SEMINAR INVITATION

Partner:

WÜRTH ELEKTRONIK MORE THAN YOU EXPECT

INVITATION TO THE POWER IS ON! POWER LIKE A BOSS! SEMINARS

Together with Monolithic Power Systems, a leading international semiconductor company, and Würth Elektronik, one of the leading and well known manufacturers of electronic & electro-mechanical components, invite you to participate in a joint seminar tour.

Learn more about passive and active components around switch mode power supplies and motor drivers. We will explore different EMI sources and discuss solutions you can implement. Furthermore we will dive in the theory for different SMPS topologies and the options for inductor and capacitor technologies with their respectively drawbacks and benefits.

Main topics:

- Investigate DC/DC by pouching boundaries by MPS
- Power design: Increasing efficiency by optimizing power inductor selection by WE
- Constant-On-Time, Peak Current Mode, or Zero Delay PWM: How to Make the Right Decision? by MPS
- Power design: To bulk or not to bulk by WE
- EMI/EMC framework and debugging by MPS
- Motor drivers: Turning motion into silence by WE
- Motor Driver for different Types of Electric Motors by MPS
- Live Demonstration by WE
- Q&A

Seminar location:

16th April 2024	Hotel Holiday inn, Gent	Belgium
17th April 2024	Hotel Park inn, Leuven	Belgium
04th June 2024	Hotel Infinity, Zwolle	The Netherlands
06th June 2024	Hotel Fletcher, Leiden	The Netherlands
12th June 2024	Conference Center High Tech Campus, Eindhoven	The Netherlands

Are you interested in participating? If so, you are cordially invited to this seminar. You can register via the website www.we-online.com/seminarregistration. Participation is free of charge and your lunch is included.

Should you be unable to attend after registration, please cancel free of charge via naomi.yip@we-online.com. This is possible up to 1 week before the start of the event. In case of a later cancellation or no cancellation at all, we reserve the right to charge € 27,50 in connection with reservation costs reserved.

We are convinced that we can offer you an interesting seminar and look forward to your participation.

(The organization reserves the right to change the agenda and/or the location)

Kind regards,
Würth Elektronik eiSos GmbH & Co. KG & Monolithic Power Systems

AGENDA FOR THE POWER IS ON! POWER LIKE A BOSS! SEMINARS

09.00 – 09.10 **Welcome**

09.10 – 09.50 **Investigate DC/DC by pouching boundaries by MPS**

In this session we will go through different tips to investigate DC/DC starting from checking datasheet and comparing it with real world results related to specifications as min. on/off time, short circuit problems, inductor influence, input and output caps selection. We will also expose different ways to handle thermals both on PCB, inductor and IC level.

09.50 – 10.30 **Power design: Increasing efficiency by optimizing power inductor selection by WE**

Do not just copy paste the inductor from your previous power conversion design or reference design found online. The inductor is too important for that! The right selection will impact efficiency and EMI performance of the converter. The output voltage ripple, thermal performance and size of your application are as well impacted by the inductor selection. During this session we will find out how the inductor influences these factors and how to optimize for your application.

10.30 – 10.45 **Break**

10.45 – 11.25 **Constant-On-Time, Peak Current Mode, or Zero Delay PWM: How to Make the Right Decision? by MPS**

If you would like to know more about different control methods implemented inside an IC, this session is for you. We are going to have a deep dive into the theory behind COT, PCM, ZDP all along different tests and checklist to make sure to choose the right IC for your application.

11.25 – 12.00 **Power design: To bulk or not to bulk by WE**

None of the discussed topologies will work without capacitors. But how to find the best capacitor fit for your application? The capacitor is important as it will impact EMI performance, output voltage ripple and transient response among other things in DC/DC converters. In this session we are going to talk about the physics behind the capacitor and

use online free tools to select the best ones for you. Furthermore, we are going to dive into some options for capacitors in motor drive applications.

12.00 – 13.00 **Lunch**

13.00 – 13.45 **EMI/EMC framework and debugging by MPS**

EMI debugging, including localizing intermittent failures, can be frustrating without an appropriate strategy. In this session, you'll discover the fundamentals of practical EMI/EMC design and troubleshooting of electronic circuits. We will go through what elements of the design are most important to review as soon as possible. How to do it? In this presentation, we will try to review all these points including some examples.

13.45 – 14.30 **Motor drivers: Turning motion into silence by WE**

In today's applications a lot of electric motors are being used. The exact number and type depending on the requirements of the application. As these magnetic components are working, they will generate electromagnetic interference. After designing a good layout, grounding and cable management, the engineer must attenuate the remaining EMI by applying EMI filters. All these aspects will be addressed in this session.

14.30 – 14.45 **Break**

14.45 – 15.20 **Motor Driver for different Types of Electric Motors by MPS**

What are the main features of the different types of DC motors? The early stages of a project often include facing the decision about which kind of model to use between a stepper motor, a brush DC motor, and a brushless DC motor.

In this session, we'll try to help you gain a clearer picture of the advantages and disadvantages of each motor types and motor drivers.

15.20 – 16.00 **Live Demonstration by WE**

16.00 **Q&A and closing the day**