

제20회 한국반도체학술대회

2013년 2월 4일(월)~6일(수) / 웰리힐리파크 (구, 성우리조트)

우) 302-120 대전광역시 서구 둔산동 1018번지 대한빌딩 5층 / 담당: 최은영 팀장, 김아영
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Room J

골드홀 (본관, 5층)

2013년 2월 5일(화) 09:30-10:55

[TP1] Poster 1

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|-------|-------------|---|
| TP1-1 | 09:30-10:55 | Interlayer Effects for Ni Silicidation Prepared by Plasma-Enhanced Atomic Layer Deposition of Ni
윤재홍, 박주상, 김형준
연세대학교 전기전자공학부 |
| TP1-2 | 09:30-10:55 | 폴리머 필름의 표면개질 및 무전해 구리도금 피막의 시효가 접합력에 미치는 영향
이호년, 한윤성, 이장훈, 허진영, 이흥기
한국생산기술연구원 인천지역본부 열·표면기술센터 |
| TP1-3 | 09:30-10:55 | Junctionless Charge Trap Flash Memory for 3D Stacked Memory Applications
오진호, 나희도, 민윤기, 목인수, 심선경, 손현철
연세대학교 신소재공학과 |
| TP1-4 | 09:30-10:55 | Examination on the Ferroelectric Properties and Reliability of $Hf_xZr_{1-x}O_2$ Films on Ir Substrates
Han Joon Kim, Min Hyuk Park, Yu Jin Kim, Hyo Kyeom Kim, Il-Hyuk Yu, and Cheol Seong Hwang
WCU Hybrid Materials Program, Department of Material Science & Engineering and Inter-university Semiconductor Research Center, Seoul National University |
| TP1-5 | 09:30-10:55 | Study on Atomic Layer Deposition Behavior of TiO_2 Films on SiO_2 and RuO_2 Substrates with Different Growth Temperatures
Yeon Woo Yoo, Woojin Jeon, Woongkyu Lee, and Cheol Seong Hwang
WCU Hybrid Materials Program, Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University |
| TP1-6 | 09:30-10:55 | Self-Rectifying Resistive Switching Behavior in Bi-Layer Structure based on HfO_2 Thin Film
윤정호, 송슬지, 석준영, 윤경진, 이종호, 황철성
서울대학교 공과대학 재료공학부 유전박막연구실 |
| TP1-7 | 09:30-10:55 | Variation in the Bipolar Resistive Switching Behavior according to the Former Unipolar Resistive Switching Reset in a $Pt/TiO_2/Pt$
Kyung Jean Yoon, Seul Ji Song, Jun Yeong Seok, Jung Ho Yoon, Jong Ho Lee, and Cheol Seong Hwang
WCU Hybrid Materials Program, Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University |

