigetoshi Sugawa, Tadahiro Ohmi, "Noise Performance of Accumulation MOSFETs," IEICE Technical Report, Vol.112, No.263, (The Institute of Electronics, Information and Communication Engineers), SDM2012-92, pp. 15-20, October 2012.
- E1573(C) Qiu Chen, Koji Kotani, Feifei Lee, and Tadahiro Ohmi, "A Fast Short Read Alignment Algorithm Using Histogram-based Features," Proceeding of the Second International Conference on Advances in Information Mining and Management (IMMM 2012), pp. 114-117, Venice, October, 2012.
- E1574(C) Feifei Lee, Koji Kotani, Qiu Chen, and Tadahiro Ohmi, "An Improved Face Recognition Algorithm Using Adjacent Pixel Intensity Difference Quantization Histogram and Markov Stationary Feature," Proceeding of the Second International Conference on Advances in Information Mining and Management (IMMM 2012), pp. 123-128, Venice, October 2012
- E1575(W) Philippe Gaubert, Akinobu Teramoto, Shigetoshi Sugawa, and Tadahiro Ohmi, "1/f Noise in MOSFETs," The 24th International Micro Electronics Conference Proceeding, pp.1-16, November 2012.
- E1576 (W) Rihito Kuroda, Shigetoshi Sugawa, Taiki Nakazawa, Yasumasa Koda, Akinobu Teramoto, Tomoyuki Suwa, and Tadahiro Ohmi, "Si Surface Atomic Order Flattening Technology and its Application to Highly Reliable Ultraviolet Light Sensors," The 24th International Micro Electronics Conference Proceeding, pp.31-38, November 2012.
- E1577 (W) Hiroyuki Matsuo, Yasuyuki Shirai, and Tadahiro Ohmi, "The Development of Al₂O₃ Passivation Film for the Gradational Lead Screw Pump," The 24th International Micro Electronics Conference Proceeding, pp.39-45, November 2012.
- E1578(C) Qiu Chen, Koji Kotani, Feifei Lee, and Tadahiro Ohmi, "Combined Histogram-based Features of DCT Coefficients in Low-frequency Domains for Face Recognition," Proceeding of the Seventh International Conference on Systems and Networks Communications (ICSNC 2012), pp. 108-112, Lisbon, November, 2012.
- E1579(C) Feifei Lee, Koji Kotani, Qiu Chen, and Tadahiro Ohmi, "Face Recognition Algorithm Using Muti-direction Markov Stationary Features and Adjacent Pixel Intensity Difference Quantization Histogram," Proceeding of the Seventh International Conference on Systems and Networks Communications (ICSNC 2012), pp. 113-117, Lisbon, November, 2012.
-

- E1580(C) K. Nagata, T. Yamaguchi, A. Ogura, T. Koganezawa, I. Hirosawa, T. Suwa, A. Teramoto, T. Hattori, T. Ohmi, "Detection of crystalline like structures in SiO₂ thin films formed using oxygen molecules/radicals," Proceedings of The 6th International Symposium on Advanced Science and Technology of Silicon Materials (JSPS Si Symposium), pp. 97-100, Kona, Hawaii, November, 2012.
- E1581(C) Tetsuya Goto, Shigetoshi Sugawa, Tadahiro Ohmi, "Spatial Distribution of Properties of a-IGZO Films Deposited by Rotation Magnet Sputtering Incorporating Dual Target Structure," The 19th International Display Workshops (IDW'12), FMC6-3, pp.973-976, Kyoto, December 2012.
- E1582 (F) Tetsuya Goto, Takatoshi Matsuo, Masamichi Iwaki, Kazuki Soeda, Ryosuke Hiratsuka, Shigetoshi Sugawa and Tadahiro Ohmi, "Adhesion Characteristics of Magnetron-Sputter Deposited Copper on Smooth Cycloolefin for Realizing Wiring with High-Frequency Signal Propagation," Transactions of The Japan Institute of Electronics Packaging, Vol.5, No.1, pp.12-19, December 2012.
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