

## Paper List

*January – December, 2019*

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- E2019-1(F) Power efficiency Figure-of-Merit for image sensors  
IEEE Transactions on Electron Devices, Vol.66, No.1, pp.512-517, January 2019.  
Yuichiro Yamashita, Shigetoshi Sugawa  
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- E2019-2(P) Over 100 million frames per second high speed global shutter CMOS image sensor  
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R. Kuroda, M. Suzuki, and S. Sugawa,  
<https://doi.org/10.1117/12.2524492>
- E2019-3(C) Low-temperature and low-cost excimer laser doping for poly-Si thin-film transistor fabrication  
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Kaname Imokawa, Nozomu Tanaka, Akira Suwa, Daisuke Nakamura, Taizoh Sadoh, Tetsuya Goto, and Hiroshi Ikenoue
- E2019-4(C) Resistance Measurement Platform for Statistical Analysis of Next Generation Memory Materials  
2019 IEEE International Conference on Microelectronic Test Structures (ICMTS), pp.70-75, Kitakyushu, March 2019.  
Takeru Maeda, Yuya Omura, Akinobu Teramoto, Rihito Kuroda, Tomoyuki Suwa, and Shigetoshi Sugawa
- E2019-5(F) A high-sensitivity compact gas concentration sensor using ultraviolet light absorption with a heating function for a high-precision trimethyl aluminum gas supply system  
Japanese Journal of Applied Physics, Vol.58, No.SB, (2019), SBBL04-1-SBBL04-6, March 2019  
Hidekazu Ishii, Masaaki Nagase, Nobukazu Ikeda, Yoshinobu Shiba, Yasuyuki Shirai, Rihito Kuroda, and Shigetoshi Sugawa,  
<https://doi.org/10.7567/1347-4065/aafe69>
- E2019-6(F) A CMOS image sensor with dual pixel reset voltage for high accuracy ultraviolet light absorption spectral imaging  
Japanese Journal of Applied Physics, Vol.58, No.SB, (2019), SBBL03-1-SBBL03-6, March 2019

Yusuke Aoyagi, Yasuyuki Fujihara, Maasa Murata, Hiroya Shike, Rihito Kuroda, and Shigetoshi Sugawa  
<https://doi.org/10.7567/1347-4065/aaffc1>

- E2019-7(C) SiNx Deposition at Low Temperature Using UV-irradiated NH<sub>3</sub>  
235th Meeting of The Electrochemical Society, Abs.1228, Dallas, May 2019  
Y. Shiba, A. Teramoto, T. Suwa, K. Ishii, A. Shimizu, K. Umezawa, R. Kuroda, and S. Sugawa
- E2019-8(P) SiNx Deposition at Low Temperature Using UV-irradiated NH<sub>3</sub>  
ECS Transactions, Vol.89, issue 4, Processes at the Semiconductor Solution Interface 8, pp.31-36, May 2019.  
Y. Shiba, A. Teramoto, T. Suwa, K. Ishii, A. Shimizu, K. Umezawa, R. Kuroda, and S. Sugawa
- E2019-9(F) Improvement of Fundamental Technology of Three-Dimensional Thermal Compression Bonding with High Accuracy  
IEEE Transactions on Components, Packaging and Manufacturing Technology, Vol.9, No.5, pp.836-844, May 2019.  
Kohei Seyama, Shoji Wada, Yuji Eguchi, Doug Day, Shigetoshi Sugawa
- E2019-10(C) Systematic characterization of negative-ion-containing microwave-excited plasmas by Langmuir probe measurement  
The 15th International Symposium on Sputtering and Plasma Processes (ISSP2019), FS1-9, pp.25-27, Kanazawa, June 2019.  
Tetsuya Goto and Shigetoshi Sugawa
- E2019-11(C) Investigation of Rotating Spokes in DC Magnetron Plasma Using High Speed Video Camera Over 1 Million Frames Per Second  
The 15th International Symposium on Sputtering and Plasma Processes (ISSP2019), pp.FS1-3, (2019), pp.11-13.  
Shintaro Yamazaki, Tetsuya Goto, Manabu Suzuki, Rihito Kuroda and Shigetoshi Sugawa
- E2019-12(C) Over 100 Million Frames per Second 368 Frames Global Shutter Burst CMOS Image Sensor with In-pixel Trench Capacitor Memory Array  
International Image Sensor Workshop, (2019), pp.266-269.  
Manabu Suzuki, Rihito Kuroda, and Shigetoshi Sugawa
- E2019-13(C) A VGA Optical Filter-less CMOS Image Sensor with UV-selective and Visible Light Channels by Differential Spectral Response Pixels  
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- E2019-14(C) A High Optical Performance 2.8 $\mu$ m BSI LOFIC Pixel with 120ke- FWC and 160 $\mu$ V/e- Conversion Gain  
International Image Sensor Workshop, (2019), pp.246-249.  
Ken Miyauchi, Shunsuke Okura, Kazuya Mori, Isao Takayanagi, Junichi Nakamura and Shigetoshi Sugawa
- E2019-15(F) Impact of CoFeB surface roughness on reliability of MgO films in CoFeB/MgO/CoFeB magnetic tunnel junction  
Japanese Journal of Applied Physics, 58, (2019), SIIB29-1 - SIIB29-6.  
Hyeonwoo Park, Akinobu Teramoto, Jun-Ichi Tsuchimoto, Marie Hayashi, Keiichi Hashimoto and Shigetoshi Sugawa  
<https://doi.org/10.7567/1347-4065/ab1bd2>
- E2019-16(F) Evaluation of Silicon Nitride Film Formed Using Magnetic-Mirror Confined Plasma Source  
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- E2019-17(F) A Highly Robust Silicon Ultraviolet Selective Radiation Sensor Using Differential Spectral Response Method  
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- E2019-18(C) [Invited] Selective Laser Annealing Technology for LTPS Thin Film Transistors Fabrications  
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Tetsuya Goto, Kaname Imokawa, Takahiro Yamada, Kaori Saito, Jun Gotoh, Hiroshi Ikenoue and Shigetoshi Sugawa
- E2019-19(C) High Reliability CoFeB/MgO/CoFeB Magnetic Tunnel Junction Fabrication Using Low-damage Ion Beam Etching  
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Hyeonwoo Park, Akinobu Teramoto, Jun-ichi Tsuchimoto, Keiichi Hashimoto, Tomoyuki Suwa, Marie Hayashi, Rihito Kuroda and Shigetoshi Sugawa, “
- E2019-20(C) An Accuracy Improved Resistance Measurement Platform for Evaluation of Emerging Memory Materials  
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Takeru Maeda, Yuya Omura, Rihito Kuroda, Akinobu Teramoto, Tomoyuki Suwa and Shigetoshi Sugawa

