

INTERNATIONAL STANDARD

IEC 61338-1

First edition
2004-11

Waveguide type dielectric resonators – Part 1: Generic specification

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International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

V

For price, see current catalogue

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

WAVEGUIDE TYPE DIELECTRIC RESONATORS –

Part 1: Generic specification

FOREWORD

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This International Standard IEC 61338-1 has been prepared by IEC technical committee 49: Piezoelectric and dielectric devices for frequency control and selection.

IEC 61338-1 cancels and replaces the first edition of IEC 61338-1-1 published in 1996 and the first edition of IEC 61338-1-2 published in 1998.

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

| FDIS | Report on voting |
|-------------|------------------|
| 49/690/FDIS | 49/699/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.

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

IEC 61338 consists of the following parts, under the general title *Waveguide type dielectric resonators*:

Part 1: Generic specification

Part 1-3: General information and test conditions – Measurement method of complex relative permittivity for dielectric resonator materials at microwave frequency

Part 2: Guidelines for oscillator and filter applications

Part 4: Sectional specification

Part 4-1: Blank detail specification

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- withdrawn;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.

WAVEGUIDE TYPE DIELECTRIC RESONATORS –

Part 1: Generic specification

1 General

1.1 Scope

This part of IEC 61338 applies to waveguide type dielectric resonators of assessed quality using either capability approval or qualification approval procedures. It also lists the test and measurement procedures which may be selected for use in detail specifications for such resonators.

1.2 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):1991, *International Electrotechnical Vocabulary (IEV) – Chapter 561: Piezo-electric devices for frequency control and selection*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*

IEC 60068-2-1:1990, *Environmental testing – Part 2: Tests – Tests A: Cold*

IEC 60068-2-2:1974, *Environmental testing – Part 2: Tests – Tests B: Dry Heat*

IEC 60068-2-6:1995, *Environmental testing – Part 2: Tests – Tests Fc: Vibration (sinusoidal)*

IEC 60068-2-7:1983, *Environmental testing – Part 2: Tests – Tests Ga and guidance: Acceleration, steady state*

IEC 60068-2-13:1983, *Environmental testing – Part 2: Tests – Tests M: Low air pressure*

IEC 60068-2-14:1984, *Environmental testing – Part 2: Tests – Tests N: Change of temperature*

IEC 60068-2-20:1979, *Environmental testing – Part 2: Tests – Tests T: Soldering*

IEC 60068-2-21:1999, *Environmental testing – Part 2: Tests – Tests U: Robustness of terminations and integral mounting devices*

IEC 60068-2-27:1987, *Environmental testing – Part 2: Tests – Tests Ea and guidance: Shock*

IEC 60068-2-29:1987, *Environmental testing – Part 2: Tests – Tests Eb and guidance: Bump*

IEC 60068-2-30:1980, *Environmental testing – Part 2: Tests – Tests Db and guidance: Damp heat, cyclic (12 +12 hour cycle)*

IEC 60068-2-58:2004, *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 60068-2-78, *Environmental testing – Part 2: Tests – Test Cab: Damp heat, steady state*

IEC 60617, *Graphical symbols for diagrams*

IEC 61338-1-3:1999, *Waveguide type dielectric resonators – Part 1-3: General information and test conditions – Measurement method of complex relative permittivity for dielectric resonator materials at microwave frequency*

IEC 61338-4, *Waveguide type dielectric resonators of assessed quality – Part 4: Sectional specification*¹

ISO 1000:1992, *SI units and recommendation for the use of their multiples and of certain other units*

QC 001001:2000, *IEC Quality Assessment System for Electronic Components (IECQ) – Basic Rules*

QC 001002-1:1998, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 1: Administration*

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

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

QC 001005:2000, *Register of Firms, Products and Services approved under the IECQ System, including ISO 9000*

¹ To be published.