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- TP1-8 09:30-10:55 Resistive Switching Phenomena in Binary Oxide Thin Films with Semiconducting $\text{In}_2\text{Ga}_2\text{ZnO}_7$ Electrode**
Jun Yeong Seok, Gun Hwan Kim, Seul Ji Song, Jung Ho Yoon, Kyung Jin Yoon, and Cheol Seong Hwang
WCU Hybrid Materials Program, Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University
- TP1-9 09:30-10:55 Effect of Al Doping Concentration on Bipolar Resistive Switching Characteristic in HfAlO_x Films**
목인수, 김종기, 김영재, 민윤기, 김종일, 심선경, 채을용, 손현철
연세대학교 신소재공학과
- TP1-10 09:30-10:55 Effect of Non Lattice Oxygen Concentration on Resistance Switching Characteristics in $\text{MgO-Al}_2\text{O}_3$ Alloy by DC Magnetron Co-Sputtering**
Kyumin Lee, Jonggi Kim, Youngjae Kim, Sunghoon Park, Eulyong Chae, and Hyunchul Sohn
Department of Materials Science and Engineering, Yonsei University
- TP1-11 09:30-10:55 Self-Rectifying Resistive Switching Behaviors in NiO/Insulator Stacked Devices**
Seul Ji Song, Kyung Jean Yoon, Jun Yeong Seok, Jung Ho Yoon, and Cheol Seong Hwang
WCU Hybrid Materials Program, Department of Materials Science and Engineering and Inter-university Semiconductor Research Center, Seoul National University
- TP1-12 09:30-10:55 Characteristics of Charge Trap Memory Devices Fabricated by Atomic Layer Depositions of Silicon Oxide and Nitride**
이한결, 한별, 정종완, 이원준
세종대학교 나노신소재공학부
- TP1-13 09:30-10:55 Effect of Poly (melamine-co-formaldehyde) Concentration on the Electrical Properties of PVP-co-PMMA Gate Dielectric**
Byeong-Geun Son, Se-Yeob Park, Hong-Yoon Jung, Chang-kyu Lee, Chul-Kyu Lee, Hyo-Jin Kim, and Jae-Kyeong Jeong
Department of Materials Science and Engineering, Inha University
- TP1-14 09:30-10:55 Mobility Degradation Mechanism of MOSFET with Contemporary La-incorporated- HfO_2 Gate Dielectric using Cryogenic Measurement**
Seung-won You, Musarrat Hasan, Manh Cuong Nguyen, Yoon Seok Jeon, Jun-suk Chang, Jae-kyoung Jung, and Rino Choi
Department of Materials Science and Engineering, Inha University
- TP1-15 09:30-10:55 Characteristics of Grain Boundary Traps in Polysilicon Channel Thin Film Transistors**
Yoon-Seok Jeon¹, Jun-Suk Chang¹, Musarrat Hasan¹, Cuong Nguyen Manh¹, Seung-Won You¹, Jae-Kyung Jeong¹, Bio Kim², Jae-Young Ahn²,

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Ki-Hyun Hwang², and Rino Choi¹

¹Inha University, ²Process Development P/J 2, Semiconductor R&D Center, Samsung Electronics Co., Ltd.

- TP1-16 09:30-10:55 Dual-Wavelength Light-Emitting Device based on Surface Plasmon-Enhanced CdSe/ZnS Quantum Dots on Blue Light-Emitting Diode**
Tae Hoon Seo, Seul Be Lee, GangU Shin, Bo Kyoung Kim, Ah Hyun Park, Hyun Joon Jeong, and Eun-Kyung Suh
School of Semiconductor and Chemical Engineering, Semiconductor Physics Research Center, Chonbuk National University
- TP1-17 09:30-10:55 태양전지 응용을 위한 ZnO/InN Core/Shell 에피텍셀 성장 및 분석**
유호룡¹, 연승환², 손태준², 김윤수², 박진섭^{1,2}
¹한양대학교 융합전자공학부, ²한양대학교 전자컴퓨터통신공학과
- TP1-18 09:30-10:55 Impact of Annealing Process for Solution-Processed High Performance InGaZnO Thin-Film Transistors**
이세원, 조원주
광운대학교 전자재료공학과
- TP1-19 09:30-10:55 X-band 용 30W AlGaIn/GaN HEMT 소자의 특성**
김성일, 임종원, 강동민, 안호균, 장우진, 주철원, 문재경, 남은수
한국전자통신연구원 융합부품소재연구부문 광무선융합부품연구팀 RF융합부품연구팀
- TP1-20 09:30-10:55 Improvement of Ohmic Edge Acuity in Prepassivated AlGaIn/GaN HEMT**
Sanggil Han¹, Minseong Lee¹, Namcheol Jeon¹, Ho-Young Cha², and Kwang-Seok Seo¹
¹Department of Electrical Engineering and Computer Science, Seoul National University, ²School of Electronic and Electrical Engineering, Hongik University
- TP1-21 09:30-10:55 질화물 기반의 LED의 Backside Reflector로 쓰이는 SiO₂/TiO₂ 의 Pair 수 증가와 관련된 광 분포 연구**
조이상, 정지원, 임성묵, 손정환
(주)제니컴
- TP1-22 09:30-10:55 Improvement of Device Characteristic on Solution-Processed InGaZnO Pseudo Metal-Oxide-Semiconductor-Field-Effect-Transistor using O₂ Plasma Treatment**
이인규, 조원주
광운대학교 전자재료공학과
- TP1-23 09:30-10:55 Effect of Thermal Treatment on Leakage Current in AlGaIn/GaN HEMTs**
M. Lee¹, D. Kim¹, H. -Y. Cha², and K. Seo¹
¹Department of Electrical Engineering and Computer Science and Inter-university Semiconductor Research Center, Seoul National University,