- E2019-21(C) Grain Growth Control with a Dot Mask in Selective Laser Annealing for Stable LTPS Thin Films Transistors Fabrication  
Extended Abstracts of the 2019 International Conference on Solid State Devices and Materials, G-2-02, (2019), pp.313-314.  
Kaname Imokawa, Takahiro Yamada, Kaori Saito, Jun Gotoh, Tetsuya Goto, Daisuke Nakamura, Hirohi Ikenoue
- E2019-22(C) Synchrotron X-ray Photoelectron Spectroscopy on interface state densities of CVDGrown SiO<sub>2</sub>/4H-SiC Structures Treated by Post-Deposition Treatments  
Extended Abstracts of the 2019 International Conference on Solid State Devices and Materials, Nagoya, 2019, pp741-742  
Akira Kiyoi, Tomoyuki Suwa, Kazumasa Kawase and Akinobu Teramoto
- E2019-23(F) Effects of temperatures and carbon dioxide nanobubbles on superior electric storage for anodically oxidized films of AlY10 amorphous alloy  
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- E2019-24(C) Plasma Resistance of Sintered Yttrium Oxyfluoride(YOF) with Various Y, O, and F Composition Ratios  
AVS 66th International Symposium& Exhibition, Plasma Science and Technology, Session PS+AS+EM+SS+TF-MoA2, (2019).  
Tetsuya Goto, Yoshinobu Shiba, Akinobu Teramoto, Yukio Kishi, Shigetoshi Sugawa  
[https://www2.avs.org/symposium2019/Papers/Paper\\_PS+AS+EM+SS+TF-MoA2.html](https://www2.avs.org/symposium2019/Papers/Paper_PS+AS+EM+SS+TF-MoA2.html)
- E2019-25(F) Low-Temperature Deposition of Silicon Nitride Films Using Ultraviolet-Irradiated Ammonia  
ECS Journal of Solid State Science and Technology, 8, Issue 11, (2019), P715-P718.  
Yoshinobu Shiba, Akinobu Teramoto, Tomoyuki Suwa, Katsutoshi, Ishii, Akira Shimizu, Kota Umezawa, Rihito Kuroda, and Shigetoshi Sugawa  
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- E2019-26(C) Influence of Silicon Wafer Surface Roughness on Semiconductor Device Characteristics  
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K. Mori, S. Samata, N. Mitsugi, A. Teramoto, R. Kuroda, T. Suwa, K. Hashimoto, and S. Sugawa

- E2019-27(F) Selective composition modification deposition utilizing ion bombardment-induced interfacial mixing during plasma-enhanced atomic layer deposition  
Japanese Journal of Applied Physics, 58 (2019), 110902-1-110902-5.  
Masaki Hirayama and Shigetoshi Sugawa  
<https://doi.org/10.7567/1347-4065/ab4754>
- E2019-28(C) [Plenary Talk] Advanced CMOS image sensor technologies for sensing applications in the era of IoT  
The Sixth Symposium on Novel Optoelectronic Detection Technology and Application (NDTA2019), (2019), pp.21-22.  
Rihito Kuroda, Shigetoshi Sugawa
- E2019-29(C) Dielectric breakdown of MgO in MRAM  
Special MRAM poster session IEDM, No.4, (2019).  
A. Teramoto, J. Tsuchimoto, H. Park, M. Hayashi, K. Tsunekawa, T. Suwa, R. Kuroda, S. Sugawa
- E2019-30(F) A  $120\text{-ke}^-$  Full-Well Capacity  $160\text{-}\mu\text{V/e}^-$  Conversion Gain  $2.8\text{-}\mu\text{m}$  Backside-Illuminated Pixel with a Lateral Overflow Integration Capacitor  
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- E2019-31(F) An Optical Filter-Less CMOS Image Sensor with Differential Spectral Response Pixels for Simultaneous UV-Selective and Visible Imaging  
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