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

GB/T 18802.312-2017

**Components for low-voltage surge protective devices -- Part
312: Selection and application principles for gas discharge
tubes (GDT)**

低压电涌保护器元件 第312部分：气体放电管(GDT)的选择和使用导则
(English Translation)

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Foreword

GB/T 18802 "low voltage surge protector components" is divided into the following sections.

- Part 311. Gas discharge tube (GDT) performance requirements and test circuit;
- Part 312. Guidance on the selection and use of gas discharge tubes (GDTs);
- Part 321 avalanche breakdown diode (ABD) specification;
- Part 331. Metal Oxide Varistor (MOV) specification;
- Part 341. Surge suppression thyristor (TSS) specification.

This section GB/T 18802 Part 312.

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

This section uses the translation method identical with IEC 61643-312:2013 "low-voltage surge protection components Part 312. Gas discharge tube (GDT) Selection and Use Guide. " the documents of our country that are consistent with the corresponding international documents that are normative references in this section are as follows.

- GB/T 2423.1-2008 Environmental testing for electric and electronic products Part 2. Test methods Test A. Low temperature (IEC 60068-2-1:2007, IDT)
- GB/T 2423.60-2008 Environmental testing for electric and electronic products Part 2. Test methods Test U. Lead and the whole Body Mounting Strength (IEC 60068-2-21:2006, IDT)
- GB/T 18802.311-2017 Low voltage surge protection components - Part 311. Performance requirements of gas discharge tube (GDT) and test circuit (IEC 61643-311:2013, IDT) this part is proposed by China Electrical Equipment Industry Association.

This part of the National Arrester Standardization Technical Committee (SAC/TC81) centralized.

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1 Scope

This section GB/T 18802 applies to the system nominal voltage does not exceed the exchange of 1000V or DC 1500V telecommunications, signal and low Piezoelectric power distribution network used by the gas discharge tube. Gas discharge tubes (GDTs) are defined as sealed with two or three metal electrodes Single gap or multiple gaps, internal mixed gas and pressure controllable, used to protect the equipment and/or personal harm from transient over-voltage. Headquarters Subdivided to provide two or three gas discharge tube characteristics and application circuit. This section is neither a complete technical requirements for surge protectors, Nor are all the technical requirements for using a gas discharge tube in electronic devices, where the performance of the gas discharge tube is compatible with the surge protector's ability to withstand the exact match is critical.

GB/T 18802 of this section.

- Does not involve installation and its impact on the performance of the gas discharge tube, given the performance is only applicable to test the requirements of the installation of gas Tube
- Does not involve mechanical dimensions;
- Does not involve quality assurance requirements;
- For the use of high-frequency (frequency > 30MHz) GDT may not be sufficient;
- Does not involve static voltage;
- Does not involve hybrid overvoltage protection components or combination of devices.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version applies to this article Pieces. For undated references, the latest edition (including all amendments) applies to this document.

IEC 60068-2-1 Environmental testing - Part 2-1. Tests and tests A. Low temperature (Environmental testing-Part 2-1).

Tests-TestA.Cold)

IEC 60068-2-20 Environmental tests - Part 2-20. Test methods Tests T Test of lead soldering resistance and solderability Environmental testing-Part 2-20. Tests-Test.T.Test methods resistancetosolderingheatofdeviceswithleads) IEC 60068-2-21 Environmental tests - Part 2-21. Tests U. Firmness of the terminals and the overall mounting device (Envi-ronmentaltesting-Part

2-21.Tests-TestU.Robustnesssofterminationsandintegralmountingde-vices IEC 61643-311 Low voltage surge protection components - Part 311. Performance requirements and test