

Automotive Electronics Council

Component Technical Committee

Agenda

(subject to change)

**2018 - Twentieth Annual
Automotive Electronics
Reliability Workshop**

April 24, 25, & 26

**Novi, MI
Sheraton Detroit Novi Hotel**

Tuesday, April 24, 2018

7:30 AM - 8:00 AM

Continental Breakfast (provided)

8:00 AM - 8:30 AM

Workshop Introductions

Session 1: Passive Components - Technology Improvements 8:30 AM - 9:30 AM	1.1	8:30 AM - 9:00 AM	Chris Reynolds <i>AVX</i>	Tantalum Capacitor Technology Update & Comparison
	1.2	9:00 AM - 9:30 AM	Peter Blais <i>KEMET</i>	Passive Components for More Efficient Wide Band Gap Power Conversion
	1.3	9:30 AM - 10:00 AM	Keith Moore <i>KEMET</i>	Tantalum Polymer Surface Mount Capacitors: New Solutions for Automotive Applications

10:00 AM - 10:30 AM

BREAK: Coffee, drinks, snacks (provided)

Workshop Session - W.1	10:30 AM - 11:30 PM	AEC-Q200 Document Revision Status & Discussion <i>Moderator: AEC Q200 Technical Committee</i>
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11:30 PM - 1:00 PM

LUNCH (on own)

Session 2: Discrete Semiconductors - Reliability Improvements 8:30 AM - 9:30 AM	2.1	1:00 PM - 1:30 PM	Cedric Lin <i>Actron Technology</i>	Stress Test EOS & ESD Pre-damage Study of A Power Device: Press-fit Rectifier Diode for Automotive Alternator
	2.2	1:30 PM - 2:00 PM	Ronald Barr <i>Transphorm Inc.</i>	Demonstrating GaN Power Switch Robustness
	2.3	2:00 PM - 2:30 PM	Dr. C. Jung & Dr. P. Plathner <i>OSRAM</i>	Making Semiconductor Lasers Reliable for New Automotive Applications - Opportunities & Challenges

2:30 PM - 3:00 PM

BREAK: coffee, drinks, snacks (provided)

Workshop Session - W.2	3:00 PM - 4:00 PM	AEC-Q101 Document Revision Status & Discussion <i>Moderator: AEC Q101 Technical Committee</i>
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Workshop Session - W.3	4:00 PM - 5:00 PM	AEC-Q102 LED Qualification Document Revision Status & Discussion <i>Moderator: Ludger Kappius, Hella KGaA</i>
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5:00 PM

SESSION CLOSE

Wednesday, April 25, 2018

7:30 AM - 8:00 AM

Continental Breakfast (provided)

<p align="center">Session 3: Cu Wire & Interconnect Advancements 8:00 AM - 10:00 AM</p>	3.1	8:00 AM - 8:30 AM	R. Rongen <i>NXP Semiconductors</i>	Reliability Capability of Cu-wire in Automotive Electronics
	3.2	8:30 AM - 9:00 AM	Ulrich Abelein <i>Infineon Technologies AG</i>	Implementing AEC-Q006 in the Development and Qualification Process
	3.3	9:00 AM - 9:30 AM	M. Santopa <i>STMicroelectronics</i>	Fast Transient Thermomechanical Stress for Lifetime Estimation of Sintering Die Attach Layer on Automotive Packages
	3.4	9:30 AM - 10:00 AM	Lieyi Sheng <i>ON Semiconductor</i>	Mechanism-Driven Solutions of Al-Cu Bond Pad Pitting for Ensuring High-Quality Automotive IC Products

10:00 AM - 10:30 AM

BREAK: Coffee, drinks, snacks (provided)

<p align="center">Session 4: Reliability & PPM Improvements 10:30 AM - 12:00 PM</p>	4.1	10:30 AM - 11:00 AM	Warren Chen <i>Macronix International Co., Ltd.</i>	Component Safe Launch in Today's Automotive Environment
	4.2	11:00 AM - 11:30 AM	Krimo Semmoud <i>Xilinx</i>	Meeting Automotive ESD and System Efficient ESD Design (SEED) Requirements with Lower Process Technology Node
	4.3	11:30 AM - 12:00 PM	Molly Oxner <i>General Motors</i>	Using Automated Design Analysis to Determine Solder Fatigue and Joint Cross Section Strategies

12:00 PM - 1:30 PM

LUNCH (on own)

Wednesday, April 25, 2018 (continued)

<p align="center">Session 5: Testing & Qualification Methodology 1:30 PM - 3:30 PM</p>	5.1	1:30 PM - 2:00 PM	Ulrich Abelein <i>Infineon Technologies AG</i>	Extended Lifetime Qualification Based on Standard Mission Profiles
	5.2	2:00 PM - 2:30 PM	Sam Leeman <i>KLA-Tencor ICOS</i>	Latent Reliability Defects in Automotive Chip Packages
	5.3	2:30 PM - 3:00 PM	Krimo Semmoud <i>Xilinx</i>	Evolution of Risk Mitigation: Testing with Deep and Machine Learning Application Based Analysis for Defect Exclusion
	5.4	3:00 PM - 3:30 PM	David Price <i>KLA-Tencor Corporation</i>	Inline Defect Parts Average Testing (I-PAT)

3:30 PM - 4:00 PM **BREAK: Coffee, drinks, snacks (provided)**

<p align="center">Session 6: ISO-26262 Functional Safety Initiatives 4:00 PM - 5:30 PM</p>	6.1	4:00 PM - 4:30 PM	Bob Knoell <i>NXP Semiconductors</i>	Calculating Probability Metric for Random Hardware Failures (PMHF) in the new version of ISO-26262 Functional Safety - Methodology and Case Studies
	6.2	4:30 PM - 5:00 PM	Dr. Viktor Tiederle <i>RELNETyX Consulting UG</i>	Failure Rates and Failure Distributions of Electronic Components for Functional Safety
	6.3	5:00 PM - 5:30 PM	Keith Hodgson & James McLeish <i>Ford Motor Company & DfR Solutions</i>	Initiatives for Addressing ISO-26262 Hardware Risk Assessments

5:30 PM **SESSION CLOSE**

Thursday, April 26, 2018

7:30 AM - 8:00 AM

Continental Breakfast (provided)

Workshop Session - W.4

8:00 AM - 8:45 AM

Industry Review of AEC Relevant Papers

Moderator: Bob Knoell, NXP Semiconductors

Workshop Session - W.5

8:45 AM - 9:30 AM

AEC-Q100 Document Revision Status & New AEC Initiatives

Moderator: AEC Q100 Technical Committee

9:30 AM - 10:00 AM

BREAK: Coffee, drinks, snacks (provided)

Workshop Session - W.6

10:00 AM - 10:45 AM

AEC-Q103-003 Microphone MEMs Activity Update & Discussion

Moderator: Bassel Atala, STMicroelectronics

Workshop Session - W.7

10:45 AM - 11:30 AM

AEC-Q004 Zero Defects Activity Update & Discussion

Moderator: Bob Knoell, NXP Semiconductors

WRAP-UP

11:30 AM - 12:00 PM

AEC Technical Committee

Closing Statements & Workshop Adjourned