Other training info

Concept and Methods

During this training, technical lectures and (practical) exercises alternate in order to support the transfer of the EOS topics. The participants will receive better understanding of EOS for their own working environment and problem solving process on EOS failure.

Certificate of Attendance

Certificate of attendance will be issued after passing basic EOS knowledge test.

Supplementary Material

VDA Volume EOS in the Automotive Industry

Duration

1 day

Public Training Fee

2,500 RMB/person (incl. VAT) training in Chinese

Price including:

- Lunch during training classes
- VDA volume EOS standard and Training material (practical)

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EOS (Electrical Overstress) in the Automotive Industry

English version

DRIVE WITH US INTO YOUR FUTURE!

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德国汽车工业协会
质量管理中心中国分公司
CHINA

EOS (Electrical Overstress) in the Automotive Industry

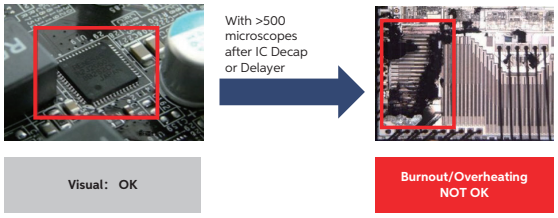
Why is EOS so important?

The complexity of automobile is increasing with the development of new technology. Towards digitalization, Electrical components and semi-conductors will become more important & complex in the future. Especially for NEV (new energy vehicle) and ICV (Intelligent Connected Vehicle) launches. The digitalization in the automotive industry will bring much more attention based on rejection of EOS.

Electrical Overstress (EOS) - failures are already today one of the major problems in electronics in the automotive industry.

EOS is the term for thermal damage that occur when an electronic component is exposed a current or voltage which is outside of the defined specification limits. It is also called EIPD (Electrically Induced Physical Damage). Those defects are often no visual with your eyes (see photo below).

Most of failure parts, not visible N/C (abnormal issues) on the surface, but malfunction in place!

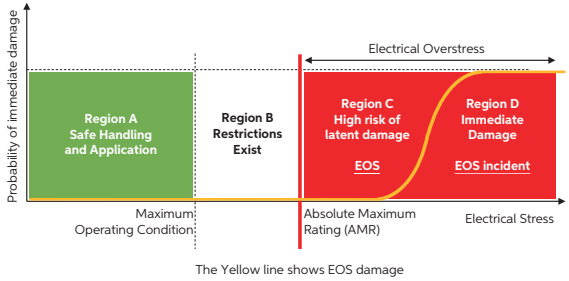


Source: Pictures refer JEDEC Publication JEP74

VDA – EOS Standard

VDA volume EOS provides a systematic method to deal with the failure of electronic components caused by electrical overload. The new standard provides guidance and instructions for the treatment of EOS in the supply chain:

- Defining the cooperation and problem-solving process between OEM, module supplier (Tier 1) and electronic components manufacturers (Tier N) in the supply chain, especially semiconductor manufacturers and give corresponding action suggestions.
- Definition of a two-stage complaint handling and problem-solving process that to prioritize cases according to relevance to ensure the fastest possible processing
- Definition of simple trigger criteria
- Guidance for supply chain on EOS exchange information
- Common vision and definition of the nomenclature



The Yellow line shows EOS damage

Source: VDA EOS standard

A device suffers EOS by exceeding the specified AMR with respect to the applied voltage, the current flowing through, or the resulting power. This causes immediate malfunction or latent damage resulting in a reduction of the lifetime of the device. Above Graph for interpreting the AMR. The red curve describes the probability of damage.

EOS training contents

- The focus of this course is the relevance and dimension of EOS, as well as the possible causes and fault appearance.
- Introduction of treatment method, process, communication and escalation paths base on EOS event.
- Participants will also learn about the EOS questionnaire & content, how to us it and why it is important.
- How the supply chain can use existing resources more efficiently when dealing with EOS faults / complaints, and how to solve EOS faults.
- Professional knowledge and methods for audit's on EOS failure (product and process)
- Integration of EOS into the VDA series (8D, Field Failure Analysis, etc.) and suggested EOS responsibilities and roles in your organization

Target audience?

- Quality engineer, Testing engineer on electric components. Manager of OEM, Tier 1, Tier N and Semiconductor manufacture who dealing with electronic components
- SQE (Supplier Quality Engineer) and Manager of OEM, Tier 1 dealing with eclectic components
- FQE (Field Quality Engineer) of OEM, Tier 1 and suppliers dealing with eclectic components

Prerequisites for Attendance:

Working experience in automotive supply chain, especially in electronic and electrical components (e.g.: control unit module (ECU)) or vehicle electronic control.