

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

QC 300800

**Fixed capacitors for use in electronic equipment –  
Part 3: Sectional specification: Surface mount fixed tantalum electrolytic  
capacitors with manganese dioxide solid electrolyte**

**Condensateurs fixes utilisés dans les équipements électroniques –  
Partie 3: Spécification intermédiaire: Condensateurs fixes électrolytiques au  
tantale pour montage en surface, à électrolyte solide au dioxyde de manganèse**



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Withdrawn

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –**

**Part 3: Sectional specification: Surface mount fixed tantalum electrolytic capacitors with manganese dioxide solid electrolyte**

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International Standard IEC 60384-3 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

This third edition cancels and replaces the second edition published in 1989 and constitutes a minor revision related to tables, figures and references.

This bilingual version, published in 2008-06, corresponds to the English version.

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

FDIS	Report on voting
40/1771/FDIS	40/1789/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.

The French version of this standard has not been voted upon.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The QC numbers that appear on the front cover of this publication are the specification numbers in the IEC Quality Assessment System for Electronic Components (IECQ).

The list of all the parts of the IEC 60384 series, under the general title *Fixed capacitors for use in electronic equipment*, can be found on the IEC website.

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- withdrawn;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.

Withdrawn

# FIXED CAPACITORS FOR USE IN ELECTRONIC EQUIPMENT –

## Part 3: Sectional specification: Surface mount fixed tantalum electrolytic capacitors with manganese dioxide solid electrolyte

### 1 General

#### 1.1 Scope

This specification applies to surface mount tantalum solid electrolyte capacitors. These capacitors are primarily intended to be mounted directly onto substrates for hybrid circuits or onto printed boards.

The following two styles are considered:

- Style 1: protected capacitors;
- Style 2: unprotected capacitors.

#### 1.2 Object

The object of this standard is to prescribe preferred ratings and characteristics and to select from IEC 60384-1:1999, the appropriate quality assessment procedures, tests and measuring methods and to give general performance requirements for this type of capacitor.

#### 1.3 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 60062, *Marking codes for resistors and capacitors (only available in English)*

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

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

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

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

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

#### 1.4 Information to be given in a detail specification

Detail specifications shall be derived from the relevant blank detail specification.

Detail specifications shall not specify requirements inferior to those of the generic, sectional or blank detail specification. When more severe requirements are included, they shall be listed in 1.9 of the detail specification and indicated in the test schedules, for example, by an asterisk.



The following information shall be given in each detail specification and the values quoted shall preferably be selected from those given in the appropriate clause of this sectional specification.

#### **1.4.1 Outline drawing and dimensions**

The detail specification shall give an illustration of the capacitor as an aid to easy recognition and for comparison of the capacitor with others. Dimensions and their associated tolerances, which affect interchangeability and mounting, shall be given. All dimensions are to be stated in mm.

NOTE The information given in 1.4.1 may for convenience be presented in tabular form.

Normally, the numerical values shall be given for the length, width and height of the body. When necessary, for example, when a number of case sizes are covered by a detail specification, the dimensions and their associated tolerances shall be placed in a table below the drawing.

When the configuration is other than described above, the detail specification shall state such dimensional information as will adequately describe the capacitor.

#### **1.4.2 Mounting**

The detail specification shall give guidance on methods of mounting for normal use. Mounting for test and measurement purposes (if required) shall be in accordance with 4.3.

#### **1.4.3 Ratings and characteristics**

The ratings and characteristics shall be in accordance with the relevant clauses of this specification, together with the following.

##### **1.4.3.1 Rated capacitance range**

See 2.2.1.

NOTE When products approved to the detail specification have different ranges, the following statement should be added: "The range of values available in each voltage range is given in the qualified products list (QPL).".

##### **1.4.3.2 Particular characteristics**

Additional characteristics may be listed, when they are considered necessary, to specify adequately the component for design and application purposes.

##### **1.4.3.3 Soldering**

The detail specification shall prescribe the test methods, severities and requirements applicable for the solderability test and the resistance to soldering heat test.

#### **1.4.4 Marking**

The detail specification shall specify the content of the marking on the capacitor and on the package. Deviations from 1.5 of this sectional specification shall be specifically stated.

#### **1.5 Terms and definitions**

For the purposes of this document, the terms and definitions given in IEC 60384-1, as well as the following, apply.