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²School of Electronic and Electrical Engineering, Hongik University

- TP1-24 09:30-10:55 **KOH 습식 식각과 RF Sputtered HfO₂ 게이트 절연막을 이용한 Normally-Off AlGaIn/GaN MOS-HEMTs**
안우진, 석오균, 하민우, 김영실, 한민구
서울대학교 전기정보공학부
- TP1-25 09:30-10:55 **Study of the Flat Band Voltage Shift in Al₂O₃/GaIn MIS Capacitors with Post-Deposition Annealing**
Hee-Sung Kang, Mi-Kyung Kwon, You-Mi Kwon, Chul-Ho Won, Kyu-Il Jang, Dong-Seok Kim, Vodapally Sinhurt, Ki-Won Kim, Chung-Mo Yang, Yong Soo Lee, and Jung-Hee Lee
School of Electrical Engineering and Computer Science, Kyungpook National University
- TP1-26 09:30-10:55 **Up-Drain 기술을 이용한 새로운 구조의 RC-IGBT에 관한 연구**
원종일¹, 나경일¹, 구진근¹, 김상기¹, 이태복², 오형석³, 이진호¹
¹한국전자통신연구원 IT융합부품기술팀, ²매트릭스 세미컨덕터, ³실리콘 웨스
- TP1-27 09:30-10:55 **Grain Size Effects of Arsenic and Phosphorus Doping on Polysilicon**
Joo-Hyung Kim, Jung-Joo Kim, Chang-Eun Lee, Jong-Ho Lee, Dong-Seok Kim, Nam-Joo Kim, Kwang-Dong Yoo, and Heung-Soo Park
Dongbu HiTecks Co., Ltd.
- TP1-28 09:30-10:55 **Design of 100V N-Channel Lateral Diffused MOS Transistor for Breakdown Voltage Enhancement using Double RESURF Technology**
성근식, 문남철, 권경욱, 이창준, 전본근, 유광동, 김범석, 박흥수
동부하이텍
- TP1-29 09:30-10:55 **UHV-CVD를 이용한 SiGe 에피 성장 및 Multi-Stacked 구조의 Suspended 나노선 응용**
이호준¹, 김기현¹, 임태욱¹, 이원범², 정윤하^{1,3}, 이정수^{1,2,3}
¹포항공과대학교 전자전기공학과, ²포항나노기술집적센터, ³포항공과대학교 정보전자융합공학부
- TP1-30 09:30-10:55 **Negative Bias Stress Instability Mechanism in Polymer-Based Thin-Film Transistors**
Jaewook Lee, Jaeman Jang, Jaehyeong Kim, Sungwoo Jun, Chunhyung Jo, Yun Hyeok kim, Woojoon Kim, Inseok Hur, Hyeongjung Kim, Kyung Min Lee, Dong Jae Shin, Dong Myong Kim, and Dae Hwan Kim
School of Electrical Engineering, Kookmin University
- TP1-31 09:30-10:55 **적합한 가속 전압 선정을 통한 P-MOSFET NBTI Lifetime 평가 방법 개선 및 정확도 향상**
장태영, 이정현, 조원구, 박흥식, 최재훈
SK 하이닉스

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TP1-32 09:30-10:55 **Full Quantum-Mechanical Calculation of Hole Tunneling Gate Leakage Current in Nano-Scale MOSFETs**
Kihoon Park and Mincheol Shin
Department of Electrical Engineering, KAIST