

SLOVENSKI STANDARD oSIST prEN IEC 60384-1-1:2022

01-februar-2022

Fiksni kondenzatorji za elektronsko opremo - 1-1. del: Splošna okvirna podrobna specifikacija

Fixed capacitors for use in electronic equipment - Part 1-1 : Generic blank detail specification

iTeh STANDARD PREVIEW

(standards.iteh.ai)

Ta slovenski standard je istoveten z: prEN IEC 60384-1-1:2021

oSIST prEN IEC 60384-1-1:2022

	2553-4f8d-81a0-d4897f15248d/osist-pren-iec-60384-1-	
ICS:		1-2022
31.060.10	Fiksni kondenzatorji	Fixed capacitors

31.060.10 Fiksni kondenzatorji

oSIST prEN IEC 60384-1-1:2022

en

iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>oSIST prEN IEC 60384-1-1:2022</u> https://standards.iteh.ai/catalog/standards/sist/9876f15d-2553-4f8d-81a0-d4897f15248d/osist-pren-iec-60384-1-1-2022



40/2888/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:		
IEC 60384-1-1 ED1		
DATE OF CIRCULATION:	CLOSING DATE FOR VOTING:	
2021-11-19	2022-02-11	
SUPERSEDES DOCUMENTS:		
40/2840/CD, 40/2873/CC		

IEC TC 40 : CAPACITORS AND RESISTORS FOR ELECTRONIC EQUIP	MENT
SECRETARIAT:	SECRETARY:
Netherlands	Mr Ronald Drenthen
OF INTEREST TO THE FOLLOWING COMMITTEES:	PROPOSED HORIZONTAL STANDARD:
iTeh STA	Other TC/SCs are requested to indicate their interest, if any, in this CDV to the secretary.
FUNCTIONS CONCERNED:	
SUBMITTED FOR CENELEC PARALLEL VOTING Attention IEC-CENELEC parallel voting	
SUBMITTED FOR CENELEC PARALLEL VOTING Attention IEC-CENELEC parallel voting The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.	60384-1-1:2022
SUBMITTED FOR CENELEC PARALLEL VOTING Attention IEC-CENELEC parallel voting The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for	60384-1-1:2022 og/standards/sist/9876fl 5d- 48d/osist-pren-iec-60384-1-

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

TITLE:

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

PROPOSED STABILITY DATE: 2032

NOTE FROM TC/SC OFFICERS:

Copyright © **2021 International Electrotechnical Commission, IEC**. All rights reserved. It is permitted to download this electronic file, to make a copy and to print out the content for the sole purpose of preparing National Committee positions. You may not copy or "mirror" the file or printed version of the document, or any part of it, for any other purpose without permission in writing from IEC.

1		CONTENTS	
2			
3	FOREWO)RD	4
4		JCTION	
5			
6	•	e references	
7		d definitions	
-		nd characteristics	-
8	0	General	
9	4.1 4.2	General	
10 11	4.2 4.3	Climatic category and ratings	-
12	4.3	Capacitance range, tolerances and rated voltage	
12		st severities and performance requirements	
14	5.1	General	
14 15	5.1	Visual inspection and check of dimensions	
16	5.2	Electrical tests and measurements	
10	5.4	Robustness of terminations	12
18	5.5	Tests related to component assembly N.D.A.R.D.	
19	5.6	Rapid change of temperature	
20	5.7	Rapid change of temperature Vibration	12
21	5.8		
22	5.9	Shock Climatic sequence standards.iteh.ai)	12
23	5.10	Damp heat, steady state	12
24	5.11	EnduranceoSIST prEN IEC 60384-1-1:2022	12
25	5.12	Eurther tests related to specific component technology (if applicable)	10
26	5.13	Tests related to safety (if applicable) 253-4180-81a0-6489/11 5248d/osist-pren-iec-60384-1-	12
27	Marking,	packaging and ordering information	12
28	6.1	Marking	12
29	6.1.1	Marking of the component	12
30	6.1.2	2 Marking of the packaging	12
31	6.2	Packaging	12
32	6.3	Ordering information	12
33	Additiona	I information	13
34	7.1	General	13
35	7.2	Storage and transportation	13
36	7.3	Substrate for assembly	13
37	7.4	Soldering process	
38	7.5	Use of cleaning agents or solvents	13
39	7.6	Coating or potting after assembly	
40	Quality as	ssessment procedures	13
41	8.1	General	13
42	8.1.1		
43	8.1.2	, , , , , , , , , , , , , , , , , , ,	
44	8.1.3		
45	8.2	Qualification approval	
46	8.3	Maintenance of a qualification approval	
47	8.3.1	Quality conformance inspection	14

