

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Fixed capacitors for use in electronic equipment  
Part 23: Sectional specification – Fixed metallized polyethylene naphthalate film  
dielectric surface mount DC capacitors**

**Condensateurs fixes utilisés dans les équipements électroniques –  
Partie 23: Spécification intermédiaire – Condensateurs fixes pour montage en  
surface pour courant continu à diélectrique en film de polynaphtalate d'éthylène  
métallisé**



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## CONTENTS

|  |    |
|--|----|
| FOREWORD.....  | 5  |
| 1 Scope.....   | 7  |
| 2 Normative references .....                           | 7  |
| 3 Terms and definitions .....                          | 8  |
| 4 Preferred ratings and characteristics .....          | 8  |
| 4.1 Preferred climatic categories.....                 | 8  |
| 4.2 Preferred values of ratings.....                   | 8  |
| 4.2.1 Nominal capacitance ( $C_N$ ) .....              | 8  |
| 4.2.2 Tolerance on nominal capacitance.....            |    |
| 4.2.3 Rated voltage ( $U_R$ ).....                     | 9  |
| 4.2.4 Category voltage ( $U_C$ ).....                  | 9  |
| 4.2.5 Rated temperature.....                           | 9  |
| 5 Test and measurement procedures.....                 | 10 |
| 5.1 General.....                                       | 10 |
| 5.2 Mounting.....                                      | 10 |
| 5.2.1 Initial inspections.....                         | 10 |
| 5.2.2 Mounting method.....                             | 10 |
| 5.2.3 Final inspections after mounting .....           | 10 |
| 5.3 Visual examination and check of dimensions .....   | 10 |
| 5.3.1 General .....                                    | 10 |
| 5.3.2 Visual examination and check of dimensions ..... | 10 |
| 5.3.3 Requirements .....                               | 10 |
| 5.4 Electrical tests .....                             | 10 |
| 5.4.1 Voltage proof.....                               | 10 |
| 5.4.2 Capacitance .....                                | 11 |
| 5.4.3 Tangent of loss angle (or $\delta$ ) .....       | 11 |
| 5.4.4 Insulation resistance.....                       | 12 |
| 5.5 Shear test.....                                    | 13 |
| 5.5.1 General .....                                    | 13 |
| 5.5.2 Final inspections.....                           | 13 |
| 5.6 Substrate bending test.....                        | 14 |
| 5.6.1 General .....                                    | 14 |
| 5.6.2 Initial inspections.....                         | 14 |
| 5.6.3 Final inspections and requirements.....          | 14 |
| 5.7 Resistance to soldering heat.....                  | 14 |
| 5.7.1 General .....                                    | 14 |
| 5.7.2 Initial inspections.....                         | 14 |
| 5.7.3 Test conditions .....                            | 14 |
| 5.7.4 Recovery .....                                   | 14 |
| 5.7.5 Final inspections and requirements.....          | 14 |
| 5.8 Solderability.....                                 | 14 |
| 5.8.1 General .....                                    | 14 |
| 5.8.2 Test conditions .....                            | 15 |
| 5.8.3 Final inspections and requirements.....          | 15 |
| 5.9 Rapid change of temperature.....                   | 15 |
| 5.9.1 General .....                                    | 15 |

|        |   |    |
|--------|---|----|
| 5.9.2  | Initial inspections                               | 15 |
| 5.9.3  | Test conditions                                   | 15 |
| 5.9.4  | Final inspections and requirements                | 15 |
| 5.10   | Climatic sequence                                 | 15 |
| 5.10.1 | General   | 15 |
| 5.10.2 | Initial inspections                               | 15 |
| 5.10.3 | Dry heat  | 15 |
| 5.10.4 | Damp heat, cyclic, test Db, first cycle           | 16 |
| 5.10.5 | Cold  | 16 |
| 5.10.6 | Damp heat, cyclic, test Db, remaining cycles      | 16 |
| 5.10.7 | Recovery  | 16 |
| 5.10.8 | Final inspections and requirements                | 16 |
| 5.11   | Damp heat, steady state                           | 16 |
| 5.11.1 | General   | 16 |
| 5.11.2 | Initial inspections                               | 16 |
| 5.11.3 | Test conditions                                   | 16 |
| 5.11.4 | Recovery  | 16 |
| 5.11.5 | Final inspections and requirements                | 16 |
| 5.12   | Endurance   | 17 |
| 5.12.1 | General   | 17 |
| 5.12.2 | Initial inspections                               | 17 |
| 5.12.3 | Test conditions                                   | 17 |
| 5.12.4 | Final inspections and requirements                | 17 |
| 5.13   | Charge and discharge                              | 17 |
| 5.13.1 | General   | 17 |
| 5.13.2 | Initial inspections                               | 18 |
| 5.13.3 | Test conditions                                   | 18 |
| 5.13.4 | Recovery  | 18 |
| 5.13.5 | Final inspections and requirements                | 18 |
| 5.14   | Component solvent resistance (if required)        | 18 |
| 5.14.1 | General   | 18 |
| 5.14.2 | Final inspection and requirements                 | 18 |
| 5.15   | Solvent resistance of marking (if applicable)     | 18 |
| 5.15.1 | General   | 18 |
| 5.15.2 | Final inspections and requirements                | 18 |
| 6      | Marking   | 18 |
| 6.1    | General   | 18 |
| 6.2    | Information for marking                           | 19 |
| 6.3    | Marking on capacitors                             | 19 |
| 6.4    | Marking on packaging                              | 19 |
| 7      | Information to be given in a detail specification | 19 |
| 7.1    | General   | 19 |
| 7.2    | Outline drawing and dimensions                    | 19 |
| 7.3    | Mounting  | 20 |
| 7.4    | Ratings and characteristics                       | 20 |
| 7.4.1  | General   | 20 |
| 7.4.2  | Nominal capacitance range                         | 20 |
| 7.4.3  | Particular characteristics                        | 20 |
| 7.4.4  | Soldering   | 20 |

