

Registration (Fax Reply)

To: ECPE e.V.
Att.: Sabrina Haberl, sabrina.haberl@ecpe.org
Please **e-mail** a scanned copy of the completed form or
send a fax to: +49 (0)911 / 81 02 88 – 28

Register before **19 March 2014**

Participation fee:

I. Quality Inspection 26 March 2014	II. Electrical Testing 27 March 2014	Both Workshop Days	
<input type="checkbox"/> 320,- €* <input type="checkbox"/> 240,- €* <input type="checkbox"/> 80,- €*	<input type="checkbox"/> 320,- €* <input type="checkbox"/> 240,- €* <input type="checkbox"/> 80,- €*	<input type="checkbox"/> 530,- €* <input type="checkbox"/> 395,- €* <input type="checkbox"/> 120,- €*	Industry University Students

The fee includes dinner, lunch, coffee/soft drinks and a CD with the workshop presentations. A printed version of the workshop handout is available on request (€ 50*).

With the confirmation of registration you will receive the invoice.
In case of cancellation after 19 March 2014 or non-attendance 50 % of the participation fee are payable.

Three participants from each ECPE member company free of charge. Allocation in sequence of registration.

Sender:

Title, given name, name

Company, department

Full address

Phone, fax

E-mail

Date, signature

05/03/2014

Organisational information

Organiser ECPE e.V.
90443 Nuremberg, Germany
www.ecpe.org

Chairmen I. Quality Inspection
A. Schletz, Fraunhofer IISB
T. Harder, ECPE e.V.

II. Electrical Testing
Prof. N. Grass, TH Nuremberg
J. Koszescha, ECPE e.V.

Organisation Sabrina Haberl, ECPE e.V.
+49 (0)911 / 81 02 88 – 13
sabrina.haberl@ecpe.org

Workshop venue Commundo Tagungshotel Ismaning
Seidl-Kreuz-Weg 11
85737 Ismaning/Munich
Germany



Further information (hotel list and maps) will be provided after registration.



Programme

ECPE Double Workshop

I. Quality Inspection II. Electrical Testing in Power Electronics

26 – 27 March 2014
Commundo Tagungshotel
Ismaning-Munich
Germany

in cooperation with



Cluster
Leistungselektronik

Fraunhofer
IISB

TECHNISCHE HOCHSCHULE NÜRNBERG
INSTITUT ELSYS



ECPE Double Workshop

I. Quality Inspection in Power Electronics Manufacturing 26 March 2014

The assessment of zero-hour quality by destructive and non-destructive quality inspection and test methods is an integral part in electronics manufacturing. This applies also to power electronics but with special conditions: power electronics assemblies show bulky heat sinks, busbars and passive components as well as a mixed technology of surface mounted devices and PTH mounting of passives and connectors. Power devices and modules use large-area solder joints for die attach or baseplate mounting. From novel interconnection techniques as Cu bonding and Ag sintering new demands related to inspection and testing are arising.

The workshop will highlight the challenges on quality inspection of power electronic modules and assemblies and provide a platform for information exchange between suppliers and users of inspection techniques.

II. Electrical Testing of Power Electronic Systems 27 March 2014

Intelligent test strategies and test systems become more and more important in power electronics because they enable a reduction of testing costs, development time and energy consumption. Especially automotive and aircraft applications are driving this trend to hardware-in-the-loop testing with electronic loads enabling energy recovery which are emulating the real load in the target application. Electrical testing of components and modules is also covered by this workshop as well as the lifetime/robustness testing applying a mission profile in virtual operation.

The workshop will highlight the challenges on electrical testing of power electronic components and systems and provide a platform for information exchange between suppliers and users of electrical test benches.

All presentations and discussions will be in English.

Programme 1st Day I. Quality Inspection in Power Electronics Manufacturing

Wednesday, 26 March 2014

Chairmen: A. Schletz, Fraunhofer IISB, Nuremberg
T. Harder, ECPE

10:00 Start of Registration / Welcome Coffee

10:30 Welcome, Opening

A. Schletz, Fraunhofer IISB, T. Harder, ECPE e.V.

10:45 Overview on Quality Inspection in Power Electronics Manufacturing

M. Günther, Robert Bosch

11:15 X-Ray and Optical Quality Inspection

W.-R. Pennuttis, Viscom

11:45 Quality Inspection by Scanning Acoustic Microscopy

P. Czurratis, PVA TePla Analytical Systems

12:15 Discussion

12:30 Lunch

13:30 Quality Inspection by Thermography

C. Schmidt, DCG Systems

14:00 Quality Ensurance Methods for Sintered Applications

U. Sagebaum, Semikron Elektronik

14:30 Processability of Silver Sintering and Solder Paste Materials

S. Duch, Heraeus Materials Technology

15:00 Coffee break

15:30 Real Time Quality Control for Wire Bonding

D. Siepe, Hesse

16:00 Silicone Materials for next Generation Power Modules

E. Vanlathem, Dow Corning (B)

16:30 Handling and Mounting Power Electronic Components

M. Schulz, Infineon Technologies

17:00 Final Discussion

17:15 End of Workshop

19:30 Dinner at Hotel Mühle

Programme 2nd Day II. Electrical Testing of Power Electronic Systems

Thursday, 27 March 2014

Chairmen: Prof. N. Grass, TH Nuremberg Georg-Simon-Ohm
J. Koszescha, ECPE

9:00 Start of Registration / Welcome Coffee

9:15 Welcome, Opening

Prof. N. Grass, TH Nuremberg, J. Koszescha, ECPE

9:25 Introduction and Overview on Electrical Testing Strategies and Techniques

N. Grass, TH Nuremberg

10:05 HIL for Electrical Testing of a Driver Inverter

S. McDonald, Newcastle University

10:35 Discussion

10:40 Coffee break

11:00 Linear Amplifier based High Voltage Power Supplies for Advanced Electrical Testing

M. Kufner, Spitzenberger + Spies

11:20 Network Simulation for High Power

J. Umbreit, Gustav Klein

11:40 Dynamic Device Characterisation on Power Electronic Systems

D. Malipaard, Fraunhofer IISB

12:10 Discussion

12:15 Lunch

13:15 Scalable and Modular Test Bench Approach for Validation of Power Electronics Components

M. Lteif, APOJEE

13:45 High Voltage Battery Emulation & Testing

O. König, AVL List

14:15 Closing a Test Gap – Advanced Testing of Traction Inverters

H. Hammerer, SET Power Systems

14:45 Methods and Test Environments for Simultaneous Development and Test of Interrelated E-Components

H. Glasmachers, Scienlab

15:15 Discussion

15:30 Coffee break

16:00 HIL for power electronics - control system testing solution

D. Majstorovic, Typhoon HIL

16:30 On the Benefit of Floating Electrical Measurement

Y. Lobsiger, ETH Zurich / Enertronics

17:00 End of Workshop