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Piezoelectric, dielectric and electrostatic oscillators of assessed quality - Part 2: Guidelines for the use of oscillators

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC 60679-2 has been prepared by IEC technical committee 49: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection. It is an International Standard.

This second edition cancels and replaces the first edition published in 1981. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) some new contents that reflect the latest manufacturing technologies;
b) added contents about the operating principle of crystal oscillators;
c) added contents about usage precautions for crystal oscillators.

The text of this International Standard is based on the following documents:

Draft	Report on voting
49/1540/FDIS	49/1544/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts of the IEC 60679 series, published under the general title *Piezoelectric, dielectric and electrostatic oscillators of assessed quality* can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,
– withdrawn, or
– revised.

INTRODUCTION

Crystal controlled oscillators are commonly used to provide the stable frequencies required for telecommunications, navigations and data processing systems. Depending upon the frequency of operation, ambient conditions and specific oscillator design, crystal oscillators are capable of providing frequency stability varying from 1×10^{-4} to 1×10^{-10}.

This document offers a guideline that describes the general properties, performance characteristics and usage precautions for crystal oscillators.

1 Scope

This part of IEC 60679 describes the general properties, performance characteristics and usage precautions for quartz crystal oscillators. This document mainly describes crystal oscillators, but some descriptions also apply to oscillators other than crystal units (e.g. MEMS resonators).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60679-1, *Piezoelectric, dielectric, and electrostatic oscillators of assessed quality - Part 1: Generic specification*

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[11] IEC 60068-2-7, *Basic environmental testing procedures - Part 2-7: Tests - Test Ga and guidance: Acceleration, steady state*

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[14] IEC 60068-2-2, *Environmental testing - Part 2-2: Tests - Test B: Dry heat*

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