- 3 -

65

66

40/2888/CDV

48	8.3.2 Non-conforming item	14
49	Annex A (normative) Symbols and abbreviated terms	17
50	A.1 Symbols	17
51	A.2 Abbreviated terms	17
52	Annex B (normative) Reference for visual inspection	18
53	Bibliography	19
54		
55	Figure 1 – Outline and dimensions	10
56		
57	Table 1 – Case size and dimensions	10
58	Table 2 – Climatic categories	10
59	Table 3 – Ratings	11
60 61	Table 4 – Temperature coefficients, tolerances and capacitance ranges for climatic category / /	11
62	Table 5 – Test schedule for a qualification approval (Template)	
63	Table 6 – Test schedule for quality conformance inspection (Template)	16
64		

iTeh STANDARD PREVIEW (standards.iteh.ai)

oSIST prEN IEC 60384-1-1:2022

https://standards.iteh.ai/catalog/standards/sist/9876f15d-2553-4f8d-81a0-d4897f15248d/osist-pren-iec-60384-1-1-2022

- 4 -

67		INTERN	ATIONAL ELECTRC	TECHNICAL COM	MISSION
68					
69					
70		FIXED CAPA	CITORS FOR USE	IN ELECTRONIC E	QUIPMENI-
71		_			
72		Pa	rt 1-1: Generic blar	ik detail specificati	on
73					
74					
75			FORE	WORD	
76 77 78 79 80 81 82 83 83	1)	all national electrotechnic co-operation on all quest in addition to other activiti Publicly Available Speci preparation is entrusted to may participate in this pre with the IEC also particip	al committees (IEC National ions concerning standardizat es, IEC publishes Internation fications (PAS) and Guides o technical committees; any I paratory work. International, g	Committees). The object of IE ion in the electrical and elec al Standards, Technical Spec s (hereafter referred to as EC National Committee intere governmental and non-goverr collaborates closely with the I	or standardization comprising EC is to promote international tronic fields. To this end and ifications, Technical Reports, "IEC Publication(s)"). Their ested in the subject dealt with mental organizations liaising nternational Organization for yeen the two organizations.
85 86 87	2)		the relevant subjects since		as possible, an international has representation from all
88 89 90 91	3)	Committees in that sense	e. While all reasonable effor IEC cannot be held respo	ts are made to ensure that	re accepted by IEC National the technical content of IEC h they are used or for any
92 93 94	4)	transparently to the maxir	num extent-possible in their n	ational and regional publicati	e to apply IEC Publications ons. Any divergence between clearly indicated in the latter.
95 96 97	5)	assessment services and		IEC marks of conformity. IE	on bodies provide conformity C is not responsible for any
98	6)	All users should ensure t	nat/they have the tatest editid	ngosthischublication/9876fl:	5d-
99 100 101 102 103	7)	members of its technical other damage of any na	committees and IEC Nationa ture whatsoever, whether d	Committees for any person rect or indirect, or for cost	uding individual experts and al injury, property damage or s (including legal fees) and ublication or any other IEC
104 105	8)		Normative references cited ect application of this publication		ne referenced publications is
106 107	9)		oossibility that some of the ele eld responsible for identifying		may be the subject of patent
108 109			n prepared IEC technic is an International Stan		citors and resistors for
110	Th	e text of this Internat	ional Standard is based	on the following docum	ents:
			Draft	Report on voting	

Draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

111

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

114 The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

- The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be
- 122 reconfirmed,
- 123 withdrawn,
- replaced by a revised edition, or
- 125 amended.

iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>oSIST prEN IEC 60384-1-1:2022</u> https://standards.iteh.ai/catalog/standards/sist/9876f15d-2553-4f8d-81a0-d4897f15248d/osist-pren-iec-60384-1-1-2022 126

INTRODUCTION

127 This introduction is not intended to be copied into the drafted detail specification. Therefore, it 128 is positioned in front of the conventional document structure and clause numbering range. It 129 nevertheless contains normative requirements to the drafted detail specification.

130 Scope of this generic blank detail specification

131 This part of IEC 60384-1 is applicable to the drafting of detail specifications for fixed capacitors 132 for use in electronic equipment.

133 **Function of this generic blank detail specification**

This generic blank detail specification is a supplementary document to the sectional specifications and contains requirements for style, layout and minimum contents of detail specifications. Detail specifications not complying with these requirements shall not be considered as being in accordance with IEC specifications nor shall they be described as such.

The detail specification should contain a table of contents prior to the first page of the actual specification.

In the preparation of the detail specification, the relevant content of the related sectionalspecification IEC 60384-X shall be taken into account.

142 Units, graphical symbols and letter symbols should be chosen, wherever possible, from the 143 various parts of the IEC 60027 series, the ISO 80000 series and ISO/IEC Guide 99.:

144 This blank detail specification uses for its purpose two different kinds of notes:

- NOTE For notes which give additional information intended to assist the understanding or use
 of the resulting document and therefore shall be copied as NOTE into the drafted detail
 specification. As outlined in the ISO/IEC directives, these notes shall not contain any
 requirement, instruction, recommendation or permission.

