

PRELIMINARY PROGRAMME

Program subjected to change Ver.1.

Workshop & SDU Tour Day 1 11th September 2023

13:00-14:00 **Workshop Part I. Passive Components Technologies for Efficient Power Conversion**; SDU & Danfoss Drive
(registration required, no fee for conference attendees)

---- break ----

14:30-15:50 **Workshop Part II. Passive Components Technologies for Efficient Power Conversion Case Study: 25kW SiC Power Supply**; OnSemi and WE; (registration required, no fee for conference attendees)

---- break ----

16:00-18:00 **SDU University Tour**; Tour through SDU University facility and laboratories (registration required, no fee)

Conference & Networking Day 2 12th September 2023

9:00-9:30 **Welcome** prof. Thomas Ebel; SDU Sønderborg and Tomas Zednicek Ph.D.; EPCI

9:30-9:55 **Keynote I. European Passive Components Market**; EPCIA European Passive Components Industry Association
Thomas Ebel; EPCIA board member

9:55-10:00 **EPCIA Student Awards Ceremony**; Thomas Ebel; EPCIA

10:00-10:40 **Speakers Introduction**

---- break ----

11:00-11:50 **TPI Technical Product Introduction Flash Presentations** - 5min short commercial presentations from
manufacturers to introduce its hot product / news or invitations to exhibition booth

----- lunch -----

12:40-14:10 **Session I. TECHNOLOGY & ROADMAPS**; Chairman:

- 1.1. Improving High Voltage Power Modules with new Silicon Snubber Capacitor technology**; Tom Choicy; MURATA, Germany
- 1.2. Main failure modes on connectors – Feedback from Failure Analyses on connectors - all electronic sectors**; Eric Zaia; SERMA TECHNOLOGIES, France
- 1.3. 3V EDLC products for a longer useful life**; Gerald Tatschl; Vishay BCcomponents, Austria

---- break ----

14:30-18:50 **Session II. MATERIALS & PROCESSES**; Chairman:

- 2.1. Responsible and Stable Tantalum Supply**; Kurt Habecker; GAM Global Advanced Metals; USA
- 2.2. Extending the capacity and high voltage performance of Ta-capacitors**; Melanie Stenzel; TANIOBIS GmbH; Germany
- 2.3. Voltage Dependence of Ferroelectric Class 2 Multilayer Ceramic Capacitors**; Frank Puhane; Würth Elektronik eiSos GmbH; Germany
- 2.4. Thick Film on Steel Resistor Technology - Increasingly Power Dense & Demanding Applications**; James Spencer; TT Electronics; UK

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- 2.5. Assembly technology of electronic components for e-textiles**; Tomas Blecha; University of West Bohemia; CR
- 2.6. Graphene derivatives for energy storage applications**; Michal Otyepka; CATRIN, Palacky University Olomouc; Czech Republic
- 2.7. Evaluation of key parameters for supercapacitors based on activated carbons derived from the plastic waste**; Vojtěch Kupka; CATRIN, UPOL University, Czech Republic
- 2.8. Smart textile speaker**; Julie Hladikova; University of West Bohemia, Pilsen, Czech Republic

19:00 ----- **Welcome Drink** -----

Panel Discussion & Sessions Day 3 13th September 2023

9:00-9:30 **Keynote II. Power Conversion - Semiconductors Development & Passive Components Consequences** Danfoss; Denmark

9:30-10:30 **Hot Topic Panel Discussion Power Conversion Challenges and Consequences to Passive Components**

Panelists: semiconductor, passive component manufacturers & end users experts

---- break ----

10:50-11:50 **Session III. QUALITY & RELIABILITY;** Chairman:

3.1 Climatic reliability of electronic parts - solution of the challenge; Vladimir Sítko; PBT Works, Roznov p.Radhostem, Czech Republic

3.2 Selecting MLCC's That Meet High Reliability Requirements of Medical Implantable Devices; Victor Lu; Knowles Precision Devices

----- lunch -----

12:40-14:40 **Session III. (cont.) QUALITY & RELIABILITY;** Chairman:

3.3 De-risking plan at Cryogenic Temperatures for PETERCEM microswitch; Manuel Sánchez; Alter Technology; Spain

3.4 Ceramic capacitors: recent in-orbit failure and proposed way forward; Adrià Escoda; ESA ESTEC; The Netherlands

3.5 Reliability and Failure Mode in Solid Tantalum Capacitors; Y.Freeman; KEMET YAGEO; USA

3.6 Degradation of Aluminum and Tantalum Wet Electrolytic Capacitors during High Temperature Storage; Alexander Teverovsky; Jacobs/NASA- GSFC; USA

---- break ----

15:00-17:00 **Danfoss Drive Factory Tour** (bus coach to Danfoss Drive Factory leaving SDU at 14:45) -----

18:00-23:00 **Murata Gala Dinner** (bus coach to Gala Dinner leaves Danfoss Drive at 17:00) -----

Sessions & Closing Day 4 14th September 2023

9:00-11:00 **Session IV. NEW DEVELOPMENT;** Chairman:

4.1. High Energy Density NanoLamTM Capacitors for Use in Spacecraft Power Processing Units; Angelo Yializis Ph.D; Polycharge America Inc; USA

4.2. Shielding metal effect on polypropylene thin-film during focused helium-ion beam irradiation; Shova Neupane; SDU University of Southern Denmark; Denmark

4.3. Layer-by-layer printing: how we fabricate the next generation of nanocomposite capacitors for more efficient power electronics; William Greenbank; SDU University of Southern Denmark; Denmark

4.4. Development of a New High-performance Polymer Aluminium Electrolytic Capacitor; Shova Neupane; SDU University of Southern Denmark; Denmark

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11:20-13:50 **Session V. APPLICATIONS;** Chairman:

5.1. How to select gate resistor – from discrete to back-contact-bondable resistors; Ove Hach; Vishay BCcomponents Beyschlag GmbH; Germany

5.2. A look at Modern Capacitors used in power conversion; Ron Demcko; KYOCERA AVX Corporation; USA

5.3. Understanding the influence of ESR and Ripple Current for the capacitor selection; Alexander Nebel; YAGEO; Germany

5.4. Latest Generation of EMI Suppression (Film) Capacitors for xEV Systems; David Olalla; TDK; Germany

5.5. Advancement of power electronics through Ceramic Y-Capacitor Technology; Moaz El Ghazali; Murata; Germany

14:00-14:30 **Best Paper Awards & Closing Ceremony**

----- 14:30 lunch with to go option -----