Automotive Electronics Council

Component Technical Committee

Final Agenda

2007 - Twelfth Annual
Automotive Electronics
Reliability Workshop

May 22, 23, & 24

Nashville, TN
Sheraton Music City Hotel

Tuesday, May 22, 2007				
COFFEE (provided)		7:30 am - 8:00 am	**Continental Breakfast provided**	
		8:00 am - 8:20 am	**Workshop Introductions**	
Parallel Session 1A: **Passive/Electro-Mechanical Issues (Part 1)** **8:20 am - 10:00 am** **Two Rivers Room**	**1A.1**	8:20 am - 8:45 am	Arthur Lee *Hong Kong Automotive XTALS Ltd.*	Quartz Crystal – Reliability and Application
	1A.2	8:45 am - 9:10 am	Jeff Bruce *Steward*	Ferrite Components: Reliability of Performance Under Load
	1A.3	9:10 am - 9:35 am	Ron Demcko *AVX*	MLCC ESD Performance Findings
	1A.4	9:35 am - 10:00 am	Engel Guenter *EPCOS*	Electrostatic Discharge Damages in Multilayer Ceramic Capacitors (MLCCs) and their Relation to MLCC Design-Rules
Parallel Session 1B: **Discrete Semiconductor Issues (Part 1)** **8:20 am - 10:00 am** **Tulip Grove Ballroom**	**1B.1**	8:20 am - 8:45 am	Krishna Shenai, PhD *Utah State University*	A "Good" Automotive Power MOSFET Switch
	1B.2	8:45 am - 9:10 am	Jack Marcinkowski *Vishay Intertechnology Inc. - Automotive Systems.*	Q101-Inspired Validation of Custom Power Modules
	1B.3	9:10 am - 9:35 am	Krishna Shenai, PhD *Utah State University*	Field-Reliability of an Automotive Switch – a New Paradigm
	1B.4	9:35 am - 10:00 am	Romeo Letor & Sebastiano Russo *STMicroelectronics*	Life Time Prediction of Smart Power Devices for Automotive Exterior Lighting Subjected to Nominal and Overload Conditions
		10:00 am - 10:20 am	**BREAK: Coffee provided**	

Tuesday, May 22, 2007 (continued)				
Parallel Session 2A: **Passive/Electro-Mechanical Issues (Part 2)** **10:20 am - 12:00 noon** **Two Rivers Room**	**2A.1**	10:20 am - 10:45 am	Bill Sloka *KEMET*	Flexure Robust Capacitors
	2A.2	10:45 am - 11:10 am	Reiner W. Kuehl *Vishay*	Reliability of Passive/Active Components with "Safe Constructions" Experience on Whisker Testing and Solderability
	2A.3	11:10 am - 11:35 am	Ron Demcko *AVX*	Flexisafe Ceramic Capacitors
	2A.4	11:35 am - 12:00 noon	Jayson Young *KEMET*	Conductive Polymer Technology
Parallel Session 2B: **Discrete Semiconductor Issues (Part 2)** **10:20 am - 12:00 noon** **Tulip Grove Ballroom**	**2B.1**	10:20 am - 10:45 am	Sebastiano Russo & Lucia Torrisi *STMicroelectronics*	Effect of Extremely Long Time of Hot Repetitive Short Circuit on Smart Power of Last Generation
	2B.2	10:45 am - 11:10 am	Michael J. Varnau *Delphi*	Effect of Post Mold Cure (PMC) on Semiconductor Device Reliability with Focus on Discrete Diodes and Transistors
	2B.3	11:10 am - 11:35 am	Michael Ohm Vishay Intertechnology, Inc.	Reliability study of Die-on-Leadframe Technology for Automotive Applications
	2B.4	11:35 am - 12:00 noon	Roger Stout *ON Semiconductor*	Using Linear Superposition to Understand the True Meaning of Theta-JA
LUNCH (on own)		12:00 noon - 1:15 pm		

