Paper List

January ―December, 2020

E2020-1(F) Study on CF4/O2 plasma resistance of O-ring elastomer materials
Journal of Vacuum Science & Technology A, 38, (2020), 013002-1 - 013002-7,
Tetsuya Goto, Shogo Obara, Tomoya Shimizu, Tsuyoshi Inagaki, Yasuyuki Shirai, and Shigetoshi Sugawa
https://doi.org/10.1116/1.5124533

E2020-2(F) Fabrication of CMOS Invertors in Si Thin-Film-Transistors by Laser Doping Using a Chemical Solution Coating
IEEE Journal of the Electron Devices Society, 8, (2020) pp. 27-32.
Kaname Imokawa, Takayuki Kurashige, Akira Suwa, Daisuke Nakamura, Taizoh Sadoh, Tetsuya Goto, and Hiroshi Ikenoue
http://doi.org./10.1109/JEDS.2019.2956991

E2020-3(C) Surface flattening of poly-Si thin films by laser annealing and electrical properties of LTPS-TFTs
Proceedings of SPIE, 11268, Laser-based Micro- and Nanoprocessing XIV; 1126810 (2020), Jan.22, 2020.
Fuminobu Hamano, Akira Mizutani, Kaname Imokawa, Daisuke Nakamura, Tetsuya Goto, Hiroshi Ikenoue
https://doi.org/10.1117/12.2544910

E2020-4(C) An over 120dB dynamic range linear response single exposure CMOS image sensor with two-stage lateral overflow integration trench capacitors
Electronic Imaging 2020, Imaging Sensors and Systems 2020, (2020), 143-1 - 143-5.
Yasuyuki Fujihara, Maasa Murata, Shota Nakayama, Rihito Kuroda, Shigetoshi Sugawa
https://doi.org/10.2352/ISSN.2470-1173.2020.7.ISS-143

E2020-5(L) Amorphous titanium-oxide supercapacitors with high capacitance
A Letters Journal Exporing the Frontiers of Physics, 128, Number 5, (2020), 58001-p1-p5, Feb.4, 2020.
Mikio Fukuhara, Tomoyuki Kuroda, Fumihiko Hasegawa, Yasuyuki Shirai, Tomoyuki Suwa, Toshiyuki Hashida and Masahiko Nishijima
http://doi.org/10.1209/0295-5075/128/58001

E2020-6(F) Over 100 Million Frames per Second 368 Frames Global Shutter Burst CMOS Image Sensor with Pixel-wise Trench Capacitor Memory Array
Sensors (MDPI), 20, No.4, (2020), pp.16.
Manabu Suzuki, Yuki Sugama, Rihito Kuroda and Shigetoshi Sugawa
https://doi.org/10.3390/s20041086

E2020-7(F) High reliability CoFeB/MgO/CoFeB magnetic tunnel junction fabrication using low-damage ion beam etching
Japanese Journal of Applied Physics (The Japan Society of Applied Physics), 50, NSGGB05, (2020), pp.1-8, Feb.20, 2020.
Hyeonwoo Park, Akinobu Teramoto, Jun-ichi Tsuchimoto, Keiichi Hashimoto, Tomoyuki Suwa, Marie Hayashi, Rihito Kuroda, Koji Tsunekawa, and Shigetoshi Sugawa
https://doi.org/10.35848/1347-4065/ab6cb5

E2020-8(F) A high-precision 1 Ω–10 MΩ range resistance measurement platform for statistical evaluation of emerging memory materials
Japanese Journal of Applied Physics (The Japan Society of Applied Physics), 59, No. SGGB03, (2020), pp.1-9.
Takeru Maeda, Yuya Omura, Rihito Kuroda, Akinobu Teramoto, Tomoyuki Suwa and Shigetoshi Sugawa
http://doi.org/10.35848/1347-4065/ab6d86

E2020-9(F) A High Near-Infrared Sensitivity Over 70-dB SNR CMOS Image Sensor with Lateral Overflow Integration Trench Capacitor
IEEE TRANSACTIONS ON ELECTRON DEVICES, 67, No.4, (2020), pp. 1653-1659.
Maasa Murata, Rihito Kuroda, Yasuyuki Fujihara, Yusuke Otsuka, Hiroshi Shibata, Taku Shibaguchi, Yutaka Kamata, Noriyuki Miura, Naoya Kuriyama, Shigetoshi Sugawa
https://doi.org/10.1109/TED.2020.2975602

E2020-10(F) Resistance Measurement Platform for Statistical Analysis of Emerging Memory Materials
IEEE Transactions on Semiconductor Manufacturing, 33, (2020), pp. 232-239, Mar.26, 2020.
Takeru Maeda, Yuya Omura, Rihito Kuroda, Akinobu Teramoto, Tomoyuki Suwa, and Shigetoshi Sugawa
https://doi.org/10.1109/TSM.2020.2983100

E2020-11(P) Study on Influence of O2 Concentration in Wafer Cleaning Ambient for Smoothness of Silicon (110) Surface Appearing at Sidewall of Three-Dimensional Transistors
ECS Transactions, 93, issue 3, Silicon Compatible Emerging Materials, Processes, and Technologies for Advanced CMOS and Post-CMOS Applications 10, (2020), pp.23-29, Apr.6, 2020.
Tomoyuki Suwa, Akinobu Teramoto, Yasuyuki Shirai, Takenobu Matsuo, Nobutaka Mizutani and Shigetoshi Sugawa
https://doi.org/10.1149/09703.0023ecst

