AS 2547.1.7—1989
IEC 747-7: 1988

(Reproduced from IEC 747-7 : 1988)

Australian Standard®

Semiconductor devices

Part 1.7: Discrete devices—Bipolar transistors

[IEC Title: Semiconductor devices and integrated circuits
Part 7: Bipolar transistors]

STANDARDS AUSTRALIA

J

This Australian Standard was prepared by Committee TE/12, Semiconductors and Devices. It was approved on behalf of the Council of Standards Australia on 7 February 1989 and published on 24 July 1989.

The following interests are represented on Committee TE/12:

Confederation of Australian Industry
Department of Industry, Technology and Commerce
Institution of Radio and Electronics Engineers, Australia
Telecom Australia

Additional interests participating in preparation of Standard:

Aerospace Technologies of Australia
Department of Administrative Services
Department of Defence
National Association of Testing Authorities, Australia
Society of Automotive Engineers, Australasia
University of N.S.W.

AS 2547.1.7—1989

Australian Standard®

Semiconductor devices

Part 1.7: Discrete devices—Bipolar transistors

For History before 1983 see Preface.
AS 2546.1.7 first published 1989.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
STANDARDS HOUSE, 80 ARTHUR ST, NORTH SYDNEY NSW
ISBN 0 7262 5557 2

PREFACE

This Standard was prepared by Standards Australia's Committee on Semiconductors and Devices. It is reproduced from IEC 747-7(1988) 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 to equivalent parts of IEC 147 published between 1966 and 1981);
- AS C366, Part 4—1978 and Part 5—1978 (equivalent to IEC 147-4, IEC 147-5 and IEC 147-5A); (No evidence found that IEC147-5A was part of AS 366.5-1978)
- AS C367 (endorsement of IEC 148—1969);
- AS 1967 (technically identical to IEC 147-1D and 1E).

The purpose of IEC 747 is to reorganize into a device-oriented publication the material originally presented in the IEC 147* series and IEC 148† on semiconductor devices and letter symbols representing them, and is now republished 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—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		AS	
27	Letter symbols to be used in electrical terminology	1046	Letter symbols for use in electrotechnology
50	International electrotechnical vocabulary	1852	International electrotechnical vocabulary
191	Mechanical standardization of semiconductor devices	C379	Mechanical standardization of semiconductor devices
319	Presentation of reliability data on electronic components	2350	Presentation of reliability data on electronic and similar components
747	Semiconductor devices—Discrete devices and integrated circuits	2547	Semiconductor devices
747.1	Part 1—General	2547.1.1	Discrete devices—General
747.2	Part 2—Rectifier diodes	2547.1.2	Discrete devices—Rectifier diodes
747.3	Signalling (including switching) and regulating diodes	2547.1.3	Discrete devices—Signalling (including switching) and regulating diodes
747.4	R.F. Diodes	2547.1.4	Discrete devices—R.F. diodes
747.5	Optoelectronic devices	2547.1.5	Discrete devices—Optoelectronic devices
747.6	Thyristors	2547.1.6	Discrete devices—Thyristors
747.7	Bipolar transistors	2547.1.7	Discrete devices—Bipolar transistors
747.8	Field-effect transistors	2547.1.8	Discrete devices—Field-effect transistors

* 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.*

Reference to IEC Publication	*Appropriate Australian Standard*
IEC	AS
747.9 Miscellaneous devices	2547.1.9 Discrete devices—Miscellaneous devices
747.10 Generic specification for discrete devices and integrated circuits (QC 700 000)	2547.1.10 Generic specification for discrete devices and integrated circuits (QC 700 000)
747.11 Sectional specification for discrete devices (QC 750 000)	2547.1.11 Sectional specification for discrete devices (QC 750 000)
748 Semiconductor devices—Integrated circuits	
748.1 General	2547.2.1 Integrated circuits—General
748.2 Digital integrated circuits	2547.2.2 Integrated circuits—Digital
748.3 Analogue integrated circuits	2547.2.3 Integrated circuits—Analogue
748.4 Interface integrated circuits	2547.2.4 Integrated circuits—Interface
749 Semiconductor devices—Mechanical and climatic test methods	2547.3 Part 3: Mechanical and climatic test methods

