
**Valvodni tip dielektričnih resonatorjev – 2. del: Smernice za uporabo
osilatorjev in filtrov (IEC 61338-2:2004)**

Waveguide type dielectric resonators - Part 2: Guidelines for oscillator and filter
applications (IEC 61338-2:2004)

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Waveguide type dielectric resonators
Part 2: Guidelines for oscillator and filter applications
(IEC 61338-2:2004)

Résonateurs diélectriques
à modes guidés
Partie 2: Guide pour l'application
aux filtres et aux oscillateurs
(CEI 61338-2:2004)

Dielektrische Resonatoren vom
Wellenleitertyp
Teil 2: Leitfaden für Oszillator-
und Filter-Anwendungen
(IEC 61338-2:2004)

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This European Standard was approved by CENELEC on 2004-07-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 49/656/FDIS, future edition 1 of IEC 61338-2, prepared by IEC TC 49, Piezoelectric and dielectric devices for frequency control and selection, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61338-2 on 2004-07-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2005-04-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2007-07-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61338-2:2004 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE Where an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1	- ¹⁾	Environmental testing Part 1: General and guidance	EN 60068-1	1994 ²⁾
IEC 60068-2-1	- ¹⁾	Part 2: Tests - Tests A: Cold	EN 60068-2-1	1993 ²⁾
IEC 60068-2-2	- ¹⁾	Part 2: Tests - Tests B: Dry heat	EN 60068-2-2	1993 ²⁾
IEC 60068-2-6	- ¹⁾	Part 2: Tests - Test Fc: Vibration (sinusoidal)	EN 60068-2-6	1995 ²⁾
IEC 60068-2-7	- ¹⁾	Part 2: Tests - Test Ga: Acceleration, steady state	EN 60068-2-7	1993 ²⁾
IEC 60068-2-13	- ¹⁾	Part 2: Tests - Test M: Low air pressure	EN 60068-2-13	1999 ²⁾
IEC 60068-2-14	- ¹⁾	Part 2: Tests - Test N: Change of temperature	EN 60068-2-14	1999 ²⁾
IEC 60068-2-20	- ¹⁾	Part 2: Tests - Test T: Soldering	HD 323.2.20 S3	1988 ²⁾
IEC 60068-2-21	- ¹⁾	Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	1999 ²⁾
IEC 60068-2-27	- ¹⁾	Part 2: Tests - Test Ea and guidance: Shock	EN 60068-2-27	1993 ²⁾
IEC 60068-2-29	- ¹⁾	Part 2: Tests - Test Eb and guidance: Bump	EN 60068-2-29	1993 ²⁾
IEC 60068-2-30	- ¹⁾	Part 2: Tests - Test Db and guidance: Damp heat, cyclic (12 + 12-hour cycle)	EN 60068-2-30	1999 ²⁾
IEC 60068-2-58	- ¹⁾	Part 2-58: Tests - Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)	EN 60068-2-58	2004 ²⁾

1) Undated reference.

2) Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-78	- ¹⁾	Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001 ²⁾
IEC 61338-1-1	- ¹⁾	Waveguide type dielectric resonators Part 1-1: General information and test conditions - General information	-	-
IEC 61338-1-2	- ¹⁾	Part 1-2: General information and test conditions - Test conditions	-	-
IEC 61338-1-3	- ¹⁾	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	EN 61338-1-3	2000 ²⁾

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INTERNATIONAL STANDARD

IEC 61338-2

First edition
2004-05

Waveguide type dielectric resonators –

Part 2: Guidelines for oscillator and filter applications

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

WAVEGUIDE TYPE DIELECTRIC RESONATORS –

Part 2: Guidelines for oscillator and filter applications

FOREWORD

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International Standard IEC 61338-2 has been prepared by IEC technical committee 49: Piezoelectric and dielectric devices for frequency control and selection.

This standard cancels and replaces IEC/PAS 61338-2 published in 2000. This first edition constitutes a technical revision.

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

FDIS	Report on voting
49/656/FDIS	49/674/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.

The committee has decided that the contents of this publication will remain unchanged until 2008. At this date, the publication will be

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

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

- Part 1: Generic specification ¹
- Part 1-1: General information and test conditions – General information ²
- Part 1-2: General information and test conditions – Test conditions ²
- Part 1-3: General information and test conditions – Measurement method of complex relative permittivity for dielectric resonator materials at microwave frequency
- Part 1-4: General information and test conditions – Measurement method of complex relative permittivity for dielectric resonator materials at millimeter-wave frequency ³
- Part 2: Guidelines for oscillator and filter applications (the present standard)
- Part 4: Sectional specification ¹
- Part 4-1: Blank detail specification ¹

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¹ To be published.

² To be replaced by IEC 61338-1 in the near future.

³ Under consideration.

INTRODUCTION

This part of IEC 61338 gives practical guidance on the use of waveguide type dielectric resonators that are used in telecommunications and radar systems (for general information, standard values, and test conditions, see the other parts of this series).

The features of these dielectric resonators are small size without degradation of quality factor, low mass, high reliability and high stability against temperature and ageing. The dielectric resonators are suitable for applications to miniaturized oscillators and filters with high performance.

This standard has been compiled in response to a generally expressed desire on the part of both users and manufacturers for guidelines for the use of dielectric resonators, so that the resonators may be used to their best advantage. For this purpose, general and fundamental characteristics have been explained in this standard.

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