

# **Automotive Electronics Council**

## **Component Technical Committee**

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# **Tentative Agenda**

*(subject to change)*

**2019 - Twenty-First Annual  
Automotive Electronics  
Reliability Workshop**

**April 30 - May 2**

**Novi, MI  
Sheraton Detroit Novi Hotel**

**Tuesday, April 30, 2019**

7:30 AM - 8:00 AM

**Continental Breakfast (provided)**

8:00 AM - 8:30 AM

**Workshop Introductions & AEC Technical Chair Report**

<p align="center"><b>Session 1:</b></p> <p align="center"><b>Passive Components - Technology Improvements</b></p> <p align="center"><b>8:30 AM - 10:00 AM</b></p>	<b>1.1</b>	8:30 AM - 9:00 AM	Rita Caeiro <i>KEMET Electronics S.A.</i>	Snap-In High Vibration Products: AEC-Q200 Automotive for High Voltage Performance Requirements
	<b>1.2</b>	9:00 AM - 9:30 AM	Daniel West <i>AVX Corporation</i>	Performance Update of Multilayer Varistors Relative to TVS Diodes
	<b>1.3</b>	9:30 AM - 10:00 AM	LeAnna Weakley <i>KEMET</i>	Use of New Magnetic Materials in High Power Applications

10:00 AM - 10:30 AM

**BREAK: Coffee, drinks, snacks (provided)**

**Workshop Session - W.1**

10:30 AM - 11:30 AM

**AEC-Q200 Passive Components Document Revision Status & Discussion**  
*Moderator: Hadi Mehrooz, ZF & AEC-Q200 Sub-Committee*

11:30 AM - 1:00 PM

**LUNCH (on own)**

**Tuesday, April 30, 2019 (continued)**

<p align="center"><b>Session 2:</b> <b>Discrete &amp; Optoelectronic Technology Improvements</b>  <b>1:00 PM - 3:30 PM</b></p>	<b>2.1</b>	1:00 PM - 1:30 PM	M. Santopa <i>STMicroelectronics</i>	Aluminum Gate Wire Fatigue Generated Using Power Cycles
	<b>2.2</b>	1:30 PM - 2:00 PM	Ronald Barr <i>Transphorm Inc.</i>	Reliability Qualification of a 35 mohm 650V, 175C, GaN FET for Automotive Applications
	<b>2.3</b>	2:00 PM - 2:30 PM	G. Corrente <i>STMicroelectronics</i>	Safety Condition Verification during Short Circuit Test on Plastic Encapsulated PMOS in H-Bridge Configuration
	<b>2.4</b>	2:30 PM - 3:00 PM	Joseph Jablonski <i>OSRAM</i>	Heterointegration of Silicon and GaN LED Technology for Automotive Headlamps

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

<b>Workshop Session - W.2</b>	3:30 PM - 4:15 PM	<p><b>AEC-Q101 Discrete Semiconductors Document Revision Status &amp; Discussion</b> <i>Moderator: Peter Turlo, ON Semiconductor &amp; AEC-Q101 Sub-Committee</i></p>
<b>Workshop Session - W.3</b>	4:15 PM - 4:45 PM	<p><b>AEC-Q102 LED Qualification Document Revision Status &amp; Discussion</b> <i>Moderator: TBD</i></p>
<b>Workshop Session - W.4</b>	4:45 PM - 5:30 PM	<p><b>AEC-Q103-002 MEMS Pressure Sensors Document Status &amp; Discussion</b> <i>Moderator: Dr. Mykola Blyznyuk, Melexis &amp; AEC-Q103-002 Sub-Committee</i></p>

5:30 PM      **SESSION CLOSE**

**Wednesday, May 1, 2019**

7:30 AM - 8:00 AM

**Continental Breakfast (provided)**

<p align="center"><b>Session 3:</b> <b>Testing &amp; Qualification Methodology</b> <b>8:00 AM - 10:00 AM</b></p>	<b>3.1</b>	8:00 AM - 8:30 AM	Ulrich Abelein <i>Infineon Technologies AG</i>	Wire Bond Integrity Investigations using Advanced Pull/Shear Data Analysis
	<b>3.2</b>	8:30 AM - 9:00 AM	Joyce Witowski <i>NXP Semiconductors</i>	Application of Inline Defect Part Average Testing (I-PAT) to Reduce Latent Reliability Defect Escapes: Feasibility Study Results at NXP
	<b>3.3</b>	9:00 AM - 9:30 AM	Horst Lewitschnig <i>Infineon Technologies AG</i>	Fractional Failures Sampling - Equivalent to Zero Failure Sampling Plans
	<b>3.4</b>	9:30 AM - 10:00 AM	Alan Righter <i>Analog Devices</i>	Industry ESD Qualification Harmonization

