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Quartz crystal controlled oscillators of assessed quality –

Part 1: Generic specification

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

QUARTZ CRYSTAL CONTROLLED 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 49: Piezoelectric and dielectric devices for frequency control and selection.

This third edition cancels and replaces the second edition published in 1997 and its Amendments 1 (2002) and 2 (2003) and constitutes a technical revision. It represents a step in a revision of all parts of the IEC 60679 series to include the test requirements of the IECQ system. This edition is based on the relevant standards of that system.

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

FDIS	Report on voting
49/769/FDIS	49/776/RVD

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

A list of all parts of the IEC 60679 series, published under the general title *Quartz crystal controlled oscillators of assessed quality,* can be found on the IEC website.

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

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- withdrawn;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

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

QUARTZ CRYSTAL CONTROLLED OSCILLATORS OF ASSESSED QUALITY –

Part 1: Generic specification

1 Scope

This part of IEC 60679 specifies the methods of test and general requirements for quartz crystal controlled oscillators of assessed quality using either capability approval or qualification approval procedures.

2 Normative references

The following referenced documents are indispensable for the application 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 Electrotechnical Vocabulary (IEV) – Part 561: Piezoelectric devices for frequency control and selection*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*
Amendment 1 (1992)

IEC 60068-2-1, *Environmental testing – Part 2: Tests – Tests A: Cold*

IEC 60068-2-2, *Environmental testing – Part 2: Tests – Tests B: Dry heat*

IEC 60068-2-6, *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

IEC 60068-2-7, *Environmental testing – Part 2: Tests – Test Ga and guidance: Acceleration, steady state*

IEC 60068-2-10, *Environmental testing – Part 2-10: Tests – Test J and guidance: Mould growth*

IEC 60068-2-13, *Environmental testing – Part 2: Tests – Test M: Low air pressure*

IEC 60068-2-14, *Environmental testing – Part 2: Tests – Test N: Change of temperature*

IEC 60068-2-17, *Environmental testing – Part 2: Tests – Test Q: Sealing*

IEC 60068-2-20, *Environmental testing – Part 2: Tests – Test T: Soldering*

IEC 60068-2-21, *Environmental testing – Part 2-21: Tests – Test U: Robustness of terminations and integral mounting devices*

IEC 60068-2-27, *Environmental testing – Part 2: Tests – Test Ea and guidance: Shock*

IEC 60068-2-29, *Environmental testing – Part 2: Tests – Test Eb and guidance: Bump*

IEC 60068-2-30, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12h + 12 h cycle)*

IEC 60068-2-32, *Environmental testing – Part 2: Tests – Test Ed: Free fall*

IEC 60068-2-45, *Environmental testing – Part 2: Tests – Test XA and guidance: Immersion in cleaning solvents*

IEC 60068-2-52, *Environmental testing – Part 2: Tests – Test Kb: Salt mist, cyclic (sodium chloride solution)*

IEC 60068-2-58, *Environmental testing – Part 2-58: Tests – Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)*

IEC 60068-2-64, *Environmental testing – Part 2: Test methods – Test Fh: Vibration, broad-band random (digital control) and guidance*

IEC 60068-2-78:2001, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

IEC 60469-1:1987, *Pulse techniques and apparatus – Part 1: Pulse terms and definitions*

IEC 60617-DB: 2001[1], *Graphical symbols for diagrams*

IEC 60679-5, *Quartz crystal controlled oscillators of assessed quality – Part 5: Sectional specification – Qualification approval*

IEC 61000-4-2, *Electromagnetic compatibility (EMC) – Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test*

IECQ 01, *IEC Quality Assessment System for Electronic Components (IECQ) – Basic Rules*

IEC QC 001002-2:1998, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 2: Documentation*

IEC QC 001002-3:1998, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 3: Approval procedures*

ISO 1000, *SI units and recommendations for the use of their multiples and of certain other units*

ITU-T G.810, *Definitions and terminology for synchronization networks*

ITU-T G.811: *Timing characteristics of primary reference clocks*

ITU-T G.812, *Timing requirements of slave clocks suitable for use as node clocks in synchronization networks*

ITU-T G.813, *Timing characteristics of SDH equipment slave clocks (SEC)*

ITU-T G.825, *The control of jitter and wander within digital networks which are based on the synchronous digital hierarchy (SDH)*

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[1] "DB" refers to the IEC on-line database.

ANSI T1.101, *Synchronization Interface Standard*

ANSI T1.105.03, *Synchronous Optical Network (SONET) – Jitter and Wander at Network Equipment Interfaces*

ETSI EN 300 462 (all parts), *Transmission and Multiplexing (TM); Generic requirements for synchronization networks*

Telcordia GR-253, *Synchronous Optical Network (SONET) Transport Systems: Common Generic Criteria*

- **Order of precedence**

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.