

INTERNATIONAL STANDARD

IEC 60384-2-1

QC 300401

Second edition
2005-11

Fixed capacitors for use in electronic equipment –

Part 2-1:

Blank detail specification:

Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors – Assessment levels E and EZ

© IEC 2005 — Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE

M

For price, see current catalogue

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –**Part 2-1: Blank detail specification: Fixed metallized
polyethylene-terephthalate film dielectric d.c. capacitors –
Assessment levels E and EZ**

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.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60384-2-1 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 1982 and amendment 1 published in 1987 and constitutes minor revisions related to tables, figures and references.

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

FDIS	Report on voting
40/1594/FDIS	40/1627/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.

IEC 60384 consists of the following parts, under the (new) general title *Fixed capacitors for use in electronic equipment*:

- Part 1: Generic specification
- Part 2: Sectional specification: Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors
- Part 3: Sectional specification: Fixed tantalum chip capacitors
- Part 4: Sectional specification: Aluminium electrolytic capacitors with solid and non-solid electrolyte
- Part 5: Sectional specification: Fixed mica dielectric d.c. capacitors with a rated voltage not exceeding 3000 V – Selection of methods of test and general requirements
- Part 6: Sectional specification: Fixed metallized polycarbonate film dielectric d.c. capacitors
- Part 7: Sectional specification: Fixed polystyrene film dielectric metal foil d.c. capacitors
- Part 8: Sectional specification: Fixed capacitors of ceramic dielectric, Class 1
- Part 9: Sectional specification: Fixed capacitors of ceramic dielectric, Class 2
- Part 11: Sectional specification: Fixed polyethylene-terephthalate film dielectric metal foil d.c. capacitors
- Part 12: Sectional specification: Fixed polycarbonate film dielectric metal foil d.c. capacitors
- Part 13: Sectional specification: Fixed polypropylene film dielectric metal foil d.c. capacitors
- Part 14: Sectional specification: Fixed capacitors for electromagnetic interference suppression and connection to the supply mains
- Part 15: Sectional specification: Fixed tantalum capacitors with non-solid or solid electrolyte
- Part 16: Sectional specification: Fixed metallized polypropylene film dielectric d.c. capacitors
- Part 17: Sectional specification: Fixed metallized polypropylene film dielectric a.c. and pulse capacitors
- Part 18: Sectional specification: Fixed aluminium electrolytic chip capacitors with solid and non-solid electrolyte
- Part 19: Sectional specification: Fixed metallized polyethylene-terephthalate film dielectric chip d.c. capacitors
- Part 20: Sectional specification: Fixed metallized polyphenylene sulfide film dielectric chip d.c. capacitors
- Part 21: Sectional specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 1
- Part 22: Sectional specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 2
- Part 23: Sectional specification: Fixed surface mount metallized polyethylene naphthalate film dielectric d.c. capacitors
- Part 24: Sectional specification – Surface mount fixed tantalum electrolytic capacitors with conductive polymer solid electrolyte (under consideration)
- Part 25: Sectional specification – Surface mount fixed aluminium electrolytic capacitors with conductive polymer solid electrolyte (under consideration)

All sectional specifications mentioned above do have one or more blank detail specifications being a supplementary document, containing requirements for style, layout and minimum content of detail specifications.

The QC 300401 number that appears on the front cover of this publication is the specification number in the IECQ Quality Assessment System for Electronic Components.

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

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

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

Part 2-1: Blank detail specification: Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors – Assessment levels E and EZ

INTRODUCTION

Blank detail specification

A blank detail specification is a supplementary document to the sectional specification and contains requirements for style and layout and minimum content of details specifications. Detail specifications not complying with these requirements may not be considered as being in accordance with IEC specifications nor shall they be so described.

In the preparation of detail specifications the content of 1.4 of the sectional specification shall be taken into account.

The numbers between brackets on the first page correspond to the following information which shall be inserted in the position indicated:

Identification of the detail specification

- [1] The "International Electrotechnical commission" or the National Standards Organization under whose authority the detail specification is drafted.
- [2] The IEC or National Standards number of the detail specification, date of issue and any further information required by the national system.
- [3] The number and issue number of the IEC or national Generic Specification.
- [4] The IEC number of the blank detail specification.

Identification of the capacitor

- [5] A short description of the type of capacitor.
- [6] Information on typical construction (when applicable).
NOTE When the capacitor is not designed for use in printed board applications, this shall be clearly stated in the detail specification in this position.
- [7] Outline drawing with main dimensions which are of importance for interchangeability and/or reference to the national or international documents for outlines. Alternatively, this drawing may be given in an appendix to the detail specification.
- [8] Application or group of applications covered and/or assessment level.
NOTE The assessment level(s) to be used in a detail specification shall be selected from the sectional specification, 3.5.4. This implies that one blank detail specification may be used in combination with several assessment levels provided the grouping of the tests does not change.
- [9] Reference data on the most important properties, to allow comparison between the various capacitor types.

[1]	IEC 60384-2-1-XXX QC XXXXXXXXXXXX	[2]
ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH:	IEC 60384-2-1 QC XXXXXX	[4]
[3]	FIXED METALLIZED POLYETHYLENE-TEREPHTHALATE FILM DIELECTRIC DC CAPACITORS	
Outline drawing (see table 1 (first angle projection))		[5]
[7]		[6]
(Other shapes are permitted within the dimensions given)	Assessment levels E and EZ Performance grade:	[8]
NOTE For [1] to [9]: see previous page.		

Information on the availability of components qualified to this detail specification is given in IEC QC 001005	[9]
--	-----

1 General data

1.1 Recommended method(s) of mounting (to be inserted)

See IEC 60384-2, 1.4.2.

1.2 Dimensions

Table 1 – Case size reference and dimensions

Case size reference	Dimensions						
	\varnothing	<i>L</i>	<i>H</i>	<i>d</i>		

When there is no case size reference, Table 1 may be omitted and the dimensions shall be given in Table 2, which then becomes Table 1.

The dimensions shall be given as maximum dimensions or as nominal dimensions with a tolerance.

1.3 Ratings and characteristics

Capacitance range (see Table 2)

Tolerance on rated capacitance

Rated voltage (see Table 2)

Category voltage (if applicable) (see Table 2)

Climatic category

Rated temperature

Maximum a.c. voltage (if applicable)

Maximum pulse load

Tangent of loss angle

Insulation resistance

Maximum dissipation

Table 2 – Values of capacitance and of voltage related to case sizes

Rated voltage				
Category voltage*				
	Case size	Case size	Case size	Case size
Rated capacitance (in nF and/or μ F)				
* If different from the rated voltage.				

1.4 Normative references

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.

IEC 60384-1, *Fixed capacitors for use in electronic equipment – Part 1: Generic specification*

IEC 60384-2, *Fixed capacitors for use in electronic equipment – Part 2: Sectional specification: Fixed metallized polyethylene-terephthalate film dielectric d.c. capacitors*