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Discrete semiconductor devices –

Part 15:
Isolated power semiconductor devices

Dispositifs à semiconducteurs –

Partie 15:
Dispositifs à semiconducteurs de puissance isolés

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

DISCRETE SEMICONDUCTOR DEVICES –

Part 15: Isolated power semiconductor devices

FOREWORD

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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:

FDIS	Report on voting
47E/236/FDIS	47E/238/RVD

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- withdrawn;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 60068-2-27, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

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*

IEC 60747-1:1983, *Semiconductor devices – Discrete devices and integrated circuits – Part 1: General*
Amendment 1 (1991)
Amendment 3 (1996)

IEC 60747-2:2000, *Semiconductor devices – Discrete devices and integrated circuits – Part 2: Rectifier diodes*

IEC 60747-6:2000, *Semiconductor devices – Part 6: Thyristors*

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

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

IEC 60747-9:1998, *Semiconductor devices – Discrete devices – Part 9: Insulated-gate bipolar transistors (IGBTs)*

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 1302:2002, *Geometrical Product Specifications (GPS) – Indication of surface texture in technical product documentation*

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

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[1] In preparation.

[2] A new edition is being prepared.