



INTERNATIONAL STANDARD



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

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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CONTENTS

FOREWORD.....	6
1 Scope.....	8
2 Normative references	8
3 Terms and definitions	9
3.1 General.....	9
3.2 Terms and definitions.....	10
4 Test and measurement procedures.....	10
4.1 General.....	10
4.2 Test and measurement conditions.....	10
4.2.1 Standard conditions for testing	10
4.2.2 Equilibrium conditions.....	10
4.2.3 Air flow conditions for temperature tests	10
4.2.4 Power supplies	11
4.2.5 Precision of measurement	11
4.2.6 Precautions	11
4.2.7 Alternative test methods	11
4.3 Visual inspection.....	11
4.3.1 General	11
4.3.2 Visual test A	11
4.3.3 Visual test B	11
4.3.4 Visual test C	12
4.4 Dimensions and gauging procedures	12
4.4.1 Dimensions – Test A.....	12
4.4.2 Dimensions – Test B.....	12
4.5 Electrical test procedures.....	12
4.5.1 Insulation resistance.....	12
4.5.2 Voltage proof.....	12
4.5.3 Input power	13
4.5.4 Output frequency.....	14
4.5.5 Frequency/temperature characteristics	15
4.5.6 Frequency/load coefficient.....	16
4.5.7 Frequency/voltage coefficient	17
4.5.8 Frequency stability with thermal transient	17
4.5.9 Oscillation start-up.....	18
4.5.10 Stabilization time	22
4.5.11 Frequency adjustment range.....	22
4.5.12 Retrace characteristics	22
4.5.13 Oscillator output voltage (sinusoidal)	23
4.5.14 Oscillator output voltage (pulse waveform)	24
4.5.15 Oscillator output waveform (sinusoidal)	25
4.5.16 Oscillator output waveform (pulse).....	27
4.5.17 Oscillator output power (sinusoidal)	27
4.5.18 Oscillator output impedance (sinusoidal)	27
4.5.19 Re-entrant isolation	28
4.5.20 Output suppression of gated oscillators	28
4.5.21 3-state output characteristics.....	29
4.5.22 Amplitude modulation characteristics.....	30

4.5.23	Frequency modulation characteristics	36
4.5.24	Spurious response	40
4.5.25	Phase noise	40
4.5.26	Phase noise – vibration	41
4.5.27	Phase noise – acoustic	41
4.5.28	Noise pedestal	42
4.5.29	Spectral purity	43
4.5.30	Incidental frequency modulation	43
4.5.31	RMS fractional frequency fluctuations	44
4.5.32	Electromagnetic interference (radiated)	48
4.6	Mechanical and environmental test procedures	52
4.6.1	Robustness of terminations (destructive)	52
4.6.2	Sealing test (non-destructive)	54
4.6.3	Soldering (solderability and resistance to soldering heat) (destructive)	54
4.6.4	Rapid change of temperature: severe shock by liquid immersion (non-destructive).....	57
4.6.5	Rapid change of temperature: thermal shock in air (non-destructive)	57
4.6.6	Bump (destructive)	57
4.6.7	Vibration (destructive).....	58
4.6.8	Shock (destructive).....	58
4.6.9	Free fall (destructive).....	59
4.6.10	Acceleration, steady-state (non-destructive)	59
4.6.11	Acceleration – 2g tip over	59
4.6.12	Acceleration noise	59
4.6.13	Low air pressure (non-destructive).....	59
4.6.14	Dry heat (non-destructive)	59
4.6.15	Damp heat, cyclic (destructive).....	59
4.6.16	Cold (non-destructive)	60
4.6.17	Climatic sequence (destructive)	60
4.6.18	Damp heat, steady-state (destructive)	60
4.6.19	Salt mist, cyclic (destructive)	60
4.6.20	Mould growth (non-destructive).....	60
4.6.21	Immersion in cleaning solvent (non-destructive)	60
4.6.22	Radiation hardness	60
	Bibliography.....	61
	Figure 1 – Test circuits for insulation resistance measurements.....	12
	Figure 2 – Test circuit for voltage proof test	13
	Figure 3 – Test circuit for oscillator input power measurement	13
	Figure 4 – Test circuit for oven and oscillator input power measurement.....	14
	Figure 5 – Test circuit for measurement of output frequency, method 1.....	15
	Figure 6 – Test circuit for measurement of output frequency, method 2.....	15
	Figure 7 – Test circuit for measurement of frequency/temperature characteristics.....	16
	Figure 8 – Thermal transient behaviour of typical oscillator	18
	Figure 9 – Generalized oscillator circuit	19
	Figure 10 – Test circuit for start-up behaviour and start-up time measurement.....	20
	Figure 11 – Typical start-up behaviour with slow supply voltage ramp.....	20

