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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 43034.3-2023

Integrated circuits - Measurement of impulse immunity - Part 3: Non-synchronous transient injection method

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1.Structure and Drafting Rules of Standardization Documents"

Drafting.

This document is Part 3 of GB/T 43034 "Measurement of Pulse Immunity of Integrated Circuits". GB/T 43034 has released the following

part.

---Part 3.Non-synchronous transient injection method.

This document is equivalent to IEC 62215-3.2013 "Measurement of pulse immunity of integrated circuits - Part 3.Non-synchronous transient injection method".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

Introduction

In order to standardize the pulse immunity measurement of integrated circuits and provide pulse immunity measurement methods for integrated circuit manufacturers and testing institutions.

Method, GB/T 43034 specifies the general conditions, definitions and test procedures for different injection measurement methods of integrated circuit pulse immunity measurement.

The test requirements are planned to consist of 2 parts.

---Part 2.Synchronous transient injection method. The purpose is to specify the test procedures and test requirements for the synchronous transient injection method.

---Part 3.Non-synchronous transient injection method. The purpose is to specify the test procedures and test requirements for the non-synchronous transient injection method.

Integrated circuit pulse immunity measurements

Part 3.Non-synchronous transient injection method

1 Scope

This document specifies methods for measuring the immunity of integrated circuits (ICs) to standard conducted electrical transient disturbances. Run with device under test (DUT)

Asynchronous disturbance is applied to the IC pins through the coupling network. Regardless of whether the electrical transient disturbance is within the operating voltage range specified by the IC, this

All methods can obtain and classify the correlation between conducted electrical transient disturbance and the IC performance degradation caused by it.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all

amendments) applies to

this document.

GB/T 17626.4-2018 Electromagnetic compatibility test and measurement technology Electrical fast transient burst immunity test (IEC 61000-

4-4.2012,IDT)

GB/T 17626.5-2019 Electromagnetic compatibility testing and measurement technology surge (impact) immunity test (IEC 61000-4-5.

2014,IDT)

Note. There is no technical difference between the quoted content of GB/T 17626.5-2019 and the quoted content of IEC 61000-4-5.2005.

ISO 7637-2.2011 Electrical disturbances due to conduction and coupling in road vehicles Part 2.Conducted electrical transients along power lines

Note. GB/T 21437.2-2021 Test method for electrical disturbance caused by conduction and coupling from electrical/electronic components of road vehicles Part 2.Along power lines

Electrical transient conducted emissions and immunity (ISO 7637-2.2011, MOD)

(IEV)-Chapter131.Circuittheory]

Note. GB/T 2900.74-2008 Electrical Terminology Circuit Theory (IEC 60050-131.2002, MOD)

Note. GB/T 4365-2003 Electrical Terminology Electromagnetic Compatibility (IEC 60050-161.1990 A1.1997 A2.1998, IDT)

IEC 62132-4.2006 Measurement of electromagnetic immunity of integrated circuits (150kHz~1GHz) Part 4.Radio frequency power direct injection

3 Terms and definitions

The terms and definitions defined in IEC 60050-131 and IEC 60050-161 and the following apply to this document.

3.1

auxiliary equipmentauxiliary equipment

Non-EUT that is necessary to establish full functionality and determine correct performance (operation) of the device under test when exposed to disturbances.