

Dajeong Yun

Staff Engineer

Device Solution(Semi-Conductor), Samsung Electronics

158 Baebang-ro, Baebang-eup, Asan-si, Chungnam, Republic of Korea

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Education

- Kyung-hee University, Republic of Korea
- B.S. in Dept. of Advanced Materials Engineering for Information & Electronics (2012.3 ~ 2016.2)
- M.S. in Dept. of Advanced Materials Engineering for Information & Electronics (2016.3 ~ 2017.7)

Supervisor: Prof. Sung-Min Yoon

Lab. for Electronic Advanced Devices

Research Interests

- Multi-scale mechanics and modeling
- Prediction of mechanical properties affected by composition of epoxy material
- Visualization of mechanical behaviors
- Semiconductor Package Simulation
- Stress analysis for semiconductor product
- Deformation analysis and Prediction of the product's mechanical behavior
- Heat transfer analysis

Work Experience

- **Staff Engineer**, March 2023 – Present
Package Engineering Team, Samsung Electronics (Republic of Korea)
- Topic: Development of Plasma Assisted Molding Technology
Concept: Enhancement of Mold filling capability by using Plasma process
Contribution: 1) Analysis of Surface Treatment effect by Plasma process
2) Derive optimal conditions of Plasma process for semiconductor device.

- **Engineer, July 2017 – Feb 2023**

Package Engineering Team, Samsung Electronics (Republic of Korea)

- **Topic: Development of Low Depth Marking Technology**

Concept: Reducing Marking Depth of Package surface through beam profile deformation

Contribution: 1) Investigation of optimal optic lens for beam profile deformation

2) Apply a new technology to mass production

3) Journal publication (Samsung Electronics paper, 2021)

- **Topic: Investigation of factors affecting the deformation of thin package semiconductor**

Concept: Discover principal factor occurring deformation of thin package during and after molding process

Contribution: 1) Reveal the factors of deformation and investigate mechanism

2) Introduction of Fault Detection System to detect defective products

Awards and Honors

1. Selected for Ph.D. programs by Samsung Electronics (Fully funded)
2. An early promotion to Staff Engineer, 2023.

Publications

- **Journals**

- **D. J. Yun**, H. B. Kang, and S. M. Yoon*, "Process optimization and device characterization of nonvolatile charge trap memory transistors using InGaZnO thin films as both charge trap and active channel layers," *IEEE Trans. Electron Dev.* (submitted in 2016)
- **D. J. Yun**, G. H. Seo, W. H. Lee, and S. M. Yoon*, "Improvement in Sensing Responses to Ammonia Gas for Gas Sensors with Separately Designed Sensing Element Using ALD-Grown ZnO Nanoparticles and Read-out Element of Top-Gate In-Ga-Zn-O Thin-Film Transistor," *IEEE Trans. Electron Dev.* (submitted in 2017)
- **D. J. Yun**, J. Y. Bak, C. W. Byun, and S. M. Yoon*, "Areal geometric Effects of a ZnO Charge-Trap Layer on Memory Transistor Operations for Embedded-Memory Circuit Applications," *IEEE Electron Dev. Lett.* (submitted in 2017)

- **Conferences**

- **D. J. Yun**, H. B. Kang, and S. M. Yoon*, "Oxygen Partial Pressure Effects during the Sputtering Deposition of In-Ga-Zn-O Charge-Trap Layers on the Device

Characteristics of Nonvolatile Memory Thin-Film Transistors," *ICONN2016*, Canberra, Australia, 2016

- **D. J. Yun**, H. B. Kang, and S. M. Yoon*, "Investigations on Device Design Parameters of All-Oxide Transparent Charge-Trap Memory Thin-Film Transistors," *AM-FPD16*, Kyoto, Japan, July 2016.
- **D. J. Yun**, G. H. Seo, W. H. Lee, and S. M. Yoon*, "Improvements in sensing responses to ammonia gas for the In-Ga-Zn-O thin-film transistor using atomic-layer-deposited ZnO nanoparticles as gas sensitizers," *PRiME2016 ECS*, Honolulu, Hawaii, 2016