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

GB/T 15651.5-2024

**Semiconductor devices - Part 5-5: Optoelectronic devices -
Photocouplers**

半导体器件 第5-5部分：光电子器件 光电耦合器

(English Translation)

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References

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is Part 5-5 of GB/T 15651. GB/T 15651 has been published in the following parts.

--- Semiconductor devices Discrete devices and integrated circuits Part 5: Optoelectronic devices (GB/T 15651-1995);

--- Semiconductor discrete devices and integrated circuits Part 5-2. Basic ratings and characteristics of optoelectronic devices (GB/T 15651.2-2003);

--- Semiconductor discrete devices and integrated circuits Part 5-3. Test methods for optoelectronic devices (GB/T 15651.3-2003);

--- Semiconductor devices discrete devices Part 5-4. Optoelectronic devices semiconductor lasers (GB/T 15651.4-2017);

--- Semiconductor devices Part 5-6. Optoelectronic devices-Light emitting diodes (GB/T 15651.6-2023);

--- Semiconductor devices Part 5-7. Optoelectronic devices-Photodiodes and phototransistors (GB/T 15651.7-2024).

This document is equivalent to IEC 60747-5-5:2020 "Semiconductor devices Part 5-5. Optoelectronic devices, optocouplers".

The following minimal editorial changes were made to this document.

--- The note content is deleted from the scope. The English translation of "optocoupler" and "photocoupler" into Chinese is both photoelectric coupler.

Introduction

Part 5-5 of the GB/T 15651 series was formulated to provide an appropriate basis for the testing and evaluation of optocoupler products.

Part 5 of the GB/T 15651 series is a series of standards for semiconductor optoelectronic devices, which mainly stipulates the overall requirements of optoelectronic devices.

Requirements, basic ratings and characteristics, test methods, semiconductor lasers, optocouplers, light-emitting diodes, photodiodes and phototransistors, etc.

The technical requirements, quality assurance regulations, etc. of the device are planned to be composed of the following parts.

--- Part 5: Optoelectronic devices. The purpose is to give semiconductor light emitting devices, semiconductor photodetector devices, semiconductor photosensitive Standards for components, semiconductor devices and sub-type devices related to internal working mechanisms and optical radiation.

--- Part 5-2. Basic ratings and characteristics of optoelectronic devices. The purpose is to give semiconductor photoelectron emitting devices, semiconductor Photoelectric detection devices, semiconductor photosensitive devices, semiconductor devices that work with internal light radiation, and basic devices classified as optoelectronic devices these ratings and characteristics are not applicable to optical fiber systems or subsystems.

--- Part 5-3. Test methods for optoelectronic devices. The purpose is to provide test methods for optoelectronic devices for optical fiber systems or Except for subsystems.

--- Part 5-4. Optoelectronic devices - semiconductor lasers. The purpose is to specify the basic ratings, characteristics and Test Methods.

--- Part 5-5. Optoelectronic devices, optocouplers. The purpose is to specify the terminology, basic ratings, characteristics, installation and maintenance of optocouplers.

Full test and measurement methods.

--- Part 5-6. Optoelectronic devices light emitting diodes. The purpose is to specify the terms, ratings and characteristics, test Testing methods and quality assessment methods.

--- Part 5-7. Optoelectronic devices, photodiodes and phototransistors. The purpose is to specify photodiodes and phototransistors Nomenclature, basic ratings and properties of pipes and methods of measurement.

Semiconductor devices Part 5-5.

Optoelectronic Devices Photocouplers

1 Scope

This document specifies the basic ratings, characteristics, safety tests and test methods for optocouplers.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 2421-2020 Overview and Guidelines for Environmental Testing (IEC 60068-1:2013, IDT) GB 4943.1-2022 Audio, video, information technology and communication technology equipment Part 1: Safety requirements (IEC 62368-1.

2018,MOD)

Note: There is no technical difference between the referenced content of GB 4943.1-2022 and the referenced content of IEC 62368-1:2018.

GB/T 16935.1-2023 Insulation coordination for equipment in low voltage systems Part 1: Principles, requirements and tests (IEC 60664-1.

2020, IDT)

Tests-TestA.Cold)

Tests-Test B.Dry heat) Part 2-14.Tests-Test N. Change of temperature) cedures-Part

2-17.Tests-TestQ.Sealing) IEC 60068-2-20 Environmental testing Part 2-20.Test method

Test T. Resistance of devices with terminals to soldering heat IEC 60068-2-27

Environmental testing Part 2: Test method Test Ea and guidance. Shock IEC 60068-2-30

Environmental testing for electric and electronic products Part 2: Test method Test Db Cyclic

damp heat (12h 12h IEC 60068-2-58 Environmental testing Part 2-58.Test method Test Td.

Solderability of surface mounted components, metallization layers devices(SMD)] IEC

60068-2-78 Environmental testing Part 2: Test method Test Cab. Steady state damp heat

test (Environmentaltes-