Discrete semiconductor devices –

Part 15:
Isolated power semiconductor devices

Dispositifs à semiconducteurs –

Partie 15:
Dispositifs à semiconducteurs de puissance isolés

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FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

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International Standard IEC 60747-15 has been prepared by subcommittee 47E, Discrete semiconductor devices of IEC technical committee 47: Semiconductor devices

The text of this standard is based on the following documents:

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<th>FDIS</th>
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Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.
DISCRETE SEMICONDUCTOR DEVICES –
Part 15: Isolated power semiconductor devices

1 Scope

This part of IEC 60747 gives the product specific standards, requirements and test methods for isolated power semiconductor devices. These requirements are added to those given in other parts of IEC 60747, IEC 60748 and IEC 60749 for the corresponding non-isolated power devices.

2 Normative references

The following referenced documents are indispensable for the application 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 60068-2-6, Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)

IEC 60068-2-7, Environmental testing – Part 2-7: Tests – Test Ga and guidance: Acceleration, steady state

IEC 60068-2-14, Environmental testing – Part 2-14: Tests – Test N: Change of temperature

IEC 60068-2-20, Environmental testing – Part 2-20: Tests – Test T: Soldering


IEC 60068-2-47, Environmental testing – Part 2-47: Test methods – Mounting of components, equipment and other articles for vibration, impact and other similar dynamic tests

IEC 60068-2-48, Environmental testing – Part 2-48: Test methods – Guidance on the application of the tests of IEC 60068 to simulate the effects of storage

IEC 60068-3-4: Environmental testing – Part 3-4: Supporting documentation and guidance – Damp heat tests

IEC 60191-4:1999, Mechanical standardization of semiconductor devices – Part 4: Coding system and classification into forms of package outlines for semiconductor device packages

IEC 60270:2000, High voltage test techniques – Partial discharge measurements

IEC 60319, Presentation and specification of reliability data for electronic components

IEC 60664-1:1992, Insulation coordination for equipment within low-voltage systems – Principles, requirements and tests

IEC 60721-3-3:1994, Classification of environmental conditions – Part 3-3: Classification of groups of environmental parameters and their severities – Stationary use at weather-protected locations
Amendment 1 (1991)
Amendment 3 (1996)


IEC 60747-7:2000, Semiconductor devices – Part 7: Bipolar transistors

IEC 60747-8:2000, Semiconductor devices – Part 8: Field effect transistors


IEC 60749-5: Semiconductor devices – Mechanical and climatic test methods – Part 5: Steady-state temperature humidity bias life test

IEC 60749-6: Semiconductor devices – Mechanical and climatic test methods – Part 6: Storage at high temperature

IEC 60749-10: Semiconductor devices – Mechanical and climatic test methods – Part 10: Mechanical shock

IEC 60749-12: Semiconductor devices – Mechanical and climatic test methods – Part 12: Vibration, variable frequency

IEC 60749-14: Semiconductor devices – Mechanical and climatic test methods – Part 14: Robustness of terminations (lead integrity)\(^1\)

IEC 60749-15: Semiconductor devices – Mechanical and climatic test methods – Part 15: Resistance to soldering temperature for through-hole mounted devices\(^1\)

IEC 60749-21: Semiconductor devices – Mechanical and climatic test methods – Part 21: Solderability\(^1\)

IEC 60749-25: Semiconductor devices – Mechanical and climatic test methods – Part 25: Rapid change of temperature (air, air)\(^1\)

IEC 60749-26: Semiconductor devices – Mechanical and climatic test methods – Part 26: Rapid change of temperature (air, air)\(^1\)

IEC 60749-36: Semiconductor devices – Mechanical and climatic test methods – Part 36: Acceleration, steady-state

IEC 61287-1:1995, Power convertors installed on board rolling stock – Part 1: Characteristics and test methods\(^2\)


ISO 2768-2:1989, General tolerances – Part 2: Geometrical tolerances for features without individual tolerance indications

\(^1\) In preparation.
\(^2\) A new edition is being prepared.