Irish Standard
I.S. EN 60384-22:2012

Fixed capacitors for use in electronic equipment -- Part 22: Sectional specification - Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2 (IEC 60384-22:2011 (EQV))

I.S. EN 60384-22:2012

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English version

Fixed capacitors for use in electronic equipment - Part 22: Sectional specification - Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2

(IEC 60384-22:2011)

Condensateurs fixes utilisés dans les équipements électroniques -
Partie 22: Spécification intermédiaire -
Condensateurs multicouches fixes à diélectriques en céramique pour montage en surface, de Classe 2
(CEI 60384-22:2011)

Festkondensatoren zur Verwendung in Geräten der Elektronik -
Teil 22: Rahmenspezifikation -
Oberflächenmontierbare Vielschichtkeramik-Festkondensatoren, Klasse 2
(IEC 60384-22:2011)

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60384-22:2012 E

Foreword

The text of document 40/2128/FDIS, future edition 2 of IEC 60384-22, prepared by IEC TC 40, "Capacitors and resistors for electronic equipment" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 60384-22:2012.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2012-10-13
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2015-01-13

This document supersedes EN 60384-22:2004.

EN 60384-22:2012 includes the following significant technical changes with respect to EN 60384-22:2004:

— The measuring frequency of 1 MHz has been reduced to 1 kHz for 100 pF, see 4.5.1 Capacitance.

— The test voltage of 1,2 U_R at U_R ≥ 1 000 V has been added in 4.5.4 Voltage proof.

— Detail test conditions have been added in 4.7 Shear test and 4.8 Substrate bending test.

— Test conditions applying lead free solder alloy (Sn-Ag-Cu) have been included in 4.9 Resistance to soldering heat and 4.10 Solderability.

— A selection of the test conditions according to marketing needs has been stated in 4.13 Damp heat, steady state.

— The dimensions of 0402 M in Annex A have been added.

— The temperature characteristics code of capacitance for the reference temperature of 25 °C has been added, see Annex C.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60384-22:2011 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60384-14	NOTE	Harmonized as EN 60384-14.
IEC 60384-22-1	NOTE	Harmonized as EN 60384-22-1.

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

Publication	Year	Title	EN/HD	Year
IEC 60063 + A1 + A2	1963 1967 1977	Preferred number series for resistors and capacitors	-	-
IEC 60068-1 + corr. October + A1	1988 1988 1992	Environmental testing - Part 1: General and guidance	EN 60068-1	1994
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)	EN 60068-2-58 + corr. December	2004 2004
IEC 60384-1 + corr. November	2008 2008	Fixed capacitors for use in electronic equipment - Part 1: Generic specification	EN 60384-1	2009
IEC 61193-2	2007	Quality assessment systems - Part 2: Selection and use of sampling plans for inspection of electronic components and packages	EN 61193-2	2007
ISO 3	1973	Preferred numbers - Series of preferred numbers	-	-

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CONTENTS

FOREWORD 6
1 General 8
1.1 Scope 8
1.2 Object 8
1.3 Normative references 8
1.4 Information to be given in a detail specification 8
1.4.1 Outline drawing and dimensions 9
1.4.2 Mounting 9
1.4.3 Rating and characteristics 9
1.4.4 Marking 10
1.5 Terms and definitions 10
1.6 Marking 10
1.6.1 Information for marking 11
1.6.2 Marking on the body 11
1.6.3 Requirements for marking 11
1.6.4 Marking of the packaging 11
1.6.5 Additional marking 11
2 Preferred rating and characteristics 11
2.1 Preferred characteristics 11
2.1.1 Preferred climatic categories 11
2.2 Preferred values of ratings 12
2.2.1 Rated temperature (T_R) 12
2.2.2 Rated voltage (U_R) 12
2.2.3 Category voltage (U_C) 12
2.2.4 Preferred values of nominal capacitance and associated tolerance values 12
2.2.5 Temperature characteristic of capacitance 13
2.2.6 Dimensions 14
3 Quality assessment procedures 14
3.1 Primary stage of manufacture 14
3.2 Structurally similar components 14
3.3 Certified records of released lots 14
3.4 Qualification approval 14
3.4.1 Qualification approval on the basis of the fixed sample size procedures 14
3.4.2 Tests 15
3.5 Quality conformance inspection 20
3.5.1 Formation of inspection lots 20
3.5.2 Test schedule 20
3.5.3 Delayed delivery 20
3.5.4 Assessment levels 20
4 Test and measurement procedures 22
4.1 Special preconditioning 22
4.2 Measuring conditions 22
4.3 Mounting 22
4.4 Visual examination and check of dimensions 22
4.4.1 Visual examination 22

