

INTERNATIONAL STANDARD

IEC 60384-21-1

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Fixed capacitors for use in electronic equipment – Part 21-1: Blank detail specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 1 – Assessment level EZ

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

**Part 21-1: Blank detail specification:
Fixed surface mount multilayer capacitors
of ceramic dielectric, Class 1 –
Assessment level EZ**

FOREWORD

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International Standard IEC 60384-21-1 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

This standard and its related publications (CEI 60384-21, IEC 60384-22 and IEC 60384-22-1) cancel and replace IEC 60384-10 (1989) and its Amendments 1 (1993) and 2 (2000) as well as IEC 60384-10-1 (1989) and its Amendment 1 (1993).

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

| FDIS | Report on voting |
|--------------|------------------|
| 40/1421/FDIS | 40/1452/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 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- withdrawn;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 standard may be issued at a later date.

The contents of the corrigendum of September 2004 have been included in this copy.

INTRODUCTION

Blank detail specification

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

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

The numbers between square brackets on the first page of the detail specification 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).
- (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 annex to the detail specification.
- (8) Application or group of applications covered and/or assessment level.
- (9) Reference data on the most important properties, to allow comparison between the various capacitor types.

| | | | |
|---|-----|--|-----|
| | (1) | IEC 60384-21-1-ZZZ QC 30XXXX-ZZZ | (2) |
| ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH : | (3) | IEC 60384-21-1 QC 30 XXXX | (4) |
| Outline drawing : (see Table 1) (...angle projection) (Other shapes are permitted within the dimensions given) | (7) | FIXED SURFACE MOUNT MULTILAYER CAPACITORS OF CERAMIC DIELECTRIC, CLASS 1 | (5) |
| | | | (6) |
| | | Assessment level: EZ | (8) |

Information on the availability of components qualified to this detail
specification is given in the IEC QC 001005.

(9)

FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

Part 21-1: Blank detail specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 1 – Assessment level EZ

1 General data

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

(See 1.4.2 of IEC 60384-21).

1.2 Dimensions

Table 1 – Case size reference and dimensions

| Case size reference | Dimension (mm) | | | | | | |
|---------------------|----------------|-----|-----|-------|-------|-------|-----|
| | L_1 | W | H | L_2 | L_3 | L_4 | --- |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

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

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

1.3 Ratings and characteristics

| | |
|--------------------------------------|------------------------|
| Rated 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 | |
| Category temperature (if applicable) | |
| Tangent of loss angle | |
| Insulation resistance | |
| Temperature coefficient α : | ...10 ⁻⁶ /K |

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

| Rated voltage | | | | |
|--|-----------|-----------|-----------|-----------|
| Category voltage ¹⁾ | | | | |
| Rated capacitance (in pF and/or nF) | Case size | Case size | Case size | Case size |
| | | | | |

¹⁾ If different from the rated voltage.

1.4 Normative references

IEC 60384-1:1999, *Fixed capacitors for use in electronic equipment – Part 1: Generic specification*

IEC 60384-21:2004, *Fixed capacitors for use in electronic equipment – Part 21: Sectional specification: Fixed surface mount multilayer capacitors of ceramic dielectric, Class 1*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*