



# SLOVENSKI STANDARD

## SIST EN 60384-1:2016

01-december-2016

Nadomešča:  
SIST EN 60384-1:2010

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**Nespremenljivi kondenzatorji za elektronsko opremo - 1. del: Rodovna  
specifikacija (IEC 60384-1:2016)**

Fixed capacitors for use in electronic equipment - Part 1: Generic specification (IEC  
60384-1:2016)

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Condensateurs fixes utilisés dans les équipements électroniques - Partie 1: Spécification  
générique (IEC 60384-1:2016) [SIST EN 60384-1:2016](https://standards.iteh.ai/catalog/standards/sist/2d264698-640f-4041-8f38-156197cdd8e6/sist-en-60384-1-2016)

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**Ta slovenski standard je istoveten z: EN 60384-1:2016**

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**SIST EN 60384-1:2016**      **en**

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EUROPEAN STANDARD

**EN 60384-1**

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September 2016

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English Version

**Fixed capacitors for use in electronic equipment - Part 1:  
Generic specification  
(IEC 60384-1:2016)**

Condensateurs fixes utilisés dans les équipements  
électroniques - Partie 1: Spécification générique  
(IEC 60384-1:2016)

Festkondensatoren zur Verwendung in Geräten der  
Elektronik - Teil 1: Fachgrundspezifikation  
(IEC 60384-1:2016)

This European Standard was approved by CENELEC on 2016-03-18. 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.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

**EN 60384-1:2016****European foreword**

The text of document 40/2420/FDIS, future edition 5 of IEC 60384-1, 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 60384-1:2016.

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) 2017-03-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-09-30

This document supersedes EN 60384-1:2009.

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

IEC 60384-2	NOTE	Harmonized as EN 60384-2.
IEC 60384-3	NOTE	Harmonized as EN 60384-3.
IEC 60384-3-1	NOTE	Harmonized as EN 60384-3-1.
IEC 60384-26	NOTE	Harmonized as EN 60384-26.
IEC 60469:2013	NOTE	Harmonized as EN 60469:2013.
ISO 9000	NOTE	Harmonized as EN ISO 9000.

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

Publication	Year	Title	EN/HD	Year
IEC 60027	series	Letter symbols to be used in electrical technology	EN 60027	series
IEC 60050	series	International Electrotechnical Vocabulary	-	series
IEC 60062	-	Marking codes for resistors and capacitors	EN 60062	-
IEC 60063	-	Preferred number series for resistors and capacitors	EN 60063	-
IEC 60068-1	2013	Environmental testing -- Part 1: General and guidance	EN 60068-1	2014
IEC 60068-2-1	2007	Environmental testing -- Part 2-1: Tests Test A: Cold	EN 60068-2-1	2007
IEC 60068-2-2	2007	Environmental testing -- Part 2-2: Tests Test B: Dry heat	EN 60068-2-2	2007
IEC 60068-2-6	2007	Environmental testing -- Part 2-6: Tests Test Fc: Vibration (sinusoidal)	EN 60068-2-6	2008
IEC 60068-2-13	1983	Basic environmental testing procedures Part 2-13: Tests - Test M: Low air pressure	EN 60068-2-13	1999
IEC 60068-2-14	2009	Environmental testing -- Part 2-14: Tests Test N: Change of temperature	EN 60068-2-14	2009
IEC 60068-2-17	1994	Basic environmental testing procedures Part 2-17: Tests - Test Q: Sealing	EN 60068-2-17	1994
IEC 60068-2-20	2008	Environmental testing -- Part 2-20: Tests Test T: Test methods for solderability and resistance to soldering heat of devices with leads	EN 60068-2-20	2008
IEC 60068-2-21	2006	Environmental testing -- Part 2-21: Tests Test U: Robustness of terminations and integral mounting devices	EN 60068-2-21	2006
IEC 60068-2-27	2008	Environmental testing -- Part 2-27: Tests Test Ea and guidance: Shock	EN 60068-2-27	2009
IEC 60068-2-30	2005	Environmental testing -- Part 2-30: Tests Test Db: Damp heat, cyclic (12 h + 12 h cycle)	EN 60068-2-30	2005
IEC 60068-2-45 AMD 1	1993	Basic environmental testing procedures; part_2: tests; test_XA and guidance: immersion in cleaning solvents; amendment_1	-	-
IEC 60068-2-45	1980	Basic environmental testing procedures Part 2-45: Tests - Test XA and guidance: Immersion in cleaning solvents	EN 60068-2-45	1992

## EN 60384-1:2016

IEC 60068-2-54	2006	Environmental testing - Part 2-54: Tests -EN 60068-2-54 Test Ta: Solderability testing of electronic components by the wetting balance method	2006
IEC 60068-2-58	2015	Environmental testing - Part 2-58: Tests -EN 60068-2-58 Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)	2015
IEC 60068-2-67	1995	Environmental testing -- Part 2: Tests -EN 60068-2-67 Test Cy: Damp heat, steady state, accelerated test primarily intended for components	1996
IEC 60068-2-69	2007	Environmental testing - Part 2: Tests - TestEN 60068-2-69 Te: Solderability testing of electronic components for surface mounting devices (SMD) by the wetting balance method	2007
IEC 60068-2-78	2012	Environmental testing -- Part 2-78: Tests -EN 60068-2-78 Test Cab: Damp heat, steady state	2013
IEC 60068-2-82	2007	Environmental testing -- Part 2-82: Tests -EN 60068-2-82 Test XW1: Whisker test methods for electronic and electric components	2007
IEC 60294	-	Measurement of the dimensions of aEN 60294 cylindrical component with axial terminations	-
IEC 60617	-	Standard data element types with-associated classification scheme for electric components -- Part 4: IEC reference collection for standard data element types and component classes	-
IEC 60695-11-5	2004	Fire hazard testing -- Part 11-5: TestEN 60695-11-5 flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	2005
IEC 60717	-	Method for the determination of the spaceEN 60717 required by capacitors and resistors with unidirectional terminations	-
IEC 61193-2	-	Quality assessment systems -- Part 2:EN 61193-2 Selection and use of sampling plans for inspection of electronic components and packages	-
IEC 61249-2-7	2002	Materials for printed boards and otherEN 61249-2-7 interconnecting structures -- Part 2-7: Reinforced base materials, clad and unclad - Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad	2002
-	-		+ corrigendum Sep. 2005
ISO 3	-	Preferred numbers; Series of preferred-numbers	-
ISO 80000-1	-	Quantities and units -- Part 1: General	EN ISO 80000-1 -



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Edition 5.0 2016-02

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

Fixed capacitors for use in electronic equipment –  
Part 1: Generic specification

Condensateurs fixes utilisés dans les équipements électroniques –  
Partie 1: Spécification générique

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –****Part 1: Generic specification**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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This fifth edition cancels and replaces the fourth edition published in 2008 and constitutes a technical revision, including minor revisions related to tables, figures and references.

This edition contains the following significant technical changes with respect to the previous edition:

- INTRODUCTION added;
- 4.41 Whisker growth test added;
- Annex Q completely restructured.