Figure 12 – Definition of start-up time	21
Figure 13 – Supply voltage waveform for periodical t_{SU} measurement	22
Figure 14 – Typical oscillator stabilization characteristic	22
Figure 15 – Example of retrace characteristic	23
Figure 16 – Test circuit for the measurement of output voltage	24
Figure 17 – Test circuit for the measurement of pulse outputs	24
Figure 18 – Characteristics of an output waveform.....	24
Figure 19 – Test circuit for harmonic distortion measurement	25
Figure 20 – Quasi-sinusoidal output waveforms	25
Figure 21 – Frequency spectrum for harmonic distortion	26
Figure 22 – Test circuit for the determination of isolation between output ports.....	28
Figure 23 – Test circuit for measuring suppression of gated oscillators	29
Figure 24 – Test circuit for 3-state disable mode output current	29
Figure 25 – Test circuit for output gating time – 3-state.....	30
Figure 26 – Test circuit for modulation index measurement.....	31
Figure 27 – Modulation waveform for index calculation	31
Figure 28 – Logarithmic signal amplitude scale	31
Figure 29 – Test circuit to determine amplitude modulation sensitivity	33
Figure 30 – Frequency spectrum of amplitude modulation distortion	33
Figure 31 – Test circuit to determine pulse amplitude modulation	34
Figure 32 – Pulse modulation characteristic.....	35
Figure 33 – Test circuit for the determination of modulation input impedance.....	36
Figure 34 – Test circuit for the measurement of f.m. deviation	36
Figure 35 – Test circuit for the measurement of f.m. sensitivity	38
Figure 36 – Test circuit for the measurement of frequency modulation distortion.....	39
Figure 37 – Test circuit for the measurement of single-sideband phase noise	40
Figure 38 – Typical noise pedestal spectrum	42
Figure 39 – Test circuit for the measurement of incidental frequency modulation	44
Figure 40 – Test circuit for method 1.....	45
Figure 41 – Test circuit for method 2.....	46
Figure 42 – Circuit modifications for methods 1 and 2.....	47
Figure 43 – Time-domain short-term frequency stability of a typical 5 MHz precision oscillator	48
Figure 44 – Radiated interference tests	49
Figure 45 – Characteristics of line impedance of stabilizing network	50
Figure 46 – Circuit diagram of line impedance of stabilizing network.....	51
Figure 47 – Reflow temperature profile for solderability	55
Figure 48 – Reflow temperature profile for resistance to soldering heat	56
Table 1 – Measuring sets bandwidth	52
Table 2 – Tensile force	52
Table 3 – Thrust force.....	53
Table 4 – Bending force.....	53

Table 5 – Torque force.....	54
Table 6 – Solderability – Test condition, reflow method.....	55
Table 7 – Resistance to soldering heat – Test condition and severity, reflow method.....	57

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MEASUREMENT TECHNIQUES OF PIEZOELECTRIC, DIELECTRIC AND ELECTROSTATIC OSCILLATORS –

Part 1: Basic methods for the measurement

FOREWORD

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International Standard IEC 62884-1 has been prepared by IEC technical committee 49: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection.

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

CDV	Report on voting
49/1187A/CDV	49/1200/RVC

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 in the IEC 62884 series, published under the general title *Measurement techniques of piezoelectric, dielectric and electrostatic oscillators*, can be found on the IEC website.

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

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MEASUREMENT TECHNIQUES OF PIEZOELECTRIC, DIELECTRIC AND ELECTROSTATIC OSCILLATORS –

Part 1: Basic methods for the measurement

1 Scope

This part of IEC 62884 specifies the measurement techniques for piezoelectric, dielectric and electrostatic oscillators, including Dielectric Resonator Oscillators (DROs) and oscillators using FBAR (hereinafter referred to as "Oscillator").

NOTE Dielectric Resonator Oscillators (DROs) 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 electrotechnical vocabulary – Part 561: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection*. Available at <http://www.electropedia.org>

IEC 60068-1:2013, *Environmental testing – Part 1: General and guidance*

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

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

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

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

IEC 60068-2-10:2005, *Environmental testing – Part 2-10: Tests – Test J and guidance: Mould growth*

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

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

IEC 60068-2-17:1994, *Basic environmental testing procedures – Part 2-17: Tests – Test Q: Sealing*

IEC 60068-2-20, *Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

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 2-27: Tests – Test Ea and guidance: Shock*

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

IEC 60068-2-31, *Environmental testing – Part 2-31: Tests – Test Ec: Rough handling shocks, primarily for equipment-type specimens*

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

IEC 60068-2-52, *Environmental testing – Part 2-52: 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 2-64: Tests – Test Fh: Vibration, broadband random and guidance*

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

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 60679-1:2017, *Piezoelectric, dielectric and electrostatic oscillators of assessed quality – Part 1: Generic specification*

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.