

Registration (Fax Reply)

To: ECPE e.V.
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Register before **17 June 2009**

Participation fee:

- .. € 350.00* for industry
 - .. € 260.00* for university members
- The fee includes dinner, lunch, coffee/soft drinks and a CD with the seminar presentations. A printed version of the workshop handout is available on request (€ 42.00).
- .. € 80.00* for students (shortened seminar package)

With the confirmation of seminar registration you will receive the invoice (*plus 19% VAT).
In case of cancellation after 17 June 2009 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

Organisational information

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

Chairmen: Prof. Dieter Silber, Univ. Bremen
Thomas Harder, ECPE e.V.

Organisation: Ingrid Bollens, ECPE e.V.
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Place of workshop Hotel am Schlosspark,
Schlosstrasse 7,
85737 Munich-Ismaning
Germany



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



**ECPE European Center for
Power Electronics e.V.**

ECPE Workshop

**Power Semiconductor
Robustness –
What Kills Power Devices?**

**24 (evening) - 25 June 2009
Hotel am Schlosspark
Munich-Ismaning, Germany**



Introduction

Power Semiconductor Robustness – What kills Power Devices?

**24 (evening) – 25 June 2009
Munich, Germany**

The robustness of devices and systems characterizes their capability to cope with incidental stress and operation beyond normal conditions without or with only minimal damage. The main focus of the workshop concerns discrete power devices. Robustness can be achieved by suitable device layout, smart control and auxiliary components. All methods are closely interrelated with each other.

The workshop is planned as a forum for discussions of both the system requirements and the device limitations. The system engineer will describe the worst case operating mode and the device specialists will explain the device destruction mechanisms and also, which problems might be solved by future device development. It should also be considered which new problems might occur due to new developments in power electronic systems and devices, especially for high power density design and elevated temperatures. This should also help to specify appropriate research topics.

There will be about 5–10 minutes of discussion after each lecture and a final panel discussion. We encourage active contribution of all attendees and we would accept a limited number of short-time (ca. 3 min.) presentations including 2-3 viewgraphs for the panel discussion.

The attendees could also send some particular questions which we ask the experts to answer in the lectures or in the panel discussion, but we should receive them before May 29th, 2009.

The workshop is organized by Prof. Dieter Silber (University Bremen, Germany) and Thomas Harder (ECPE e.V.). All presentations and discussions will be in English.

Programme

Wednesday, 24 June 2009

- 18:00 Welcome**
Hotel am Schlosspark, Schlosstrasse 7,
85737 Munich-Ismaning
- 18:30 Opening, Welcome Address,**
D. Silber, T. Harder
- 18:35 Ruggedness, Robustness and Reliability**
D. Silber, University Bremen
- 18:50 The Process of “Robustness Validation”**
E. Wolfgang, ECPE e.V.
- 19:20 Second Breakdown, Latching and Thermal Runaway – An Overview**
D. Silber, University Bremen
- 20:00 Dinner**
Hotel-Gasthof Neuwirt, Schlosstrasse 7
85737 Munich-Ismaning

Thursday, 25 June 2009

- 8:00 Registration**
Hotel am Schlosspark
- 8:30 Opening, Welcome Address**
D. Silber, T. Harder
- 8:45 Robustness Requirements for Semiconductors in High Power Systems**
H.-G. Eckel, University Rostock
- 9:15 Robustness of grid-connected Power Electronics for the Kilowatt-range**
A. Lindemann, University Magdeburg
- 9:45 Requirements on Power Electronics in Automotive Applications**
H.-P. Feustel, Continental

10:15 Coffee break

Programme

- 10:45 Nondestructive Testing of Power Devices beyond SOA limits**
G. Busatto, University of Cassino
- 11:15 Simulation of Device Robustness: Chances and Limitations**
F. Pfirsch, Infineon Technologies
- 11:45 Robustness Limitations of High Voltage IGBTs**
A. Kopta, ABB Switzerland

12:15 Lunch

- 13:15 Power MOSFETs: Stress and Reliability Analysis during Repetitive Avalanche Conditions in Automotive Applications**
G. Bazzano, STMicroelectronic
- 13:45 Robustness of Power Diodes**
J. Lutz, Technical University Chemnitz
- 14:15 Modern Wide Bandgap Materials in Power Electronics – Challenges and Prospects for Robust Systems**
P. Friedrichs, SiCED

14:45 Short Coffee break

- 15:00 Systems Robustness achieved by Intelligent Device Control**
A. Wintrich, Semikron
- 15:30 Robustness: Wasted Margins or Ratings meet Requirements**
R. Bayerer, Infineon Technologies
- 16:00 Panel discussion with workshop speakers**
- 17:00 End of Workshop**