ADVANCE PROGRAM

2009 ROCS Workshop

SUNDAY October 11, 2009, Room: Colony A,

Preceding the Compound Semiconductor IC Symposium: Sheraton at Four Seasons, Greensboro, N.C.

SPONSORED BY JEDEC COMMITTEE JC-14.7, EIA, and in cooperation with the IEEE.

Registration (Cost of Workshop is $225 at the door, make checks payable to JEDEC) . . . . **7:45 AM**

Welcome, Opening Remarks, Introductions, Start . Peter Ersland, Technical Program Chairman . **8:15 AM**

SESSION 1 – Gallium Nitride I . . . . . Bill Roesch, Session Chair . . . . . 8:30 – 9:50 AM

1. **A model for the critical voltage for electrical degradation of GaN high electron mobility transistors**, Jungwoo Joh, Feng Gao, Tomás Palacios and Jesús A. del Alamo. Massachusetts Institute of Technology
2. **Reliability of AlGaN/GaN HEMT: Impact of acceleration condition on dominant degradation mechanism,** David Rozman, Y. Knafo , T. Baksht, O. Aktushev, G. Kolatker, S. Moskovitch and G. Bunin. Gal-El.
3. **Reliability of AlGaN/GaN HEMTs under DC- and RF-operation,** M. Dammann[1*], M. Cäsar[1], P. Waltereit[1], W. Bronner[1], H. Konstanzer[1], R. Quay[1], S. Müller[1], M. Mikulla[1], O. Ambacher[1], P. van der Wel[2], T. Rödle[2], R. Behtash[3], F. Bourgeois[3], & K. Riepe[3]. [1]Fraunhofer Institute, [2]NXP Semiconductors, [3]United Monolithic Semiconductors.
4. **Understanding Highly Accelerated RF Reliability Testing,** Kurt V. Smith, Raytheon.

SESSION 2 - Gallium Nitride II . . . . . Bob Ferro, Session Chair . . . . . 10:20 – 11:40AM

1. **Comparison of DC Measurement Methods to Determine GaN HEMT Reliability,** R. Pazirandeh, J. Würfl, and G. Tränkle, Ferdinand-Braun-Institut für Höchstfrequenztechnik
2. **Critical Voltage for Electrical Reliability of GaN High Electron Mobility Transistors on Si Substrate,** S. Demirtas and J. A. del Alamo, Massachusetts Institute of Technology.
3. **Recent Advances on the Understanding of the Physics of Failure of GaN on SiC FET Technology,** Jose L. Jimenez and U. Chowdhury, TriQuint Semiconductor Texas.
4. **Self Heating of AlGaN/GaN HEMTs in Pulsed Operation,** T. Weatherford, Y. Wang, and S. Tracey, Naval Postgraduate School.

Lunch Room: Guilford G. . . . . **11:40 AM – 1:00 PM**

SESSION 3 - Qualification . . . . . Sammy Kayali, Session Chair . . . . 1:00 – 2:20 PM

1. **Reliability Study of Shape Factors on Metal-Insulator-Metal (MIM) Capacitors,** S.Y. Wan, Pei -Ying Wang, Alan Chang, Flora Chen, Carol Chen, Frank Chou, Chang-Hwang Hua, WIN Semiconductors Corporation.
2. **Machine Model ESD Tester for Enhanced Capacitor Reliability,** Michael Meeder and Leslie Marchut, RFMD.
3. **Developing a Power Amplifier Module Standard,** William J. Roesch, TriQuint Semiconductor Oregon.
4. **RF Arrhenius Life Testing of X-band High Voltage GaAs PHEMTs,** J. A. Mittereder[1], N. S. Cronk[3], S. C. Binari[1], G. D. Via[2], D. Fanning[4], H. Tserng[4], P. Saunier[4], K. Decker[4], and E. Beam[4]. [1]Naval Research Laboratory, [2]Air Force Research Laboratory, [3]Global Strategies Group, [4]TriQuint Semiconductor Texas

ROCS Shocks - Photo Contest Judging and Results . . . . . **2:45 PM**

SESSION 4 - Packaging . . . . . Hua Chang-Hwang, Session Chair . . . . 3:00 – 4:20 PM

1. **Comparison of Acceleration Models for THB Induced Degradation,** Leslie Marchut and Charles S. Whitman, RFMD
2. **Measuring and Comparing Humidity Acceleration Factors of Compound Semiconductors**, William J. Roesch, TriQuint Semiconductor, Oregon.
3. **Qualification Challenges and Results on Flipchip Process**, Shivarajiv Somisetty*, Richard Giacchino, and Peter Ersland, M/A-COM Technology Solutions
4. **Reliability Evaluation of Hermetic GaAs HEMT MMICs Using Wafer-Scale-Assembly for Compact and Light-Weight Applications,** Y. C. Chou, P. Chang-Chien, D.L. Leung, R.K. Kono, X. Zeng, M.R. Parlee, K.J.T. Hennig, H.K. Chan, D.C. Eng, R.S. Tsai, M. Wojtowicz, and M.E. Barsky, Northrop Grumman Corp., CA.

Website: http://www.jedec.org/home/gaas/