E2020-12(F) Control of ion-flux and ion-energy in direct inductively coupled plasma reactor for interfacial-mixing plasma-enhanced atomic layer deposition
Journal of Vacuum Science & Technology A, 38, 032408(2020), Apr.6, 2020.
Masaki Hirayama, Akinobu Teramoto, and Shigetoshi Sugawa
https://doi.org/10.1116/6.0000021

E2020-13(F) Impact on the Conductance Method of the Asymmetry in the AC Response Induced by Interface Trap Levels
ECS Journal of Solid State Science and Technology, 10, Number 4, 043004(2020), Apr.20, 2020.
Hsin-Jyun Lin, Hiroshi Watanabe, Akinobu Teramoto, Rihito Kuroda, Kota Umezawa, Kiichi Furukawa and Shigetoshi Sugawa
https://doi.org/10.1149/2162-8777/abe8b5

E2020-14(F) Influence of silicon wafer surface roughness on semiconductor device characteristics
Japanese Journal of Applied Physics 59, SMMB06 (2020), May 26, 2020.
Keiichiro Mori, Shuichi Samata, Noritomo Mitsugi, Akinobu Teramoto, Rihito Kuroda, Tomoyuki Suwa, Keiichi Hashimoto, and Shigetoshi Sugawa
https://doi.org/10.35848/1347-4065/ab918c

E2020-15(F) Plasma resistance of sintered and ion-plated yttrium oxyfluorides with various Y, O, and F composition ratios for use in plasma process chamber
Journal of Vacuum Science & Technology A, 38, (2020), 043003-1 - 043003-9,
Tetsuya Goto, Yoshinobu Shiba, Akinobu Teramoto, Yukio Kishi, and Shigetoshi Sugawa
https://doi.org/10.1116/1.5142515

E2020-16(C) Effect of Drain-to-Source Voltage on Random Telegraph Noise Based on Statistical Analysis of MOSFETs with Various Gate Shapes
2020 IEEE International Reliability Physics Symposium (IRPS), 9A.2, (2020), Virtual Conference
R. Akimoto, R. Kuroda, A. Teramoto, T. Mawaki, S. Ichino, T. Suwa, and S. Sugawa
http://doi.org/10.1109/IRPS45951.2020.9128341

E2020-17(F) Preserved Color Pixel: high-resolution and high-colorfidelity image acquisition using single image sensor with sub-half-micron pixels
ITE Transactions on Media Technology and Applications, 8, No.3, pp.161-169, (2020)
Yuichiro Yamashita, Rihito Kuroda, and Shigetoshi Sugawa
https://doi.org/10.3169/mta.8.161

E2020-18(F) Low-energy high-flux ion bombardment-induced interfacial mixing during Al2O3 plasma-enhanced atomic layer deposition
Journal of Vacuum Science & Technology A, 38, 052407, (2020)
Masaki Hirayama, and Shigetoshi Sugawa
https://doi.org/10.1116/6.0000388

E2020-19(W) CMOS FOR AUTOMOTIVE, MEDICAL, AND INDUSTRIAL APPLICATIONS
IS&T SEMINAR SERIES Best Student Research, (2020), Virtual Conference.
Yasuyuki Fujihara
https://doi.org/10.2352/ISSN.2470-1173.2020.7.ISS-143

E2020-20(C) Over 230 fF/μm2 capacitance density 9.0V breakdown voltage textured deep trench SiN capacitors toward 3D integration
2020 International Conference on Solid State Devices and Materials, C-04-02, (2020), pp.143-144, Virtual Conference
Koga Saito, Ayano Yoshida, Rihito Kuroda, Hiroshi Shibata, Taku Shibaguchi, Naoya Kuriyama and Shigetoshi Sugawa

E2020-21(W) A Study on High Full Well Capacity Wide Dynamic Range Wide Spectral Response CMOS Image Sensor and its Applications
The 32nd International Microelectronics Conference, (2020), pp.41-44, Virtual Conference.
Yasuyuki Fujihara, Maasa Murata, Shota Nakayama, Rihito Kuroda, and Shigetoshi Sugawa

E2020-22(C) Improvement of the Surface Roughness of LTPS Thin Films with Additional Laser Irradiation
The 27th International Display Workshops, (2020), FMCp3-7, Virtual Conference.
Fuminobu Hamano, Akira Mizutani, Kaname Imokawa, Daisuke Nakamura, Tetsuya Goto, Hiroshi Ikenoue

E2020-23(C) A Global Shutter Wide Dynamic Range Soft X-ray CMOS Image Sensor with BSI Pinned Photodiode, Two-stage LOFIC and Voltage Domain Memory Bank
2020 IEEE International Electron Devices Meeting, (2020), pp.339-342, Online.
H. Shike, R. Kuroda, R. Kobayashi, M. Murata, Y. Fujihara, M. Suzuki, T. Shibaguchi, N. Kuriyama, J. Miyawaki, T. Harada, Y. Yamasaki, T. Watanabe, Y. Harada and S. Sugawa