

ICS 29.240.10

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

GB/T 18802.351-2019

**Components for low-voltage surge protective devices -- Part 351:
Performance requirements and test methods for telecommunications
and signalling network surge isolation transformers (SIT)**

Issued on: December 10, 2019

Implemented on: July 1, 2020

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

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3.1 Terms and definitions

Foreword

GB/T 18802 consists of the following parts.

--- GB/T 18802.1 Low-voltage surge protector (SPD) Part 1. Performance requirements of surge protectors for low-voltage power distribution systems

And test methods;

--- GB/T 18802.12 Low voltage surge protector (SPD) Part 12. Surge protector selection and

Use guidelines;

--- GB/T 18802.21 Low-voltage surge protector Part 21. Performance requirements of surge protectors (SPD) for telecommunications and signal networks

Summation test method;

--- GB/T 18802.22 Low-voltage surge protector Part 22. Selection and use of surge protectors for telecommunications and signal networks

Guidelines;

--- GB/T 18802.31 Surge protectors for special applications (including DC) for low-voltage surge protectors. Part 31. For photovoltaics

System surge protector (SPD) performance requirements and test methods;

--- GB/T 18802.311 Low-voltage surge protector components-Part 311. Performance requirements and measurement of gas discharge tubes (GDT)

Test loop

--- GB/T 18802.312 Low-voltage surge protector components Part 312. Selection and use of gas discharge tubes (GDT)

Guidelines;

- GB/T 18802.321 Low-voltage surge protector components-Part 321. Avalanche breakdown diode (ABD) specification;
- GB/T 18802.331 Low-voltage surge protector element Part 331. Specification for metal oxide varistor (MOV);
- GB/T 18802.341 Low-voltage surge protector components-Part 341. Surge suppression thyristor (TSS) specification;
- GB/T 18802.351 Low-voltage surge protector elements-Part 351. Surge isolation transformers for telecommunications and signal networks (SIT) performance requirements and test methods.

This part is Part 351 of GB/T 18802.

This section is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the translation method equivalent to IEC 61643-351..2016 "Low-voltage surge protector components-Part 351. Telecommunications and signals

Performance Requirements and Test Methods for Surge Isolation Transformers (SIT) in Networks.

The Chinese documents that have a consistent correspondence with the international documents referenced normatively in this section are as follows.

- GB/T 4728.6-2008 Graphical symbols for electrical diagrams Part 6. Generation and conversion of electrical energy (IEC 60617data-base..2007, IDT);
- GB/T 4798.3-2007 Environmental conditions for the application of electric and electronic products Part 3. Fixed use in weather-protected places (IEC 60721-3-3..2002, MOD).

The following editorial changes have been made in this section.

- Added a note in 7.1a), supplemented the number and interval of application of the withstand test voltage;
- Deleted Note 2 in Table 2 that has nothing to do with China.

Please note that some elements of this document may involve patents. The issuer of this document is not responsible for identifying these patents.

This section is proposed by China Electrical Equipment Industry Association.

This part is under the jurisdiction of the National Lightning Arrester Standardization

Technical Committee (SAC/TC81).

This section was drafted. Sichuan Zhongguang Lightning Protection Technology Co., Ltd., Xi'an High Voltage Apparatus Research Institute Co., Ltd., Shanghai University, Guangzhou Zhongguang Electric Technology Co., Ltd., Shanghai Leixun Lightning Protection Technology Co., Ltd., Phoenix Asia Pacific Electric (Nanjing) Co., Ltd., Shenzhen Tiechuang Technology Development Co., Ltd., Xi'an Shendian Electric Co., Ltd., Shanghai Yutai Oushen Electromechanical Co., Ltd., Rhein Technology (Shanghai) Co., Ltd. the company.

Introduction

This part of GB/T 18802 applies to surge isolation transformers whose rated impulse withstand voltage is compatible with the expected surge environment at the installation.

Device. This surge protection component (SPC) can be matched with a current bleeder component (such as GDT, MOV, etc.) or a surge protector (SPD).

Isolation and attenuation of transient voltages can also be used in SPDs.

Low-voltage surge protector elements. Part 351.

Surge isolation for telecommunications and signal networks

Transformer (SIT) performance requirements and test methods

1 Scope

This part of GB/T 18802 details the test circuit and test method used to determine and verify the SIT surge parameters, and gives

Optimized parameters for key performance. The surge isolation transformer (SIT) is used as a signal transformer with a peak-to-peak signal voltage not exceeding 400V.

SIT is a transformer with or without internal windings whose rated impulse withstand voltage is greater than the peak voltage of the expected common-mode surge environment.

SIT is a component suitable for protection against indirect and direct effects of lightning or other transient overvoltage surges. SIT is used to suppress co-

The mode voltage surge propagates forward.

This section does not include SITs operating in a differential mode lightning surge environment.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this article

Pieces. For undated references, the latest version (including all amendments) applies to this document.

GB/T 16935.1-2008 Insulation coordination for equipment in low-voltage systems Part 1. Principles, requirements and tests (IEC 60664-1.

(2007, IDT)

GB /Z 16935.2-2013 Insulation coordination for equipment in low-voltage systems Part 2-1. Application guide GB/T 16935 series should

Explanation, sizing example and dielectric test (IEC /T R60664-2-1..2011, IDT)

IEC 60617 database Graphical Symbols (Graphicalsymbolsfordiagrams)

IEC 60721-3-3 Classification of environmental conditions. Part 3. Classification of environmental parameter groups and their severity. Section 3.

Protective place fixed use (Classificationofenvironmentalconditions-Part 3.

Classificationofgroupsofenvi-

ronmentalparametersandtheirseverities-Section3.

Stationaryuseatweatherprotectedlocations)

3.1 Terms and definitions

The following terms and definitions apply to this document.

3.1.1

Surge isolation transformer; SIT

Isolation transformer with high impulse withstand voltage, with or without electrical shield between input and output windings.

3.1.2

Electric shield

A shield made of a conductive material to reduce the penetration of an electric field into a given area.

[GB/T 2900.83-2008, definition 151-13-10]

3.1.3

Breakdown

When the discharge is completely across the insulation, the insulation fails under electrical