

PSMA Capacitor Committee Minutes & Action List

Attendees January 5, 2022

Fred Weber – Future Technology Worldwide

Pierre Lohrber – Würth

Andrew Mikulski – KEMET

Ada Cheng – AdaClock

Beth Massey – TEA - The Energy Authority

Brian Sparks - FEDCO

Caleb Breazeale - Independent

Ed Herbert – PSMA – Magnetics Workshop

Ed Lobo – CDE

Eduardo Drehmer – TDK

Eric Schneider - Independent

Frank Puhane – Würth

Hengzhao Yang – New Mexico Institute of Mining and Technology / IEEE

Joe Horzepa – PSMA

John Horzepa - PSMA

Kevin O'Connor – Caporus Technologies

Mark Scott – Miami U / IEEE

Matt Wilkowski – Magnetics Committee – Workshop

Mike Cannon - TDK

Mike Dombrow – Faratronic

Mike Dombrow Jr – Faratronic

Mike McGeachie – FAE Cornell Dublier

Nick Visic – AISHI Capacitors

Norm Schutzkus – Richardson Electronics

Peter Victor - Fedco

Phil Whitmire – CDE

Raj Pulugurtha – Florida International University

Rene Kalbitz -Würth

Rob Haywood – Gore

Scott Franco – CDE

Stephan Menzel - CapXon

Thomas Gietzol – Collins

Victor Boyadzhyan – AiTech Systems

Next Meeting Monday, January 17, 2022
at 12:00 CDT – For IS Presentations

Committee Webpage

The PSMA Webpage have been completely updated!!!

We can always use more!!! If you have a training presentation or file please upload it to the following DropBox and let me know:

<https://www.dropbox.com/request/Nq4EYFznmfUKY7Qdiicu>

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Vehicular (Automotive) Electronics Workshop

PSMA is organizing a Workshop that focusses on the electrification Vehicles, including powertrain and autonomous products. Can use the following capacitor Webinar in the workshop.

Fast Charging – Ada Cheng, Gerald Deboy – Infineon
PCB Layout Considerations – Victor Boyadzhyan
Wireless Charging – Pierre Lohrber – Joe Horzepa
DOD electrification trends – Chris Waling
Israeli Capacitor company supplier for Wireless Charging – Norm Schutzkus
Off road Autonomous vehicles – John Deere, CAT
Latest On-Board Charger
Power Distribution (24V to 48V)
Safety –
Reliability Committee – Ada Cheng
Magnetics Requirements - Spang

Webinars

There is a desire and demand to restart the Fundamentals Webinars from the beginning with a fresh approach. Need volunteers, preferably from those that were NOT part of the first series.

PSMA Capacitor Committee Offers Capacitor Fundamentals for Automotive Applications

Webinars / Low power and control circuit applications
/ Power Stage – High Power

Picking Capacitors for your application is always a challenge. Deciding on the proper component given all of the various parameters associated with your design and the numerous capacitor technologies results in choosing a part that best balances the pros and cons of each component and how your application will react to the use of that specific part. Add in the need to consider an automotive application with the temperature extremes, need for EMI suppression, not to mention shock and vibration and you have a true challenge for only the most experienced engineers.

PSMA Capacitor Committee will be offering two Educational Webinars presented by a design leader in the automotive industry explaining a best practices approach to choosing the capacitor that will be best for your application. The Webinars will be broken into different power levels.

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[Best Practices for Choosing Capacitors for Automotive Low-Power and Control Circuit Applications](#)

[Best Practices for Choosing Capacitors for Automotive High-Power Applications \(power stage in Chargers, Converters, & Inverters\)](#)

Specific capacitor locations will be identified on schematics, and their requirements will be reviewed and all of the various critical parameters will be identified. Various suppliers' products will be analyzed using their datasheets as possible candidates. Will we be able to find the best solution? We will have to see...

Eric Schneider, Independent Engineer with over 35 years of engineering experience.

Pierre to offer a Würth Fundamentals 101 presentation

Educational Webinar – Sorting out the Data Sheets

Need an FAE or using engineer with experience reviewing different brands of cap datasheets to compare and contrast and to pull out key data – Frank is working on it. Shooting for April / May timeframe

Redo the Capacitor Fundamentals series

Need volunteer(s) to start at the beginning - CDE Scott to send

Roadmap Webinar 2022 Ideas – Reviewing Options

FUTURE ROADMAP Webinar Ideas – sharing Underwriting Opportunities with the Committee

Norm, RELL – Vishay possible high voltage ceramics discussion, disks... trying to get more details

High Frequency Testing for Caps - Raj

NEED IDEAS!!!

New technologies for Broadband application Capacitor support
Tantalums

New in Ultra Caps – Takata, more than ELC – Hybrid package?

Application Driven – how different technologies behave – Filtering, Inverters (DC Link), Power Supplies, compare and contrast technologies and certain parameters for each technology. Also include Environmental technology discussion (i.e. Heat, Vibe, EMI).

Würth – Power Supply - DC Link / MLCC DC bias

EPCOS – Filtering X/Y Caps, Rob Haywood – Gore's new dielectrics, Würth - Polymers with higher capabilities

Cap optimization for EMC & EMI, BOM, layout, etc. – Raj

New: Aug, 4th

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Raj and Victor to supply an abstract of his presentation
Polymer Caps, MLCCs – at least two segments: low voltage / high voltage
Make suggestion to Connor & Dhaval for Power Tech Roadmap

Possible Eaton Hybrid Supercap – need contact

<https://www.eaton.com/us/en-us/products/electronic-components/faq/what-is-a-hybrid-supercapacitor.html>

Workshop Mission Statement –

The PSMA Capacitor Committee Annual Workshop aligned with APEC has a mission to educate the attendees on capacitor trends, technologies, and innovations. Wherever and whenever applications need energy, Capacitors are at the spotlight, and as energy moves the world it is incumbent for everyone to keep their finger on the pulse of capacitor issues. PSMA's Capacitor Committee is committed to present the best material available to meet the industry's needs.

Workshop 2022 – Overview

2022 Theme

Influences on Capacitors, How Materials and Environmental Effects Influence Capacitor Performance

Need to create a flier for the sponsorship opportunities – on the registration Page. Need to promote within our organizations.

Need a few more demo stations

Presentations to be reviewed end of January to mid-February

Agreed to 3 Student Waivers- NO REQUESTS YET – Extending the deadline

Need to wrap up speakers for round table

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Industry Session 2022 – Andrew Mikulski

Theme:

**The Latest and Greatest Capacitor Technology
Improvements for Wide Bandgap Applications**

Thursday afternoon time slot with 4 presenters

**KEMET, AVX, CapXon, Florida International
University**

GET MORE COMMITTEE PARTICIPANTS