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**NATIONAL STANDARD OF THE
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**Measurement techniques of piezoelectric, dielectric and
electrostatic oscillators - Part 3: Frequency aging test methods
(English Translation)**

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Foreword

This document conforms to GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting is scheduled.

This document is Part 3 of GB/T 43024 "Measurement Techniques for Piezoelectric, Dielectric and Electrostatic Oscillators". GB/T 43024 has been issued.

The following sections were laid out.

- Part 1: Basic Measurement Methods;
- Part 2: Phase jitter measurement method;
- Part 3: Test methods for frequency aging;
- Part 4: Short-term frequency stability test method.

This document is equivalent to IEC 62884-3:2018 "Measurement techniques for piezoelectric, dielectric and electrostatic oscillators - Part 3: Frequency aging".

Test methods.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the Ministry of Industry and Information Technology of the

People's Republic of China.

This document is under the jurisdiction of the National Technical Committee on Standardization of Piezoelectric Devices for Frequency Control and Selection (SAC/TC 182).

Introduction

GB/T 43024, "Measurement Techniques for Piezoelectric, Dielectric and Electrostatic Oscillators," aims to provide measurement and testing methods for piezoelectric, dielectric and electrostatic oscillators.

The test methods and requirements are proposed to consist of four parts.

--Part 1: Basic Measurement Methods. The purpose is to provide basic measurement methods for oscillators, including test conditions, appearance, and dimensions.

Procedures for inspection, basic electrical performance testing, mechanical and environmental testing.

--Part 2: Phase Jitter Measurement Method. The purpose is to provide a method for measuring phase jitter to accurately measure root mean square jitter.

--Part 3: Test Methods for Frequency Aging. The purpose is to provide methods for aging tests to predict frequency aging data.

Provided as evidence.

--Part 4: Short-term frequency stability test methods. The purpose is to standardize the test and evaluation methods for short-term frequency stability.

Measurement techniques for piezoelectric, dielectric and electrostatic oscillators Part 3: Test Methods for Frequency Aging

1 Scope

This document describes the measurement and evaluation methods for frequency aging tests of piezoelectric, dielectric, and electrostatic oscillators, including dielectric resonant oscillators.

(DRO) and thin-film bulk acoustic resonator (FBAR) oscillators (hereinafter referred to as "oscillators"). The purpose of the test is to provide statistical data for aging prediction.

Data support.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below.

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

This document.

IEC 60027 (all parts) Letter symbols to be used in electrical technology IEC 60050-561 International Electrotechnical Vocabulary (IEV) Part 561: Piezoelectric, dielectric and electrostatic materials for frequency control, selection and detection Electrical Components and Materials [International Electrotechnical Vocabulary (IEV) - Part 561: Piezoelectric, Dielectrified and electrostatic devices and associated materials for frequency control, selection and detection] IEC 60469 Transitions, pulses and related wave terminology, definitions and algorithms forms-Terms, definitions and algorithms) IEC 60617 Graphical symbols for diagrams Note. GB/T 4728 (all parts) Graphical symbols for electrical diagrams [IEC 60617 (all parts), MOD] IEC 60679-1 Quality-assessed piezoelectric, dielectric and electrostatic oscillators - Part 1: General Specification (Piezoelectric, dielectric) and electrostatic oscillators of assessed qualify-Part 1: Generic specification) Note. GB/T 12274.1-2012 Quartz crystal oscillators with quality assessment - Part 1: General specifications (IEC 60679-1:2007, MOD) IEC 61760-1 Surface Mount Technology Part 1: Standard Methodology for Surface Mount Components (SMDs) mounting technology-Part 1:Standard method for the specification of surface mounting components (SMDs) Note. GB/T 19405.1-2003 Surface Mount Technology Part 1: Standard Methods for Specification of Surface Mount Components (SMDs) (IEC 61760-1.

1998, IDT)

IEC 62884-1:2017 Measurement techniques for piezoelectric, dielectric and electrostatic oscillators - Part 1: Fundamental measurement methods ment techniques of piezoelectric, dielectric and electrostatic oscillators-Part 1: Basic methods for the mea-surement)

3.1 Terms and Definitions

The terms and definitions defined in IEC 60050-561, IEC 60469 and IEC 60679-1 apply to this document.