



NSAI
Standards

Irish Standard
I.S. EN 60384-21:2012

Fixed capacitors for use in electronic equipment -- Part 21: Sectional specification - Fixed surface mount multilayer capacitors of ceramic dielectric, Class 1 (IEC 60384-21:2011 (EQV))

I.S. EN 60384-21:2012

Incorporating amendments/corrigenda issued since publication:

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation - recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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English version

**Fixed capacitors for use in electronic equipment -
Part 21: Sectional specification -
Fixed surface mount multilayer capacitors of ceramic dielectric, Class 1
(IEC 60384-21:2011)**

Condensateurs fixes utilisés dans les
équipements électroniques -
Partie 21: Spécification intermédiaire:
Condensateurs multicouches fixes à
diélectriques en céramique pour montage
en surface, de classe 1
(CEI 60384-21:2011)

Festkondensatoren zur Verwendung in
Geräten der Elektronik -
Teil 21: Rahmenspezifikation -
Oberflächenmontierbare
Vielschichtkeramik-Festkondensatoren,
Klasse 1
(IEC 60384-21:2011)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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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

Foreword

The text of document 40/2127/FDIS, future edition 2 of IEC 60384-21, 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 60384-21:2012.

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 60384-21:2004.

EN 60384-21:2012 includes the following significant technical changes with respect to EN 60384-21:2004:

- The test voltage of 1,2 U_R at $U_R \geq 1\ 000\ V$ 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 have been stated in 4.13 Damp heat, steady state.
- The dimensions of 0402 M in Annex A have been added.
- The code of the temperature coefficient and the tolerance of capacitance for the reference temperature of 25 °C have been added, see Annex B.

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Endorsement notice

The text of the International Standard IEC 60384-21:2011 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

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

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60063 + A1 + A2	1963 1967 1977	Preferred number series for resistors and capacitors	-	-
IEC 60068-1 + corr. October	1988 1988	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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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

Part 21: Sectional specification – Fixed surface mount multilayer capacitors of ceramic dielectric, Class 1

FOREWORD

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International Standard IEC 60384-21 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 test voltage of $1,2 U_R$ at $U_R \geq 1\,000\text{ V}$ has been added in 4.5.4 Voltage proof.
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- A selection of the test conditions according to marketing needs have been stated in 4.13 Damp heat, steady state.
- The dimensions of 0402 M in Annex A have been added.

- The code of the temperature coefficient and the tolerance of capacitance for the reference temperature of 25 °C have been added, see Annex B.

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

FDIS	Report on voting
40/2127/FDIS	40/2140/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

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