10:00 AM - 10:30 AM

**BREAK: Coffee, drinks, snacks (provided)**

<p align="center"><b>Session 4:</b> <b>Zero Defect Advancements</b> <b>10:30 AM - 12:00 PM</b></p>	<b>4.1</b>	10:30 AM - 11:00 AM	Lieyi Sheng <i>ON Semiconductor</i>	Navigating "Road to Zero Defects" for Virtual 0-PPB Reliability in Semiconductor Products
	<b>4.2</b>	11:00 AM - 11:30 AM	Jinn-Wen Young <i>TSMC</i>	Statistical Method to Ensure 1PPM Product Lifetime for Automotive
	<b>4.3</b>	11:30 AM - 12:00 PM	Dr. John Robinson <i>KLA Corporation</i>	Toward Zero Defect: Automotive Fab Best Practices for Assessing "Best Performing Tools"

12:00 PM - 1:30 PM

**LUNCH (on own)**

**Wednesday, May 1, 2019 (continued)**

<p align="center"><b>Session 5:</b></p> <p align="center"><b>Reliability &amp; PPM Improvements - Part 1</b></p> <p align="center"><b>1:30 PM - 3:00 PM</b></p>	<b>5.1</b>	1:30 PM - 2:00 PM	Rene Rongen <i>NXP Semiconductors</i>	Applicability of Standard Test Conditions and Requirements in the AEC Standards
	<b>5.2</b>	2:00 PM - 2:30 PM	Tao Cheng <i>MediaTek, Inc.</i>	Process Reliability and Integrated Circuit Qualification for Mission Profile of Over Grade Ambient Operating Temperature
	<b>5.3</b>	2:30 PM - 3:00 PM	Douglas Sutherland <i>KLA Corporation</i>	Practical Application of the Measurement Systems Analysis (MSA) for Automotive Semiconductor Process Control

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

<p align="center"><b>Session 6:</b></p> <p align="center"><b>Reliability &amp; PPM Improvements - Part 2</b></p> <p align="center"><b>3:30 PM - 5:00 PM</b></p>	<b>6.1</b>	3:30 PM - 4:00 PM	Jinsoo Bae <i>Samsung Electronics</i>	Board Level Reliability of Packages for Automotive Electronics
	<b>6.2</b>	4:00 PM - 4:30 PM	Keith Hodgson & James McLeish <i>Ford Motor Company &amp; DfR Solutions</i>	SAE J3168 Reliability Physics Analysis of Electronic Equipment, Modules and Components Update
	<b>6.3</b>	4:30 PM - 5:00 PM	Jean-Jacques Hajjar <i>Analog Devices</i>	EIPD: A New Acronym for An Ageless Problem

<b>Workshop Session - W.5</b>	5:00 PM - 5:45 PM	<p align="center"><b>AEC-Q004 Zero Defects Activity Update &amp; Discussion</b></p> <p align="center"><i>Moderator: Rene Rongen, NXP Semiconductors &amp; AEC-Q004 Sub-Committee</i></p>		
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5:45 PM      **SESSION CLOSE**

**Thursday, May 2, 2019**

7:30 AM - 8:00 AM

**Continental Breakfast (provided)**

**Workshop Session - W.6**

8:00 AM - 8:45 AM

**AEC-Q105 Touch Screen & Display Modules Activity Update & Discussion**  
*Moderator: Robert Kinyanjui, John Deere & AEC-Q105 Sub-Committee*

**Workshop Session - W.7**

8:45 AM - 10:15 AM

**AEC-Q100 Integrated Circuits Document Revision Status & New AEC Initiatives**  
*Moderator: Ulrich Abelein, Infineon Technologies & AEC-Q100 Sub-Committee*

10:15 AM - 10:30 AM

**BREAK: Coffee, drinks, snacks (provided)**

**Workshop Session - W.8**

10:30 AM - 12:00 PM

**AEC-Q104 Multi-Chip Module Activity Update & Discussion**  
*Moderator: Tom Lawler, Lattice Semiconductor & AEC-Q104 Sub-Committee*

**WRAP-UP**

12:00 PM - 12:30 PM

AEC Technical Committee

Closing Statements & Workshop Adjourned