

PSMA Capacitor Committee Minutes/Agenda APEC 2020

Attendees September 2, 2020

Fred Weber – Future Technology Worldwide

Pierre Lohrber – Würth

Wilmer Companioni – KEMET

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

Nick Visic – AISHI Capacitors

Norm Schutzkus – Richardson Electronics

Phil Whitmire – CDE

Raj Pulugurtha – Florida International University

Rob Haywood – Gore

Scott Franco – CDE

Thomas Gietzol – Collins

Victor Boyadzhyan – AiTech Systems

William Mak – KEMET

Next Meeting Wednesday, September 23, 2020 at 10:00 CDT

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>

Webinars

Capacitor Fundamentals 401 – How to Define and Choose Your Capacitor – Tuesday, August 25 at 9:00CDT. Dry Run will be Monday August 24 at 9:00CDT

The Webinar went very well with over 100 attendees. We received excellent feedback.

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PSMA Capacitor Committee Offers Capacitor Fundamentals For Automotive Applications

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 a series of 3 educational webinars presented by design leaders in the industry explaining a best practices approach to choosing the capacitor that will be best for your application. The Webinars will be separated by their voltage levels:

- 1) 12 Volt System – John Rice, Maxim
- 2) 48 Volt System - ?? **Frank Puhane to contact John Rice and discuss the differences between 12V & 48V systems that need to be focused on. Possible Vitesco presenter – awaiting feedback**
- 3) High Voltage System (400V to 800V) – Eric Schneider, Independent

Please join us to be a part of this series to see what you can learn about the finer points of choosing a capacitor. We will get right down reviewing datasheets and comparing and contrasting what is available for specific designs.

Roadmap Webinar 2021 Ideas – Reviewing Options

Mark Scott – Conditional Monitoring for Capacitors-

Good for ½ of the Webinar

Eduardo Drehmer – TDK – New Tech to Improve Films

FUTURE ROADMAP Webinar Ideas

NEED IDEAS!!!

New technologies for Broadband application Capacitor support
Tantalums

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

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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).
Wurth – Power Supply - DC Link / MLCC DC bias
EPCOS – Filtering X/Y Caps, Rob Haywood – Gore’s new dielectrics, Wurth - Polymers with higher capabilities

How to layout a PCB to minimize EMC & EMI from Caps
Raj and Victor to supply

Update past Fundamental Webinars - YES

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 2021 – Overview –

2021 Theme Ideas

**Design Techniques for the 21st Century –
Beyond the Scenes make sure you use
the correct Capacitor.**

See Chart -

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Compare simulations to reality

Datasheets – what’s important and what is marketing

Using manufacturer’s design software.

Include some of the suggestions

Keep the Academic & Manufacturing balance

Capacitor Characterization – Cap impedance – parallel usage – FPGA Application

Thermal modelling – Magnetic Modelling

Connecting cap to PCB – methods, layouts, etc.

Output capacitor – ripple voltage signature (Tantalum vs Ceramic)

Possible subject or 2 on [Energy Storage & Their Applications](#)

Workshop – Continuing Education

Mark Scott has registered both the Capacitor Workshop and the Magnetics Workshop for Continuing Education Certificates. Attendees wanting credit will be charged \$5.00 to receive their certificate.

Here is the link to the information:

<https://www.ieee.org/education/continuing-education.html>

Here is the link for the application:

http://fm34.triple8.net/fmi/iwp/cgi?-db=IEEEapps_v117&-loadframes

Add Poster Session for more Academic Input.

To be added to demo area 2021!

NEED TO PLAN 2021 WITH IN-PERSON & VIRTUAL FORMATS IN PARALLEL!

Industry Session 2021 –

THEMES FOR Industry Session 2021

Energy Storage Industry Session Will Be Separate (7 Sessions)

Add the PSMA logo to all slides, on bottom left of their slides. The presenter can also add their corporate logo to the upper right. (Discreet Branding)

2nd slide should be bio of the presenter.

Energy Storage & Their Applications Subset of Capacitor Committee

Members

Eric Schneider / Co-Chair

Ed Herbert / Co-Chair

Hengzhao Yang

Need to get someone from Energy Harvesting

Someone from Wurth – Rene, or Frank

Nihal??

Others?

GET MORE COMMITTEE PARTICIPANTS