4.4.2 Requirements 22
4.5 Electrical tests 24
4.5.1 Capacitance 24
4.5.2 Tangent of loss angle (tan δ) 25
4.5.3 Insulation resistance 25
4.5.4 Voltage proof 26
4.5.5 Impedance (if required by the detail specification) 27
4.5.6 Equivalent series resistance [ESR] (if required by the detail specification) 27
4.6 Temperature characteristic of capacitance 27
4.6.1 Special preconditioning 27
4.6.2 Measuring conditions 27
4.6.3 Requirements 28
4.7 Shear test 28
4.8 Substrate bending test 28
4.8.1 Initial measurement 28
4.8.2 Final inspection 28
4.9 Resistance to soldering heat 29
4.9.1 Special preconditioning 29
4.9.2 Initial measurement 29
4.9.3 Test conditions 29
4.9.4 Recovery 30
4.9.5 Final inspection, measurements and requirements 30
4.10 Solderability 31
4.10.1 Test conditions 31
4.10.2 Recovery 32
4.10.3 Final inspection, measurements and requirements 32
4.11 Rapid change of temperature 32
4.11.1 Special preconditioning 32
4.11.2 Initial measurement 32
4.11.3 Number of cycles 32
4.11.4 Recovery 32
4.11.5 Final inspection, measurements and requirements 32
4.12 Climatic sequence 33
4.12.1 Special preconditioning 33
4.12.2 Initial measurement 33
4.12.3 Dry heat 33
4.12.4 Damp heat, cyclic, Test Db, first cycle 33
4.12.5 Cold 33
4.12.6 Damp heat, cyclic, Test Db, remaining cycles 33
4.12.7 Final inspection, measurements and requirements 34
4.13 Damp heat, steady state 34
4.13.1 Special preconditioning 34
4.13.2 Initial measurement 34
4.13.3 Conditions of test 34
4.13.4 Recovery 35
4.13.5 Final inspection, measurements and requirements 35
4.14 Endurance 35
4.14.1 Special preconditioning 35

4.14.2 Initial measurement 36
4.14.3 Conditions of test 36
4.14.4 Recovery 36
4.14.5 Final inspection, measurements and requirements 36
4.15 Robustness of terminations (only for capacitors with strip termination) 37
4.15.1 Test conditions 37
4.15.2 Final inspection and requirements 37
4.16 Component solvent resistance (if required) 37
4.17 Solvent resistance of the marking (if required) 37
4.18 Accelerated damp heat, steady state (if required) 37
4.18.1 Initial measurement 37
4.18.2 Conditioning 38
4.18.3 Recovery 38
4.18.4 Final measurements 38
Annex A (normative) Guidance for the specification and coding of dimensions of fixed surface mount multilayer capacitors of ceramic dielectric, Class 2 39
Annex B (informative) Capacitance ageing of fixed capacitors of ceramic dielectric, Class 2 40
Annex C (informative) Temperature characteristics of capacitance for the reference temperature of 25 °C 42
Bibliography 43

Figure 1 – Fault: crack or fissure 23
Figure 2 – Fault: crack or fissure 23
Figure 3 – Separation or delamination 23
Figure 4 – Exposed electrodes 23
Figure 5 – Principal faces 24
Figure 6 – Reflow temperature profile 30
Figure A.1 – Dimensions 39

Table 1 – Preferred values of category voltages 12
Table 2 – Preferred tolerances 13
Table 3 – Temperature characteristic of capacitance 13
Table 4 – Fixed sample size test plan for qualification approval, assessment level EZ 16
Table 5 – Tests schedule for qualification approval 17
Table 6a – Lot-by-lot inspection 21
Table 6b – Periodic test 21
Table 7 – Measuring conditions 24
Table 8 – Tangent of loss angle limits 25
Table 9 – Test voltages 26
Table 10 – Details of measuring conditions 27
Table 11 – Reflow temperature profiles for Sn-Ag-Cu alloy 30
Table 12 – Maximum capacitance change 31
Table 13 – Maximum capacitance change 33
Table 14 – Number of damp heat cycles 33
Table 15 – Final inspection, measurements and requirements 34

Table 16 – Test conditions for damp heat, steady state 35
Table 17 – Final inspection, measurements and requirements 35
Table 18 – Endurance test conditions (U_C = U_R) 36
Table 19 – Endurance test conditions ($U_C \neq U_R$) 36
Table 20 – Final inspection, measurements and requirements of endurance test 37
Table 21 – Initial requirements 38
Table 22 – Conditioning 38
Table A.1 – Dimensions 39
Table C.1 – Temperature characteristics of capacitance for the reference temperature of 25 °C 42
Table C.2 – Measuring conditions of temperature characteristic of capacitance for the reference temperature of 25 °C 42

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

Part 22: Sectional specification – Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2

FOREWORD

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International Standard IEC 60384-22 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

This second edition cancels and replaces the first edition published in 2004 and contains the following significant technical changes with respect to the previous edition.

- The measuring frequency of 1 MHz has been reduced to 1 kHz for 100 pF, see 4.5.1 Capacitance.
- The test voltage of 1,2 U_R at U_R ≥ 1 000 V has been added in 4.5.4 Voltage proof.
- Detail test conditions have been added in 4.7 Shear test and 4.8 Substrate bending test.
- Test conditions applying lead free solder alloy (Sn-Ag-Cu) have been included in 4.9 Resistance to soldering heat and 4.10 Solderability.
- A selection of the test conditions according to marketing needs has been stated in 4.13 Damp heat, steady state.

- The dimensions of 0402 M in Annex A have been added.
- The temperature characteristics code of capacitance for the reference temperature of 25 °C has been added, see Annex C.

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

FDIS	Report on voting
40/2128/FDIS	40/2141/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 list of all parts of the IEC 60384 series, under the general title *Fixed capacitors for use in electronic equipment*, can be found on the IEC web site.

The committee has decided that the contents of this publication will remain unchanged until the stability 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.