CONTENTS

CROSS REFERENCE INDEX

New clause number	Old clause number	Document or Publication
Chapter II		
1 to 3	1 to 3	147-0, II
4.1	4.1	147-0, II
4.2	B, 4.2	(CO)981
4.3 to 4.13	4.3 to 4.13	147-0, II
4.14 to 4.19	4.17 to 4.22	147-0, II
4.20	4.23	147-0F, II
5.1	5.1	147-0C, II
5.2.1 to 5.2.4	5.2.1 to 5.2.4	147-0C and 147-0F, II
5.2.5	5.2.5	147-0F, II
5.3	5.3	147-0C, II
6.1, 6.2	1, 2	148, II
6.3	–	–
6.4, 6.4.1 to 6.4.9	3, 3.1 to 3.9	148, 148A and 148B, II
Chapter III		
Section One		
1.1 to 1.2	1.1 to 1.2	147-1, II, One
1.3	–	–
2 to 3.11.2	2 to 3.11.2	147-1, II, One
3.12	3.12	147-1J, II, One
4	4	147-1, II, One
Section Two		
1	–	–
2 to 4	2 to 4	147-1, II, Two
Section Three		
1 to 8	1 to 8	47(CO)753
Section Four		
1.1 to 1.2	1.1 to 1.2	147-1J, II, Three
1.3	–	–
2 to 3.1	2 to 3.1	147-1J, II, Three
3.2.1	3.2.1	47(CO)808
3.2.2 to 4	3.2.2 to 4	147-1J, II, Three

New clause number	Old clause number	Document or Publication
Chapter IV		
Section One		
1	1	147-2M, II
2.1	2	147-2M, II
2.2	3	147-2M, II
3	17	147-2M, II
4 to 6	4 to 6	147-2M, II
7	1.1	47(CO)888
8.1, 8.2	8.1, 8.2	147-2M, II
8.3	16	147-2M, II
9	9	147-2, II
9.1 to 9.4	1 to 4	47(CO)887
9.5	9.5	147-2, II
9.6	2.1	47(CO)810
10.1	11.1	147-2C, II
10.2	1.1	47(CO)888
10.3	1.2	47(CO)888
11.1, 11.2	12.1, 12.2	147-2C, II
11.3.1	(1)	47(CO)886
11.3.2 to 11.3.4	Appendices I to III	47(CO)886
12	2.1	47(CO)756
13.1	14.1	147-2C, II
13.2	14.2	147-2M, II
13.3, 13.4	14.3, 14.4	147-2C, II
13.5	14.6	147-2C, II
13.6	14.7	147-2M, II
14	15	147-2, II
Section Two		
1 to 4.1	1 to 4.1	147-3, II
4.2	4.2	147-3A, II
5, 6	5, 6	147-3, II
7.1	7.1	147-3A, II
8	8	147-3A, II
9 (under consideration)	9	147-3, II (under consideration)

STANDARDS AUSTRALIA

Australian Standard
Semiconductor devices

Part 1.7: Discrete devices—Bipolar transistors

CHAPTER I: GENERAL

1. Introductory note

As a rule, it will be necessary to use Publication 747-1 together with the present publication. In 747-1 the user will find all basic information on:

- terminology;
- letter symbols;
- essential ratings and characteristics;
- measuring methods;
- acceptance and reliability.

The sequence of the different chapters in the present publication is in accordance with Publication 747-1, Chapter III, Sub-clause 2.1.

2. Purpose

The present publication gives standards for the following subcategories of bipolar transistors:

- low power signal transistors (excluding switching applications);
- power transistors (excluding switching and high-frequency applications);
- high frequency power transistors for amplifier and oscillator applications;
- switching transistors.

3. Letter symbols

Mostly, existing letter symbols are added to the terms in titles. When several distinct forms exist, the most commonly used form is given.