COMMENT For editorial notes which are intended to aid and direct the specification writer
 and therefore shall not be copied into the drafted detail specification. In order to accomplish
 their function, editorial notes require the use of instructions, recommendations and permissions
 addressed to the writer of the detail specification.²

153 Identification of the detail specification and the capacitor

The first page of the detail specification should have a layout starting with a title block as recommended on the following page.

The numbers in square brackets are editorial references, which are not intended to be copied into the drafted detail specification, and which correspond to the following information on the contents which shall be inserted in the indicated positions.

[1] "International Electrotechnical Commission" or the name of the standardization organization
 under whose authority the detail specification is published and, if applicable, the organization
 from whom the detail specification is available.

[2] The number allocated to the detail specification by the IEC or by the responsible
 standardisation organisation, together with the date of issue and issue number, as applicable.
 Further reference details required by the responsible standardisation organisation or quality
 assessment system may be given here, including an established mark of conformity, as
 applicable.

[3] The number and issue date and number, as applicable, of the relevant generic specification,
 sectional specification and blank detail specification, where the referenced issues shall be the
 most recent issues of the respective specifications.

170 [4] The title of the detail specification, providing a short description of the type of capacitors. 171 This entry should support the discrimination between similar specifications and should be -7-

suitable for an entry in a register of approvals or in a catalogue of standards. It may duplicateinformation given in the textual scope in Clause 1.

[5] An outline drawing or illustration of the products. This entry should aid the easy recognition
 of the capacitors and, if possible, support the discrimination between similar specifications. It
 may duplicate information given in Figure 1.

[6] Information on the typical construction of the capacitors (where applicable). This entry mayduplicate information given in the textual scope in Clause 1.

[7] The classification level of the capacitors covered by this detail specification, the level of
 quality assessment (Assessment level EZ). This information may duplicate information given in
 the textual scope in Clause 1.

- 182 [8] Optional field for table notes.
- [9] Statement(s) about the availability of information on components qualified to this detailspecification, if applied within a full quality assessment system.
- 185 Example for the use within the IECQ system:

Information about components qualified to this detail specification is available in the approvals
 section of the website http://www.iecq.org

188

189

iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>oSIST prEN IEC 60384-1-1:2022</u> https://standards.iteh.ai/catalog/standards/sist/9876f15d-2553-4f8d-81a0-d4897f15248d/osist-pren-iec-60384-1-1-2022

190

Specification available from:	IEC 60384-X-1xx:xxxx
[1]	[2]
Electronic components of assessed quality in accordance with:	Title
[3]	[4]
[5]	[6]
	[7]
	Information about capacitor classification, quality assessment, etc.
iTeh STANDA	RD [8]
PREVIEW	r
(standards.itel	[9]
(stanual us.itti	1.41)

COMMENT The remainder of this page is intentionally left empty in order to start Clause 1 on top of the next page. https://standards.iteh.ai/catalog/standards/sist/9876fl5d-191

192

2553-4f8d-81a0-d4897f15248d/osist-pren-iec-60384-1-

1-2022

193	FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –
194 195 196 197 198	Part 1-1: Generic blank detail specification
199	1 Scope
200 201	This part of IEC 60384-1 establishes a generic template and specifies requirements to the content of detail specifications for capacitors within the IEC 60384-X series.
202	2 Normative references
203 204 205 206	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.
207	IEC 60062, Marking codes for resistors and capacitors
208	IEC 60384-1, Fixed capacitors for use in electronic equipment – Part 1: Generic specification
209	IEC 60384-X, [Related sectional specification] NDARD
210 211	IEC 61193-2, Quality assessment systems - Part 2: Selection and use of sampling plans for inspection of electronic components and packages
212 213	IEC 61760-2, Surface mounting technology - Part 2: Transportation and storage conditions of surface mounting devices (SMD) - Application guide
214 215	IEC 62090, Product package <u>labels for electronic components</u> using bar code and two dimensional symbologies https://standards.iteh.ai/catalog/standards/sist/9876f15d-
216	3 Terms and definitions -81a0-d4897f15248d/osist-pren-iec-60384-1-
217 218	For the purposes of this document, the terms and definitions given in IEC 60384-1 and in the related sectional specification IEC 60384-X, [as well as the following,] apply.
219	[]
220 221	ISO and IEC maintain terminological databases for use in standardization at the following addresses:
222	IEC Electropedia: available at http://www.electropedia.org/
223	 ISO Online browsing platform: available at http://www.iso.org/obp
224	
225	4 Ratings and characteristics
226	4.1 General
227 228	Various parameters of these capacitors are precisely defined in this specification. Unspecified parameters may vary from one capacitor to another.
229	4.2 Dimensions
230 231 232	The shape and dimensions of the capacitors covered by this specification are shown in Figure 1, with the specific styles and their respective dimensions given in Table 1. Other shapes are permissible within the given dimensions.