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ReliabilitySociety IEEE Reliability Society

IEEE CPMT and Reliability Switzerland Chapter
Technical Presentation Session

Reliability of Electronic Devices

ETH Zurich, 28th November 2016

As part of the course of regular technical presentation sessions, CPMT Switzerland chapter is organizing a joint session together with Reliability Switzerland chapter about Reliability of Electronic Devices. The goal of this seminar is to provide a platform where people can exchange information about their activities, interests and solutions.

Program

15:30 – 15:50 CPMT General Assembly (open for CPMT members only)
Daniel Thommen, Slavo Kicin, Rony Jose James IEEE CMPT Chapter Management

15:50 – 16:00 Welcome and introduction
Daniel Thommen, IEEE CMPT chapter chair, Development Manager Microdul AG

16:00 – 16:30 The ETH reliability odometer for residual lifetime estimate in power devices
Dr. Mauro Ciappa, ETH Zürich, Integrated Systems Laboratory
The end-of-life period of complex multi-chip power modules is often defined by thermo-mechanics related failure mechanisms. Reliability odometers are used to quantify in real time the residual lifetime of a system under operation. A reliability odometer is presented, which implements the real time calculation of the residual lifetime of a power module based both on the Coffin–Manson technique, and on to the numerical integration of the constitutive equations.

16:30 – 17:00 MTTF prediction from accelerated tests using standard models
Günter Grossmann, Dipl Ing FH, Scientist, EMPA Dübendorf
Statements regarding the performance of electronic equipment from accelerated tests require a model and the assessment of the model parameters. In the presentation a case study is shown how to apply standard models to give an estimate of the performance of solar cells using the data from climate tests.

17:00 – 17:30 Reliability of MEMs
Dr. Olha Serada, Section Head Material Science & Component Reliability, CSEM
Practical examples of different reliability challenges faced in MEMS development will be presented. A special focus will be made on development of standardization methodology for MEMS reliability assessment for space applications. In this respect, the reliability testing results of the three capacitive accelerometers will be presented and discussed. Correlation between the failure root cause and device malfunction will also be part of the presentation

17:30 – 18:30 Apéro / Networking

Location: ETH Zurich, ETZ Building, Gloriastrasse 35, 8092 Zurich
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Please register by E-mail (daniel.thommen@microdul.com) before 22th November 2016