Tuesday, May 22, 2007 (continued)				
Parallel Session 3A: **Passive/Electro-Mechanical Issues (Part 3)** **1:15 pm - 2:55 pm** **Two Rivers Room**	**3A.1**	1:15 pm - 1:40 pm	Ron Demcko *AVX*	Automotive Multilayer Varistors
	3A.2	1:40 pm - 2:05 pm	Zoltán Németh *EPCOS*	Automatic Optical Inspection
	3A.3	2:05 pm - 2:30 pm	Michael Randall *KEMET*	Decoupling Capacitors
	3A.4	2:30 pm - 2:55 pm	Slavomir Pala *AVX*	A High CV Capacitor with Low ESR Flexible Fuse Built In for Reliability Demanding Applications
Session 3B: **Semiconductor Components - General Issues** **1:15 pm - 2:55 pm** **Tulip Grove Ballroom**	**3B.1**	1:15 pm - 1:40 pm	Jean Clarac *Siemens VDO*	New quality requirements for specific electronic component commodities
	3B.2	1:40 pm - 2:05 pm	H. Lewitschnig & W. Kanert *Infineon*	Stress Interaction Tests
	3B.3	2:05 pm - 2:30 pm	Hans Cerva (et al) *Siemens VDO*	Quality Spill Analysis for Avoidance of PPM Peaks on Purchased Semiconductor Components
	3B.4	2:30 pm - 2:55 pm	Gerold Schrittesser *Infineon*	EOS Rootcause Evaluation by Means of Failure Signature Investigation
		2:55 pm - 3:15 pm	**BREAK (provided)**	

Tuesday, May 22, 2007 (continued)				
Two Rivers Room		3:15 pm - 4:55 pm	**AEC Panel Discussion: Q200 Document Review & Discussion**	
Session 4: **Semiconductor Testing (Part 1)** **3:15 pm - 4:55 pm** **Tulip Grove Ballroom**	**4A.1**	3:15 pm - 3:40 pm	Peter Binkhoff *ELMOS*	Part Average Testing (PAT) in the Electrical Wafer Sort
	4A.2	3:40 pm - 4:05 pm	Daniel J. Le Saux *Skyworks Solutions*	Development and Use of a Parametric Failure Mode Effects Analysis in a Semiconductor Manufacturing Environment
	4A.3	4:05pm - 4:30 pm	Markus Schmid *Q-Star Test*	Improving Automotive IC Quality. A Case Study on the Implementation of Advanced Iddq Strategies Targeting Product Quality Improvement, Burn-in Elimination and Test Cost Reduction
	4A.4	4:30 pm - 4:55 pm	Philippe Briot *Briot & Associates*	SPC, PAT What's Next? - Advanced Data Mining
DINNER (on own)		5:00 pm - 6:30 pm		
Tulip Grove Ballroom		6:30 pm - 8:00 pm	**AEC Panel Discussion: Q101 Document Review & Discussion**	

Wednesday, May 23, 2007				
COFFEE (provided)		7:30 am - 8:00 am	**Continental Breakfast provided**	
Session 5: **Zero Defects** **8:00 am - 9:40 am** **Tulip Grove Ballroom**	**5A.1**	8:00 am - 8:25 am	Mary Carter-Berrios *KEMET*	OEM SCR Expectations In A Zero Defects Environment - Perspectives From Your Supply Base
	5A.2	8:25 am - 8:50 am	Klaus Behrendt *Infineon*	Zero Defect as Key for our Future
	5A.3	8:50 am - 9:15 am	Tony Walsh *NEC Electronics*	Advanced Zero Defect Activities for Automotive Products
	5A.4	9:15 am - 9:40 am	Y. Xing & M. Lemnawar *NXP Semiconductors*	Towards Zero Defects by Cost Effective Screening Methods
		9:40 am - 10:05 am	**BREAK: Coffee provided**	
Session 6: **Novel Methods - Test & Analysis** **10:05 am - 11:45 am** **Tulip Grove Ballroom**	**6A.1**	10:05 am - 10:30 am	Werner Kanert & Michael Goroll *Infineon*	ESD Protection Structure Qualification - A New Approach for Release for Automotive Applications
	6A.2	10:30 am - 10:55 am	Smile Peng & Shania Lu *Integrated Silicon Solution, Inc.*	A Novel Technique for Failure Analysis on Multiple Chip Packaged IC Devices
	6A.3	10:55 am - 11:20 am	Tetsuya Sakai & Tsuyoshi Shirahama *NEC Electronics*	Sample Preparation Techniques using a Soid Immersion Lens
	6A.4	11:20 am - 11:45 am	Thomas Van Vossel & Kelly Burnside *AMI Semiconductors*	Diagnosis of Structural Scan Failures to the Net/Node Level Using the Inovys Ocelot Tester and the Tetramax or FastScan ATPG Tools
LUNCH (on own)		11:45 am - 1:15 pm		

