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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB 19212.6-2013

Replacing GB 19212.6-2006

Safety of transformers, reactors, power supply units and combinations thereof - Part 6: Particular requirements and test for transformer for shavers, power supply units for shavers and shaver supply units

变压器、电抗器、电源装置及其组合的安全 第6部分：剃须刀用变压器、剃须刀用电源装置及剃须刀供电装置的特殊要求和试验

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1 Scope

This clause replaces the corresponding clause of GB 19212.1-2008 with the following content.

This part of GB 19212 lays down the safety requirements for shaver transformers, power supply units incorporating a shaver transformer, and shaver supply units. Shaver transformers containing electronic circuits are also covered. Note 1 states that the safety requirements cover the electrical, thermal, mechanical and chemical aspects.

Unless otherwise specified, the word transformer below covers the shaver transformer, the power supply unit incorporating a shaver transformer and the shaver supply unit.

The part applies to stationary, single-phase, air-cooled dry-type transformers, either naturally or forced cooled, for independent or associated use; their windings may be encapsulated or non-encapsulated.

The part applies to transformers and power supplies whose internal working frequency does not exceed 500 Hz (linear). It also applies to power supplies whose internal working frequency exceeds 500 Hz, which are to be used together with GB 19212.17; where the requirements of the two standards conflict, the stricter one prevails.

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 not greater than 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.

The part does not apply to the external circuits and their components intended to be connected to the input and output terminals or to the output socket-outlets of the transformer.

Where the installation rules or the appliance specification for bathrooms and similar installation locations call for double or reinforced insulation between circuits, the transformers covered by this part may be used. Note 2 adds that the transformers covered may be flush or surface mounted on lighting fittings and mirrors, or built into other equipment containing one or more output socket-outlets.

Note 3 draws attention to the following: transformers intended for use on vehicles, ships or aircraft may need additional requirements, according to other applicable standards or national regulations; protective measures against external influences on the enclosure and on the components inside it, such as mould, insects, termites, solar radiation and icing, should also be considered; the different conditions of transport, storage and operation of the transformer should also be considered; and additional requirements complying with other applicable standards and national regulations may be adopted for transformers intended for special environments. Note 4 adds that, as transformer technology develops,

the upper frequency limit may need to be raised, and that until then this part may be used as a guideline.

2 Normative references

Apart from the references listed below, the corresponding clause of GB 19212.1-2008 applies; this clause adds the references that follow.

GB 19212.1-2008, Safety of power transformers, power supplies, reactors and similar products - Part 1: General requirements and tests, Amendment 1, identical to IEC 61558-1 Ed 2.0 Amendment 1.

IEC 60068-2-62:1:1991, Environmental testing - Part 2: Test methods - Test Ef: Impact, pendulum hammer. A footnote states that this standard has been superseded by IEC 60068-2-75:1997 but that IEC 60068-2-62:1:1991 is still cited because this part requires it.

IEC 60670, all parts, Boxes and enclosures for electrical accessories for household and similar fixed electrical installations.

3 Terms and definitions

Apart from the terms and definitions below, the corresponding clause of GB 19212.1-2008 applies; this clause adds the following terms and definitions.

3.1.101 shaver transformer: an isolating transformer that is a fixed device with restricted output, designed to supply electric shavers, electric toothbrushes and other similar devices used in bathrooms with a rated output not greater than 50 VA. It can supply only one shaver or similar device at a time.

3.1.102 shaver supply unit: an electrical accessory incorporating a shaver transformer, or a power supply unit incorporating a shaver transformer, with one or more output socket-outlets that allow only one plug to be used at a time.

4 General requirements

The corresponding clause of GB 19212.1-2008 applies.

5 General notes on tests

The corresponding clause of GB 19212.1-2008 applies.

6 Rating

The corresponding clause of GB 19212.1-2008 is replaced by the following provisions.

6.101 The rated output voltage shall not exceed 250 V a.c.

6.102 The rated output shall not be less than 20 VA and shall not be greater than 50 VA.

6.103 The rated supply frequency and the internal working frequency shall not exceed 500 Hz.

6.104 The rated supply voltage shall not exceed 250 V a.c.

Compliance with 6.101 to 6.104 is checked by visual inspection of the markings.

7 Classification

Apart from the provisions below, the corresponding clause of GB 19212.1-2008 applies.

7.2 This subclause is replaced by a classification according to short-circuit protection or protection under abnormal conditions. The list of classes itself falls beyond the pages available and is therefore not reproduced here.

0 Relationship to previous standards

The foreword states that the whole of the technical content of this part is mandatory, and that this part is drafted on the basis of GB 19212.1-2008 and has to be used together with GB 19212.1-2008 and its Amendment 1. It supplements and modifies the corresponding clauses and subclauses of GB 19212.1-2008 so as to turn their content into the content of this part; the content newly added against GB 19212.1-2008 is numbered from 101 onwards.

The part replaces GB 19212.6-2006, Safety of power transformers, power supply units and similar products - Part 6: Particular requirements for transformers for shavers and power supply units for shavers. The main technical changes recorded are: the title of the standard was changed to the present one; the provisions of clause 1 on scope were changed; the definitions of shaver transformer and shaver supply unit were changed (see 3.1.101 and 3.1.102); the provisions on the range of preferred values of rated output voltage were deleted (see 6.101 of the 2006 edition); a provision on the limit of the no-load output voltage of independent transformers was added (see 12.101); the provisions of the 2006 edition making clause 18 of GB 19212.1-2008 inapplicable were deleted (see 18.2 and 18.3 of the 2006 edition); the provisions on construction were changed (see clause 19); and Annex C and Annex D were deleted (see Annex C and Annex D of the 2006 edition).

The part adopts IEC 61558-2-5:2010 by the translation method, on an identical basis. Two editorial modifications are recorded: the title of the standard was changed as stated above, and in clause 2 the reference to IEC 61558-1:2005 was replaced by GB 19212.1-2008 Amendment 1.