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FOREWORD

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IEC 63287-4 has been prepared by IEC technical committee 47: Semiconductor devices. It is an International Standard.

The text of this International Standard is based on the following documents:

Draft	Report on voting
47/3025/FDIS	47/3034/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This International Standard is to be read in conjunction with IEC 63287-1.

A list of all parts in the IEC 63287 series, published under the general title *Semiconductor devices - Guidelines for reliability qualification plans*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,

– withdrawn, or

– revised.

1 Scope

This part of IEC 63287 gives guidelines for the development of reliability qualification plans using the early failure assessment, based on the environmental conditioning and proposed usage of the product. This document is not intended for military- and space-related applications.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 63287-1, *Semiconductor devices - Generic semiconductor qualification guidelines - Part 1: Guidelines for IC reliability qualification*

Bibliography

IEC 60068-2-1, *Environmental testing - Part 2-1: Tests: Test A: Cold*

IEC 60068-2-30, *Environmental testing - Part 2-30: Tests: Test Db: Damp heat cyclic (12 h + 12 h cycle)*

IEC 60749-11, *Semiconductor devices - Mechanical and climatic test methods - Part 11: Rapid change of temperature - Two-fluid-bath method*

JP001, *Joint publication. foundry process qualification guidelines. (Wafer Fabrication Manufacturing Sites)*

IECQ (Parts 01-03), *IEC Quality Assessment System for Electronic Components (IECQ System)*

JEDEC JESD47, *Failure mechanism based stress test qualification for integrated circuits*

JEDEC JESD74, *Early Life Failure Rate Calculation*

JEDEC JESD94A, *Application Specific Qualification Using Knowledge Based Test Methodology, 2007*

JEDEC JEP122, *Failure Mechanisms and Models for Semiconductor Devices*

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JEITA ED-4701/002 *Procedure of the test time and the sample size determination for the life tests*

JEITA EDR-4704, *Application Guide of the Accelerated Life Test for Semiconductor Devices, Japan Electronics and Information Technology Industries Association*

JEITA EDR-4705, *Report on Failure Mechanism of LSI and Reliability Test Method*

JEITA EDR-4708, *Guideline for LSI Reliability Qualification Plan*

AEC Q100*, Stress Test Qualification for Integrated Circuits*