Wednesday, May 23, 2007 (continued)				
Session 7: **Pb-Free Issues** **1:15 pm - 2:30 pm** **Tulip Grove Ballroom**	**7A.1**	1:15 pm - 1:40 pm	Marc Dittes *Infineon*	Accelerated Ageing and Solderability Test of Tin Plated Components
	7A.2	1:40 pm - 2:05 pm	Jack McCain *Siemens VDO*	Solderability Issues in Automotive Contract Manufacturing
	7A.3	2:05 pm - 2:30 pm	Bruce Townsend *Spansion*	Matte Tin (Sn) Plating of Semiconductor Devices – Update of Whisker Growth Study
		2:30 pm - 2:50 pm	**BREAK (provided)**	
Session 8: **Semiconductor Qualification/Validation** **2:50 pm - 4:30 pm** **Tulip Grove Ballroom**	**8A.1**	2:50 pm - 3:15 pm	Charvaka Duvvury *Texas Instruments*	IC Component ESD Classification Levels for Automotive Customers: Arguments and Recommendations for a Paradigm Shift
	8A.2	3:15 pm - 3:40 pm	Pascal Lecuyer *Atmel*	Failure-Driven Qualification for Reliability and Analysis of Electronic Components
	8A.3	3:40pm - 4:05 pm	Matt Kas *ON Semiconductors*	Failure-Mechanism-Driven Reliability Monitoring
	8A.4	4:05 pm - 4:30 pm	Roger Rickey *R.F. Rickey & Associates, Inc.*	Robustness Validation – Why Are We Here And What Do We Get Out Of It
DINNER (on own)		4:30 pm - 6:00 pm		
Tulip Grove Ballroom		6:00 pm - 8:00 pm	**AEC Panel Discussion: Q100 Document Review & Discussion**	

Thursday, May 24, 2007				
COFFEE (provided)		7:30 am - 8:00 am	**Continental Breakfast provided**	
Session 9: **Semiconductor Testing (Part 2)** **8:00 am - 9:40 am** **Tulip Grove Ballroom**	**9A.1**	8:00 am - 8:25 am	Michael Wieberneit *NEC Electronics Europe GmbH*	Iddx Monitoring In Failure Analysis and Continuous Quality Improvement
	9A.2	8:25 am - 8:50 am	Beyreuther *Siemens VDO*	Multivariate Methods of Quality Assurance in Automotive Electronics Production
	9A.3	8:50 am - 9:15 am	Jaap Bisschop *NXP Semiconductors*	Maverick Lot Handling Implementation at NXP Semiconductors
	9A.4	9:15 am - 9:40 am	Hans Manhaeve (et al) *Q-Star Test*	Strengthening Logic BIST with Iddq - Taking the Best of Both Worlds
		9:40 am - 10:05 am	**BREAK: Coffee provided**	
Session 10: **Memory & SER** **10:05 am - 11:45 am** **Tulip Grove Ballroom**	**10A.1**	10:05 am - 10:30 am	Marcello Menchise *STMicroelectronics*	Read Disturb in Flash Memories: Reliability Case
	10A.2	10:30 am - 10:55 am	Mike Buzinski *Microchip*	Stress Methods Screen High-Voltage Oxides in Serial EEPROM Device Arrays
	10A.3	10:55 am - 11:20 am	Tom Lawler *Lattice Semiconductor*	SER Overview
	10A.4	11:20 am - 11:45 am	Paul Ngan *NXP Semiconductors*	Radiation-induced soft errors in 90-nm and below
LUNCH (on own)		11:45 am - 1:15 pm		

Thursday, May 24, 2007 (continued)				
Session 11: **Packaging Issues** **1:15 pm - 3:20 pm** **Tulip Grove Ballroom** **** Refreshments available during session**	**11A.1**	1:15 pm - 1:40 pm	XinMiao Zhao & Frank LeGeros *Cirrus Logic*	Kirkendall Void and High Temperature Storage Life Testing
	11A.2	1:40 pm - 2:05 pm	Daniel Vanderstraeten *AMI Semiconductor*	Warpage of Large BGA Packages - An Investigation on the Mismatch between Simulation Data and Actual Measurements
	11A.3	2:05 pm - 2:30 pm	E. Bagerman (et al) *NXP Semiconductors*	Innovation in High Performance Semiconductor Packaging Within NXP Semiconductors
	11A.4	2:30 pm - 2:55 pm	Douglas Goodman & James Hofmeister *Ridgetop Group, Inc.*	Novel Technique for Detection of Intermittents in Ball Grid Array (BGA) Packages
WRAP-UP		3:00 pm - 3:30 pm	AEC Technical Committee	Closing Statements & Workshop Adjourned