AS 60146.2—2001
IEC 60146-2:1999
(Incorporating Amendment No. 1)

Australian Standard™

Semiconductor converters

Part 2: Self-commutated semiconductor converters including direct d.c. converters

Standards Australia

This Australian Standard was prepared by Committee EL-027, Power Electronics. It was approved on behalf of the Council of Standards Australia on 5 December 2000 and published on 25 January 2001.

The following interests are represented on Committee EL-027:

Australian Communications Authority

Australian Electrical and Electronic Manufacturers Association

Bureau of Steel Manufacturers of Australia

Electricity Supply Association of Australia

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-027, Power Electronics to supersede AS 1955.2—1978, *Semiconductor convertors*, Part 2: *Semiconductor self-commutated convertors* which has been withdrawn.

This Standard incorporates Amendment No. 1 (March 2001). The changes arising from the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure, or part thereof affected.

The objective of this Standard is to provide manufacturers, users and regulators with requirements for self-commutated semiconductor converters.

This Standard is identical with, and has been reproduced from, IEC 60146-2:1999, *Semiconductor converters* Part 2: *Self-commutated semiconductor converters including direct d.c. converters*.

In January 1997, the IEC commenced numbering its Standards from 60000 by adding 60000 to the number of each existing Standard. This coordinates IEC numbering with ISO numbering. During the transition period an IEC Standard might be identified by its new number or its old number (for example, IEC 60050 or IEC 50).

A reference to an International Standard identified in the Normative References Clause by strikethrough (~~example~~) is replaced by a reference to the Australian or Australian/New Zealand Standard(s) listed immediately thereafter and identified by shading (example). Where the struck-through referenced document and the referenced Australian or Australian/New Zealand Standard are identical, this is indicated in parenthesis after the title of the latter.

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(b) In the source text ‘this standard’ should read ‘this Australian Standard’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance.

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Any IEC table, figure or passage of text that is struck-through is not part of this Standard. Any Australian table, figure or passage of text that is added (and identified by shading) is part of this Standard.

1 Scope

This part of IEC 60146 applies to all types of semiconductor converters of the self-commutated type including power converters which contain at least one part of a self-commutated type, for example a.c. converters, indirect d.c. converters, direct d.c. converters.

The requirements of IEC 60146-1-1 apply also to self-commutated converters as far as they are not in contradiction with this standard. For some special applications, for example, uninterruptible power systems, variable speed a.c. and d.c. drives and electric traction equipment, additional standards may apply.

NOTE Test restrictions may apply to special applications, for example high-power reactive power converters.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 60146. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of IEC 60146 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

References to International Standards that are struck through in this Clause are replaced by references to equivalent Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified by shading. Any Australian or Australian/New Zealand Standard that is identical to the International Standard it replaces is appropriately identified.

~~IEC 60050-101:1998, *International Electrotechnical Vocabulary (IEV) – Part 101: Mathematics*~~

AS 1852.101, *International Electrotechnical Vocabulary* Part 101: *Mathematics*

IEC 60050(161):1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electro-magnetic compatibility*

IEC 60050-551:1998, *International Electrotechnical Vocabulary (IEV) – Part 551: Power electronics*

AS 1852.551, *International Electrotechnical Vocabulary* Part 551: *Power Electronics*

IEC 60146-1-1:1991, *Semiconductor converters – General requirements and line commutated converters* – Part 1-1: *Specifications of basic requirements*