

Australian Standard[®]

**INTERNATIONAL
ELECTROTECHNICAL
VOCABULARY**

**Chapter 521—SEMICONDUCTOR
DEVICES AND
INTEGRATED
CIRCUITS**

This Australian Standard was prepared by Committee TE/13, Symbols, Units & Quantities for Electrotechnology. It was approved on behalf of the Council of the Standards Association of Australia on 15 March 1988 and published on 17 June 1988.

The following interests are represented on Committee TE/13:

Australian Electrical and Electronic Manufacturers Association
Confederation of Australian Industry
Department of Administrative Services—Construction Group (Commonwealth)
Department of Defence
Department of Technical and Further Education, N.S.W., Victoria and South Australia
Department of Transport and Communications (Commonwealth)
Electricity Supply Association of Australia
Institute of Draftsmen, Australia
Institution of Radio and Electronics Engineers, Australia
Melbourne & Metropolitan Board of Works
Queensland Chamber of Mines
Railways of Australia Committee
Royal Melbourne Institute of Technology
Telecom Australia
The Association of Consulting Engineers, Australia
The technical press

Review of Australian Standards. *To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.*

Full details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

AS 1852(521)—1988

Australian Standard®

**INTERNATIONAL
ELECTROTECHNICAL
VOCABULARY**

**Chapter 521—SEMICONDUCTOR
DEVICES AND
INTEGRATED
CIRCUITS**

First published in part as AS C50(07)—1970
(endorsement of IEC 50(07)—1956).
Redesignated AS 1852(07)—1970
(endorsement of IEC 50(07)—1956).
Revised and redesignated AS 1852(521)—1988.

PUBLISHED BY STANDARDS AUSTRALIA
(STANDARDS ASSOCIATION OF AUSTRALIA)
1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 5069 4

PREFACE

This Standard was prepared by the Association's Committee on Symbols, Units and Quantities for Electrotechnology, under the authority of both the Telecommunications and Electronics Standards Board and the Electrical Standards Board. This Standard supersedes in part, AS 1852(07)—1970, *International Electrotechnical Vocabulary, Electronics*, which was withdrawn in March 1987.

This Standard is identical with and has been reproduced from IEC 50(521)—1984. Acknowledgement is accordingly made to the International Electrotechnical Commission for this assistance.

This Standard is one of the AS 1852 series of Standards. In the past, this series has consisted of direct endorsements of the IEC 50 series of the International Electrotechnical Vocabulary. In future, newly issued parts of IEC 50, where appropriate, will be issued as Australian Standards, i.e. not endorsements. The full text of the definitions in English, French and Russian has been included as some definitions are considered to be incomplete when produced in one language.

The purpose of the AS 1852 series is to provide a glossary of terms used in electrical engineering. The series lists terms in English, French and Russian, and in some cases Spanish. It is intended that other Australian Standards will refer to AS 1852 and not repeat any definitions.

CONTENTS

	<i>Page</i>
SECTION	
521-01 INTRODUCTION TO ATOMIC PHYSICS	3
521-02 PROPERTIES OF SEMICONDUCTOR MATERIALS	9
521-03 PROCESSING SEMICONDUCTOR MATERIALS	26
521-04 TYPES OF SEMICONDUCTOR DEVICES	29
521-05 GENERAL TERMS FOR SEMICONDUCTOR DEVICES	40
521-06 SPECIFIC TERMS FOR DIODES	45
521-07 SPECIFIC TERMS FOR TRANSISTORS	47
521-08 SPECIFIC TERMS FOR THYRISTORS	52
521-09 SPECIFIC TERMS FOR HALL-EFFECT DEVICES AND MAG- NETORESISTORS	56
521-10 SPECIFIC TERMS FOR INTEGRATED MICROCIRCUITS	60
INDEX	63

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

INTERNATIONAL ELECTROTECHNICAL VOCABULARY

CHAPTER 521—SEMICONDUCTOR DEVICES AND INTEGRATED CIRCUITS

SECTION 521-01—INTRODUCTION TO ATOMIC PHYSICS

521-01-01

système non quantifié (de particules)

Système de particules dont on suppose que les énergies sont susceptibles de varier de manière continue. Le nombre des états microscopiques, défini par les positions et les vitesses des particules à un instant donné, est alors non limité.

non-quantized system (of particles)

A system of particles whose energies are assumed to be capable of varying in a continuous manner and in which the number of microscopic states defined by the positions and velocities of the particles at a given instant is therefore unlimited.

неквантованная система (частиц)

Система частиц, энергия которых предположительно способна изменяться непрерывно, а число микроскопических состояний, определяемое местоположениями и скоростями частиц, в данный момент бесконечно.

521-01-02

système quantifié (de particules)

Système de particules dont les énergies ne peuvent prendre que des valeurs discrètes.

quantized system (of particles)

A system of particles the energies of which can have discrete values only.

квантованная система (частиц)

Система частиц, энергия которых имеет только дискретные значения.

521-01-03

statistique de Maxwell-Boltzmann

Ensemble de probabilités des états macroscopiques d'un système non quantifié de particules déterminé par les valeurs moyennes des coordonnées de position, des vitesses ou de l'énergie, dans un volume très petit, mais non nul du système.

Maxwell-Boltzmann statistics

The probability distribution of the macroscopic states of a non-quantized system of particles, defined by the average values of the position, velocity or energy co-ordinates, in a very small, but finite, volume of the system.

статистика Максвелла-Больцмана

Совокупность вероятности макроскопических состояний системы неквантовых частиц, определяемых координатами средних значений, месторасположения, скорости или энергии в очень малом, но конечном объеме системы.