SLOVENSKI STANDARD
SIST EN IEC 63287-3:2026

01-november-2026

Polprevodniški elementi - Splošne smernice za kvalifikacijo polprevodnikov - 3. del: Smernice za načrtovanje ocenjevanja zanesljivosti močnostnega polprevodniškega modula (IEC 63287-3:2026)

Semiconductor devices - Generic semiconductor qualification guidelines - Part 3: Guidelines for reliability qualification plans for power semiconductor module (IEC 63287-3:2026)

Halbleiterbauelemente – Allgemeine Richtlinien zur Halbleiterqualifizierung - Teil 3: Richtlinien für Zuverlässigkeitsqualifizierungspläne für Leistungshalbleitermodule (IEC 63287-3:2026)

Dispositifs à semiconducteurs - Lignes directrices génériques concernant la qualification des semiconducteurs - Partie 3: Lignes directrices pour les plans de qualification de la fiabilité des modules à semiconducteurs de puissance (IEC 63287-3:2026)

Ta slovenski standard je istoveten z: **EN IEC 63287-3:2026**

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31.080.01	Polprevodniški elementi (naprave) na splošno	Semiconductor devices in general

SIST EN IEC 63287-3:2026 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 63287-3

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English Version

Semiconductor devices - Generic semiconductor qualification guidelines - Part 3: Guidelines for reliability qualification plans for power semiconductor module (IEC 63287-3:2026)

Dispositifs à semiconducteurs - Lignes directrices génériques concernant la qualification des semiconducteurs - Partie 3: Lignes directrices pour les plans de qualification de la fiabilité des modules à semiconducteurs de puissance (IEC 63287-3:2026)

Halbleiterbauelemente - Allgemeine Richtlinien zur Halbleiterqualifizierung - Teil 3: Richtlinien für Zuverlässigkeitsqualifizierungspläne für Leistungshalbleitermodule (IEC 63287-3:2026)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

The text of document 47/3015/FDIS, future edition 1 of IEC 63287-3, prepared by TC 47 "Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 63287-3:2026.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2027-09-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2029-09-30

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In the official version, for Bibliography, the following notes have to be added for the standard indicated:

IEC 60068-2-1	NOTE	Approved as EN IEC 60068-2-1
IEC 60068-2-6	NOTE	Approved as EN 60068-2-6
IEC 60068-2-20	NOTE	Approved as EN IEC 60068-2-20
IEC 60068-2-27	NOTE	Approved as EN 60068-2-27
IEC 60068-2-47	NOTE	Approved as EN 60068-2-47
IEC 60191-4	NOTE	Approved as EN 60191-4
IEC 60721-3-3	NOTE	Approved as EN IEC 60721-3-3
IEC 60721-3-4	NOTE	Approved as EN IEC 60721-3-4
IEC 60721-3-5	NOTE	Approved as EN IEC 60721-3-5
IEC 60747-15	NOTE	Approved as EN IEC 60747-15
IEC 60749-1	NOTE	Approved as EN 60749-1
IEC 60749-5	NOTE	Approved as EN IEC 60749-5
IEC 60749-6	NOTE	Approved as EN 60749-6
IEC 60749-15	NOTE	Approved as EN IEC 60749-15
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IEC 60749-26	NOTE	Approved as EN IEC 60749-26
IEC 60749-28	NOTE	Approved as EN IEC 60749-28
IEC 60749-34	NOTE	Approved as EN 60749-34

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 63287-1	2021	Semiconductor devices - Generic semiconductor qualification guidelines - Part 1: Guidelines for IC reliability qualification	EN IEC 63287-1	2021

IEC 63287-3

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Semiconductor devices - Generic semiconductor qualification guidelines - Part 3: Guidelines for reliability qualification plans for power semiconductor module

FOREWORD

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

Draft	Report on voting
47/3015/FDIS	47/3026/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.

A list of all parts in the IEC 63287 series, published under the general title *Semiconductor devices - Generic semiconductor qualification guidelines*, 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.

INTRODUCTION

When performing qualification tests, semiconductor device vendors prepare a specific reliability test plan upon consultation with semiconductor device users in order to efficiently carry out the reliability test.

This guideline presents examples of methods for preparing test plans to determine appropriate reliability test conditions, based on the level of quality required in the operating environments of various applications of power semiconductor modules. As a target of reliability, grades have been specified for each of the following applications: automotive, industrial and consumer electronics. Based on the number of annual operating hours, use period and other parameters assumed for each grade, this guideline defines verification methods for the wear-out failure, and proposes appropriate reliability tests. This guideline defines the concept of quality assurance from early failure to wear-out failure. It also presents approaches to appropriately ensure the reliability of power semiconductor modules.

The test conditions and the acceleration factor values presented in this guideline are only examples used for setting reliability test conditions to verify a required level of quality.

NOTE Qualification tests are tests performed by power semiconductor device vendors, taking into account the quality required by the users of their products.