

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
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- E2020-2(F) Fabrication of CMOS Invertors in Si Thin-Film-Transistors by Laser Doping
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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;
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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
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- E2020-5(L) Amorphous titanium-oxide supercapacitors with high capacitance
A Letters Journal Exporing the Frontiers of Physics, 128, Number 5, (2020),
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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 M Ω 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
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- E2020-9(F) A High Near-Infrared Sensitivity Over 70-dB SNR CMOS Image Sensor with Lateral Overflow Integration Trench Capacitor
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Maasa Murata, Rihito Kuroda, Yasuyuki Fujihara, Yusuke Otsuka, Hiroshi Shibata, Taku Shibaguchi, Yutaka Kamata, Noriyuki Miura, Naoya Kuriyama, Shigetoshi Sugawa
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- 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
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- 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
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- E2020-13(F) Influence of silicon wafer surface roughness on semiconductor device characteristics
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- E2020-14(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>
- E2020-15(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>
- E2020-16(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>
- E2020-17(F) Low-energy high-flux ion bombardment-induced interfacial mixing during Al₂O₃ plasma-enhanced atomic layer deposition
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Masaki Hirayama, and Shigetoshi Sugawa
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- [E2020-18\(W\)](#) CMOS FOR AUTOMOTIVE, MEDICAL, AND INDUSTRIAL APPLICATIONS
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- [E2020-19\(C\)](#) Over 230 fF/μm² capacitance density 9.0V breakdown voltage textured deep trench SiN capacitors toward 3D integration
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Koga Saito, Ayano Yoshida, Rihito Kuroda, Hiroshi Shibata, Taku Shibaguchi, Naoya Kuriyama and Shigetoshi Sugawa

- [E2020-20\(W\)](#) A Study on High Full Well Capacity Wide Dynamic Range Wide Spectral Response CMOS Image Sensor and its Applications
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Yasuyuki Fujihara, Maasa Murata, Shota Nakayama, Rihito Kuroda, and Shigetoshi Sugawa
- E2020-21(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
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- E2020-22(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
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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
<https://doi.org/10.1109/IEDM13553.2020.9372058>