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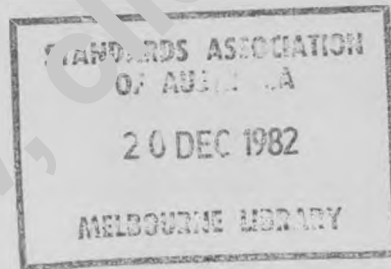
AS 1102 Parts 101 to 110 supersede AS 1102.1—1985,  
AS 1102.2—1981, AS 1102.3—1983, AS 1102.4—1983,  
AS 1102.5—1983, AS 1102.6—1982, AS 1102.7—1982,  
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AS 1102.3—1983  
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# Australian Standard 1102, Part 3—1983

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## GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY RESISTORS, CAPACITORS AND INDUCTORS



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**STANDARDS ASSOCIATION OF AUSTRALIA**  
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This Australian standard was prepared by Committee TE/13, Symbols, Units and Quantities for Electrotechnology. It was approved on behalf of the Council of the Standards Association of Australia on 22 September 1982 and published on 10 January 1983.

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The following interests were represented on the committee responsible for the preparation of this standard:

- Confederation of Australian Industry
- Department of Aviation
- Department of Defence
- Department of Defence Support
- Departments of Technical and Further Education, N.S.W., Victoria
- Department of Transport and Construction
- Electricity Supply Association of Australia
- Institute of Draftsmen, Australia
- Institution of Radio and Electronics Engineers Australia
- Melbourne and Metropolitan Board of Works
- Queensland Chamber of Mines
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**AUSTRALIAN STANDARD**

**GRAPHICAL SYMBOLS  
FOR ELECTROTECHNOLOGY  
RESISTORS, CAPACITORS  
AND INDUCTORS**

**AS 1102, Part 3—1983**

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## PREFACE

This edition of 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, and the Electrical Standards Boards, to supersede the 1973 edition.

This edition is technically identical with the 1973 edition except that it incorporates Amendment No 1 of September 1978 and Addendum No 1 of September 1978, and includes other editorial and technical changes such as the updating of cross-references to other Australian standards, the renumbering of symbols in accordance with the current IEC method, an alternative symbol for a reactor, and symbols for impedance, and transformer type regulators. Also, Section 1 has been rewritten to align with current practice.

In its terminology, format and general treatment of the subject, this standard is consistent with the recommendations of various parts of Publication 117 of the International Electrotechnical Commission (IEC). Attention has also been paid to BS 3939: Sections 4, 5 and 6. Acknowledgement is made of the assistance received from these sources.

This standard is one part in a series forming a comprehensive standard on graphical symbols for use generally in the field of electrotechnology. The purpose of this part is to specify graphical symbols for resistors, capacitors and inductors.

Examples of the use of the symbols are given in order both to establish the method to be adopted for using the symbols in diagrams and to combine them with symbols specified in other parts of the standard so as to express more complex ideas.

Some qualifying symbols and letter symbols necessary to identify a particular device are included in the standard, but for a full understanding of the methods adopted, reference will also be required to the following Australian standards:

- AS 1046 Letter Symbols for Use in Electrotechnology
  - Part 1—General
  - Part 2—Telecommunications and Electronics
- AS 1100 Drawing Practice
  - Part 6—Letters, Numerals and Symbols
- AS 1102 Graphical Symbols for Electrotechnology
  - Part 1—General, Qualifying and Supplementary Symbols
  - Part 2—Conductors and Connecting Devices
  - Part 6—Rotating Electrical Machines
- AS 1103 Diagrams, Charts and Tables for Electrotechnology
  - Part 1—Definitions and Classifications
  - Part 3—Guiding Principles for the Presentation of Elements of Electrical Diagrams
  - Part 4—Guiding Principles for the Presentation of Circuit Diagrams

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## STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard  
for

**GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY**

**PART 3—RESISTORS, CAPACITORS AND INDUCTORS**

**SECTION 1. SPECIFICATION**

**1.1 SCOPE.** This standard defines graphical symbols for resistors, capacitors and inductors for use in electrotechnology. Examples of the use of the symbols are given in order to establish the method to be adopted in constructing further symbols.

This standard may require reference to AS 1102, Part 1, and other Australian standards for a full understanding of the methods adopted (see Preface).

**1.2 REFERENCED DOCUMENTS.** The following standards are referred to in this standard:

AS 1100	Drawing Practice
AS 1102	Graphical Symbols for Electro- technology Part 5—Semiconductor Devices
AS 1103	Diagrams, Charts and Tables for Electrotechnology Part 1—Definitions and Classifications Part 3—Basic Principles for the Presentation of Elements of Electrical Diagrams
AS 2374	Power Transformers Part 4—Tappings and Connections

**1.3 GENERAL.**

**1.3.1 Relationship with IEC Symbols.** Symbols are identical with those internationally agreed within the IEC except where established usage in Australia makes unqualified acceptance of an IEC symbol difficult. In such cases an alternative symbol may be shown, with the object of adopting the IEC proposal as soon as practicable. However, only one form of any symbol shall be used on a single diagram or series of drawings. A number of non-IEC symbols have been added, which represent Australian practice; in each of these cases an asterisk has been added to the symbol number as a prefix.

**1.3.2 Size of Symbols.** Precise dimensions and proportions of graphical symbols are difficult to specify. The symbols of this standard have been drawn to a size convenient for publication and comprehension. The sizes of symbols relative to one

another may be changed to suit the circumstances of a given drawing or application.

The relative sizes of the symbols should be preserved except where it is necessary to enlarge a symbol to give it prominence in a diagram or to provide adequate space within or around it to show symbols for associated components, or for coding.

At all times however the relative proportions of the symbols should be maintained such that each symbol shall be unique and immediately recognizable.

**1.3.3 Drawing Practice.** In general, the drawing of the graphical symbols for use on wiring or circuit diagrams shall comply with the requirements of AS 1100 (in particular with Part 6) and AS 1103, Part 3.

**1.3.4 Qualifying and Supplementary Symbols.** These symbols are added to component symbols where necessary in order to define more closely the item concerned; for example, the symbol for variability added to the resistor symbol indicates a variable resistor.

Supplementary symbols define the qualified component even more closely; for example, the variability of the resistor can be further qualified with a supplementary symbol indicating continuous variability or stepped variability.

Qualifying symbols may not be employed independently but it should be noted that component symbols may be used as qualifying symbols where appropriate.

**1.3.5 New Symbols.** If a symbol for a particular type of component is not shown as an example in this standard, it should be possible to produce it from the basic and qualifying symbols. New basic symbols for specialized components should be derived and not created.

**1.3.6 Symbol Orientation.** Orientation of a symbol, including mirror image reversal, does not change the meaning of a symbol.

**1.3.7 Terminology.** The terms and definitions employed in this standard are given in AS 1103, Part 1.