

Australian/New Zealand Standard™

**Safety of Power Transformers, Reactors,
Power Supply units and combinations
thereof**

**Part 2.5: Particular requirements and
tests for transformers for shavers,
power supply units for shavers and
shaver supply units
(IEC 61558-2-5 Ed 2, MOD)**



AS/NZS 61558.2.5:2011

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The following are represented on Committee EL-002:

Australian Industry Group
Australian Retailers Association
Business New Zealand
Consumer Electronic Suppliers Association, Australia
Consumers' Federation of Australia
Electrical Regulatory Authorities, Australia
Electrical Compliance Testing Association
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Engineers Australia
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Safety of Power Transformers, Reactors, Power Supply units and combinations thereof

Part 2.5: Particular requirements and tests for transformers for shavers, power supply units for shavers and shaver supply units (IEC 61558-2-5 Ed 2, MOD)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SAFETY OF TRANSFORMERS, REACTORS,
POWER SUPPLY UNITS AND COMBINATIONS THEREOF –****Part 2-5: Particular requirements and test for transformer for shavers,
power supply units for shavers and shaver supply units**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61558-2-5 has been prepared by IEC technical committee 96: Transformers, reactors, power supply units and combinations thereof.

This second edition cancels and replaces the first edition published in 1997. It constitutes a technical revision. The main changes consist of updating this part in accordance with IEC 61558-1:2005 and adding power supply units to the scope.

This part has the status of a group safety publication in accordance with IEC Guide 104: 1997, *The preparation of safety publications and the use of basic safety publications and group safety publications*.

The text of this standard is based on the following documents:

FDIS	Report on voting
96/353/FDIS	96/360/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with ISO/IEC Directives, Part 2.

This part is intended to be used in conjunction with the latest edition of IEC 61558-1 and its amendments. It is based on the second edition (2005) of that standard.

This part supplements or modifies the corresponding clauses in IEC 61558-1, so as to convert that publication into the IEC standard: *Particular requirements and test for transformer for shavers, power supply units for shavers and shaver supply units.*

A list of all parts of the IEC 61558 series, under the general title: *Safety of transformers, reactors, power supply units and combinations thereof*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

Where a particular subclause of Part 1 is not mentioned in this part, that subclause applies as far as is reasonable. Where this part states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adopted accordingly.

In this part, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- explanatory matters: in smaller roman type.

In the text of this part, the words in **bold** are defined in Clause 3.

Subclauses additional to those in Part 1 are numbered starting from 101; supplementary annexes are entitled AA, BB, etc.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

NOTE The attention of National Committees is drawn to the fact that equipment manufacturers and testing organizations may need a transitional period following publication of a new, amended or revised IEC publication in which to make products in accordance with the new requirements and to equip themselves for conducting new or revised tests.

It is the recommendation of the committee that the content of this publication be adopted for implementation nationally not earlier than 12 months from the date of publication.

SAFETY OF TRANSFORMERS, REACTORS, POWER SUPPLY UNITS AND COMBINATIONS THEREOF –

Part 2-5: Particular requirements and test for transformer for shavers, power supply units for shavers and shaver supply units

1 Scope

Replacement:

This part of IEC 61558 deals with the safety of **shaver transformers, power supply units** incorporating a **shaver transformer**, and **shaver supply units**. **Shaver transformers** incorporating **electronic circuits** are also covered by this standard.

NOTE 1 Safety includes electrical, thermal, mechanical and chemical aspects.

Unless otherwise specified, from here onward, the term **transformer** covers **shaver transformers** and **power supply units** incorporating **shaver transformers** and **shaver supply units**.

This part is applicable to **stationary**, single phase air-cooled (natural or forced), **independent** or **associated dry- type transformers**. The windings may be encapsulated or non-encapsulated.

This standard is applicable to **transformers** and **power supply** (linear) with **internal operational frequencies** not exceeding 500 Hz.

This standard used in combination with Part 2-16 for **switch mode power supply units (SMPS)** is also applicable to power supplies with **internal operational frequencies** higher than 500 Hz. Where the two requirements are in conflict the most severe take precedence.

The **rated supply voltage** does not exceed 250 V a.c., and the **rated supply frequency** does not exceed 500 Hz.

The **rated output** is not less than 20 VA and does not exceed 50 VA .

The **no-load output voltage** does not exceed 275 V a.c and the **rated output voltage** does not exceed 250 V a.c.

This part is not applicable to external circuits and their components intended to be connected to the input and output terminals or socket-outlets of the **transformers**.

Transformers covered by this part are used in applications where **double** or **reinforced insulation** between circuits is required by the installation rules for bathrooms and similar locations, or by the appliance specifications.

NOTE 2 **Transformers** covered by this part may be flush or surface mounted or incorporated in luminaires, mirrors, and other equipment containing one or more socket-outlet(s).

NOTE 3 Attention is drawn to the following:

- for **transformers** intended to be used in vehicles, on board ships, and aircraft, additional requirements (from other applicable standards, national rules, etc.) may be necessary;