|              |  |    |
|--------------|--|----|
| 7.5          | Marking.....   | 20 |
| 8            | Quality assessment procedures .....  | 20 |
| 8.1          | Primary stage of manufacture .....   | 20 |
| 8.2          | Structurally similar components .....  | 20 |
| 8.3          | Certified test records of released lots.....                                 | 21 |
| 8.4          | Qualification approval procedures.....                                       | 21 |
| 8.4.1        | General .....  | 21 |
| 8.4.2        | Qualification approval on the basis of the fixed sample size procedure ..... | 21 |
| Annex A      | (normative) Quality conformance inspection.....                              | 29 |
| A.1          | Formation of inspection lots .....   | 29 |
| A.1.1        | Groups A and B inspection .....  | 29 |
| A.1.2        | Group C inspection .....   | 29 |
| A.2          | Test schedule .....  | 29 |
| A.3          | Delayed delivery .....   | 29 |
| A.4          | Assessment levels .....  | 29 |
| Annex X      | (informative) Cross-references to the previous edition of this document..... | 36 |
| Bibliography | .....  | 37 |
| Table 1      | – Percentage limit of the rated voltage at AC voltage frequency .....        | 9  |
| Table 2      | – Test voltages.....   | 11 |
| Table 3      | – Tangent of loss angle limits.....  | 12 |
| Table 4      | – Requirements regarding insulation resistance.....                          | 13 |
| Table 5      | – Correction factor dependent on temperature .....                           | 13 |
| Table 6      | – Endurance test conditions for Grade 1 and Grade 2 capacitors .....         | 17 |
| Table 7      | – Endurance test conditions for Grade 3 capacitors.....                      | 17 |
| Table 8      | – Test and sampling plan for qualification approval Assessment level EZ..... | 22 |
| Table 9      | – Test schedule for qualification approval.....                              | 23 |
| Table A.1    | – Lot-by-lot inspection.....   | 30 |
| Table A.2    | – Periodic inspection.....   | 31 |
| Table X.1    | – Cross-reference .....  | 36 |

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –****Part 23: Sectional specification –  
Fixed metallized polyethylene naphthalate film  
dielectric surface mount DC capacitors**

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IEC 60384-23 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment. It is an International Standard.

This third edition cancels and replaces the second edition published in 2015. This edition constitutes a technical revision.

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

- a) this edition includes the following significant technical changes with respect to the previous edition: revision of all parts of the document based on the ISO/IEC Directives, Part 2:2021, and harmonization with other similar kinds of documents;
- b) the document structure has been organized to follow new sectional specification structure decided in TC 40;
- c) revised tables and Clause 5 so as to prevent duplications and contradictions;

- d) in Subclause 5.2 (Mounting), the Subclauses 5.2.1, 5.2.2 and 5.2.3 have been added;
- e) in Subclause 5.5 (Shear test), the Subclauses 5.5.1 and 5.5.2 have been added;
- f) in Subclause 5.14 (Component solvent resistance), the Subclauses 5.14.1 and 5.14.2 have been added. In Table 8 and Table A.2, test 5.14 has been moved before 5.7.5 (Final inspections and requirements) in Group 1A and in Subgroup C1;
- g) In Subclause 5.15 (Solvent resistance of marking), the Subclauses 5.15.1 and 5.15.2 have been added;
- h) tangent of loss angle measurement has been added to the resistance to soldering heat test;
- i) lot-by-lot and periodical inspection tables including requirements have been moved to Annex A;
- j) revised Inspection Level (IL) of A1 subgroup.

The text of this International Standard is based on the following documents:

| Draft        | Report on voting |
|--------------|------------------|
| 40/2983/FDIS | 40/3019/RVD      |

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

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

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 website.

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](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications](http://www.iec.ch/publications).

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- amended.

## FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

### Part 23: Sectional specification – Fixed metallized polyethylene naphthalate film dielectric surface mount DC capacitors

#### 1 Scope

This part of IEC 60384 is applicable to fixed surface mount capacitors for direct current, with metallized electrodes and polyethylene naphthalate dielectric for use in electronic equipment. These capacitors have metallized connecting pads or soldering strips and are intended to be mounted directly onto printed boards or onto substrates for hybrid circuits. These capacitors can have "self-healing properties" depending on conditions of use. They are primarily intended for applications where the AC component is small with respect to the rated voltage.

This part of IEC 60384 specifies preferred ratings and characteristics, selects from IEC 60384-1:2021 the appropriate quality assessment procedures, tests and measuring methods and gives general performance requirements for this type of capacitor. Test severities and requirements specified in detail specifications referring to this sectional specification are of an equal or higher performance level. Lower performance levels are not permitted.

Capacitors for electromagnetic interference suppression are not included, but are covered by IEC 60384-14.

#### 2 Normative references

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.

IEC 60062, *Marking codes for resistors and capacitors*

IEC 60063, *Preferred number series for resistors and capacitors*

IEC 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60384-1:2021, *Fixed capacitors for use in electronic equipment – Part 1: Generic specification*

IEC 61139-2:2007, *Quality assessment systems – Part 2: Selection and use of sampling plans for inspection of electronic components and packages*

ISO 3, *Preferred numbers – Series of preferred numbers*