AS 1560—1989
IEC 321:1970

Australian Standard®

Guidance for the mounting of discrete electronic components on printed boards

(IEC Title: Guidance for the design and use of components intended for mounting on boards with printed wiring and printed circuits)

This Australian Standard was prepared by Committee TE/6, Printed Circuits. It was approved on behalf of the Council of Standards Australia on 26 January 1989 and published on 26 June 1989.

The following interests are represented on Committee TE/6:

Australian Electrical and Electronic Manufacturers Association

Australian Tin Information Centre

Civil Aviation Authority

Confederation of Australian Industry

Department of Defence

Department of Industry Technology & Commerce

Institution of Radio and Electronics Engineers, Australia

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PREFACE

This Standard was prepared by Standards Australia's committee on Printed Circuits to supersede AS 1560—1977, *Recommendations for the design and use of components intended for mounting on printed circuit boards*. It is identical with, and has been reproduced from IEC 321—1970, *Guidance for the design and use of components intended for mounting on boards with printed wiring and printed circuits*. It also made reference to IEC 286, *Packaging of components for automatic handling*, which has been superseded by IEC 286, Parts 1, 2 and 3 on various kinds of passive electronic components. It is proposed that an Australian Standard be prepared based on these documents.

The purpose of the Standard is to provide guidance to the designer, manufacturer or user of discrete components intended to be mounted on printed boards by conventional plain holes or plated-through-hole techniques. Consideration is given to the type of board, board dimensions, layout and space requirements for the most effective use of available space and the need for a coherent electronic circuit.

The page numbers of the IEC English text are given on the bottom left hand corner of each page of this Standard.

For the purposes of this Australian Standard, the IEC text should be modified as follows:

The cross-references to other publications should be replaced by references to Australian Standards.

Reference to international Standard		*Australian Standard*	
IEC		AS	
68	Basic environmental testing procedures	1099	Basic environmental testing procedures for electrotechnology
68-2-20	Test T: Soldering (1979)	1099.2T	Test T: Soldering (1980)
97	Grid system for printed circuits (1970)	1521	Grid system for printed circuits (1976)
326	Printed boards	2546	Printed boards
326-2	Part 2: Test methods (1976)	2546.1	General requirements and test methods (1982)
286	Packaging of components for automatic handling	—	
249	Base materials for printed circuits	—	
249-2	Part 2: Specifications (1970)		

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STANDARDS AUSTRALIA

Australian Standard

Guidance for the mounting of discrete electronic components on printed boards

1. Scope

To give guidance to the designer, manufacturer and user of components on matters relating to the specification, design, production, supply and application of components particularly suited for use with printed circuits.

Such components will contribute to more efficient and reliable design and manufacture of printed circuit assemblies of compact form.

In its present form, this Report is intended to be applied to components which are to be soldered on to printed circuits.

2. Introduction

A component* that is to be mounted on a printed wiring or circuit board has to fulfil a number of specialized requirements in order to permit efficient manufacture of the assembly and to assure the quality that is demanded.

The application of printed wiring and circuits with their unique co-planar component mounting and wiring surfaces affects not only the performance of the product but also the design and manufacturing methods to be adopted.

Therefore, besides the normal electrical performance and quality requirements of the components, there are some specialized physical and mechanical features to be considered. Packaging of components is often affected because of the different manufacturing methods adopted for assemblies using printed wiring as compared with those conventional assemblies using ordinary wiring methods.

If the design requirements of components are to be appreciated, the primary features of the board to be considered are:

a) type of board (single or double clad);

b) board dimensions (in particular the board thickness);

c) hole dimensions;

d) hole locations;

e) hole type (plain or plated-through).

Information on these features is contained in IEC Publication 97, Grid System for Printed Circuits, and IEC Publication 326, General Requirements and Measuring Methods for Printed Wiring Boards.

* A component in the sense of this report is: “A body (including fixing devices) that is directly and individually mounted on the board”.