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Piezoelectric, dielectric and electrostatic oscillators of assessed quality – Part 1: Generic specification

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

PIEZOELECTRIC, DIELECTRIC AND ELECTROSTATIC OSCILLATORS OF ASSESSED QUALITY –

Part 1: Generic specification

FOREWORD

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International Standard IEC 60679-1 has been prepared by IEC technical committee TC 49: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection.

This fourth edition cancels and replaces the third edition published in 2007. This edition constitutes a technical revision.

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

a) the title has been changed;
b) additional matters related to oscillator using SAW or MEMS resonator in "Terms, definitions and general information" have been included;
c) measurement methods of IEC 60679-1:2007 have been removed (they will be moved to IEC 62884 series);

d) the content of Annex A has been extended;

e) a new term and definition DIXO (Digital interfaced Crystal Oscillator) has been added;

f) a new term and definition SSXO (Spread Spectrum Crystal Oscillator) has been added;

g) Annex D has been added.

The text of this standard is based on the following documents:

FDIS	Report on voting
49/1229/FDIS	49/1233/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

PIEZOELECTRIC, DIELECTRIC AND ELECTROSTATIC OSCILLATORS OF ASSESSED QUALITY –

Part 1: Generic specification

1 Scope

This part of IEC 60679 specifies general requirements for piezoelectric, dielectric and electrostatic oscillators, including Dielectric Resonator Oscillators (DRO) and oscillators using FBAR (hereinafter referred to as "Oscillator"), of assessed quality using either capability approval or qualification approval procedures.

NOTE Dielectric Resonator Oscillators (DRO) and oscillators using FBAR are under consideration.

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 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60050-561, *International electrotecnical vocabulary – Part 561: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection.* Available at www.electropedia.org

IEC 60469, *Transitions, pulses and related waveforms – Terms, definitions and algorithms*

IEC 60617, *Graphical symbols for diagrams.* Available at http://std.iec.ch/iec60617

IEC 60748-2, *Semiconductor devices – Integrated circuits – Part 2: Digital integrated circuits*

IEC 60749-26, *Semiconductor devices – Mechanical and climatic test methods – Part 26: Electrostatic discharge (ESD) sensitivity testing – Human body model (HBM)*

IEC 60749-27, *Semiconductor devices – Mechanical and climatic test methods – Part 27: Electrostatic discharge (ESD) sensitivity testing – Machine model (MM)*

IEC TR 61000-4-1, *Electromagnetic compatibility (EMC) – Part 4-1: Testing and measurement techniques – Overview of the IEC 61000-4 series*

IEC 61340-5-1, *Electrostatics – Part 5-1: Protection of electronic devices from electrostatic phenomena – General requirements*

IEC 62884-1:2017, *Measurement techniques of piezoelectric, dielectric, and electrostatic oscillators – Part 1: Basic methods for the measurement*

ISO 80000-1, *Quantities and units – Part 1: General*

Where any discrepancies occur for any reason, documents shall rank in the following order of precedence:

- detail specification;
- sectional specification;
- generic specification;
- any other international documents (for example of the IEC) to which reference is made.

The same order of precedence shall apply to equivalent national documents.