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SEMICONDUCTOR DEVICES—
Part 1.11—SECTIONAL SPECIFICATION FOR DISCRETE DEVICES (QC 750 000)

STANDARDS ASSOCIATION OF AUSTRALIA
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This Australian standard was prepared by Committee TE/12, Semiconductors and Devices. It was approved on behalf of the Council of the Standards Association of Australia on 5 November 1986 and published on 5 December 1986.

The following interests are represented on Committee TE/12:

Confederation of Australian Industry

Department of Defence

Department of Industry, Technology and Commerce

Institution of Radio and Electronics Engineers, Australia

Telecom Australia

AUSTRALIAN STANDARD

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AS 2547.1.11—1986

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PREFACE

This standard was prepared by the Association's Committee on Semiconductors and Devices. It is reproduced from IEC 747.11:1984 and is one of the standards prepared by IEC/TC 47, Semiconductor Devices.

This standard is one of a series of standards published under the generic specification AS 2547. This standard supersedes:

- the existing AS 2547 series (published in 1982 and 1983 and identical with equivalent parts of IEC 147 published between 1966 and 1981);
- AS C366, Part 4—1978 and Part 5—1978 (equivalent to IEC 147-5 and IEC 147-5A);
- AS C367—1970 (endorsement of IEC 148—1969);
- AS 1967—1977 (identical to IEC 147-1D and 1E).

The purpose of IEC 747 is to reorganize the material originally presented in the IEC 147* series and IEC 148†, on semiconductor devices and letter symbols representing them. It is now republished as a device-oriented publication as follows:

(a) Specific requirements for integrated circuits—now IEC 748.

(b) Mechanical and climatic test methods—now IEC 749.

It was in view of the above reorganization that Committee TE/12 agreed to integrate the entire series into one series of Australian standards using the generic designation AS 2547. The relationship with the three IEC standards is as follows:

(i) Part 1.1 onwards—identical with the IEC 747 series.

(ii) Part 2.1 onwards—identical with the IEC 748 series.

(iii) Part 3.1—identical with IEC 749.

For the purpose of this Australian standard and all other standards in this AS 2547 series, the text of the reproduced IEC Publications should be modified as follows:

A. *Terminology.* The words 'Australian Standard' should replace the words 'IEC Publication' wherever they appear.

B. *Cross-references.* The reference to IEC Publications should be replaced by references to the appropriate Australian standards as follows:

Reference to IEC Publications		*Appropriate Australian Standard*	
IEC 27	Letter symbols to be used in electrical technology	AS 1046	Letter Symbols for Use in Electrotechnology
IEC 50	International Electrotechnical Vocabulary	AS 1852	International Electrotechnical Vocabulary
IEC 191	Mechanical standardization of semiconductor devices	AS C379	Mechanical Standardization of Semiconductor Devices
IEC 319	Presentation of reliability data on electronic components	AS 2350	Presentation of Reliability Data on Electronic and Similar Components
IEC 747	Semiconductor devices. Discrete devices and integrated circuits	AS 2547	Semiconductor Devices
747.1	Part 1—General	1.1	Discrete Devices—General
747.2	Part 2—Rectifier diodes	1.2	Discrete Devices—Rectifier Diodes
747.3	Signal (including switching) and regulator diodes	1.3	Discrete Devices—Signal (Including Switching) and Regulator Diodes
747.4	R.F. Diodes	1.4	Discrete Devices—R.F. Diodes
747.5	Optoelectronic devices	1.5	Discrete Devices—Optoelectronic Devices

* IEC 147, Essential ratings and characteristics of semiconductor devices and general principles of measuring methods.

† IEC 148, Letter symbols for semiconductor devices and integrated microcircuits.

747.6	Thyristors	1.6	Discrete Devices—Thyristors
747.7	Bipolar transistors	1.7	Discrete Devices—Bipolar Transistors
747.8	Field-effect transistors	1.8	Discrete Devices—Field-effect Transistors
747.9	Miscellaneous devices	1.9	Discrete Devices—Miscellaneous Devices
747.10	Generic specification for discrete devices and integrated circuits (QC 700 000)	1.10	Generic Specification for Discrete Devices and Integrated Circuits (QC 700 000)
747.11	Sectional specification for discrete devices (QC 750 000)	1.11	Sectional Specification for Discrete Devices (QC 750 000)
IEC 748	Semiconductor Devices. Integrated circuits	AS 2547	Semiconductor Devices
748.1	General	2.1	Integrated Circuits—General
748.2	Digital integrated circuits	2.2	Integrated Circuits—Digital
748.3	Analogue integrated circuits	2.3	Integrated Circuits—Analogue
748.4	Interface integrated circuits	2.4	Integrated Circuits—Interface
IEC 749	Semiconductor devices. Mechanical and climatic test methods	3.1	Mechanical and Climatic Test Methods

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Australian Standard
for
SEMICONDUCTOR DEVICES

PART 1.11—SECTIONAL SPECIFICATION FOR DISCRETE DEVICES (QC 750 000)

1. Scope

This sectional specification applies to discrete semiconductor devices, excluding opto-electronic devices.

2. General

This specification shall be read together with the generic specification to which it refers; it gives details of the Quality Assessment Procedures, the inspection requirements, screening sequences, sampling requirements, test and measurement procedures required for the assessment of semiconductor devices.

2.1 *Related documents*

IEC Publication 747-10/QC 700000 (1984), Semiconductor devices. Part 10: Generic Specification for Discrete Devices and Integrated Circuits.

2.2 *Recommended values of temperatures (preferred values)*

See IEC Publication 747-1, Chapter VI, Clause 5.

2.3 *Recommended values of voltages and currents (preferred values)*

See IEC Publication 747-1, Chapter VI, Clause 6.

2.4 *Terminal identification*

2.4.1 *Diodes*

The polarity of diodes shall be clearly indicated by one of the following methods:

1) The rectifier arrow graphical symbol pointing towards the cathode.

2) A colour code as follows:

- Diodes in A20 (IEC 191-2) and smaller outlines:
  These diodes shall be marked with a contrasting colour band or dot at the cathode end. Alternatively, when the type is identified by colour bands, the cathode end may be identified by the use of a double-width band for the first digit. If there is a possibility of the colour code at the cathode end of diodes in envelopes smaller than A1B (IEC 191-2) being confused with a type marking, then the latter shall be omitted.

- Diodes in outlines larger than A20:
  Red shall be used for the cathode.

2.4.2 *Transistors*

The terminal identification shall be as given in the detail specification.