

Förderverein für Elektrotechnische Normung (FEN) e. V.  
Cenelec Electronic Components Committee

# CECC

Système Harmonisé d'Assurance de la Qualité  
des Composants Electroniques

SPECIFICATION PARTICULIERE:

CONDENSATEURS FIXES AU  
TANTALE A ELECTROLYTE  
SOLIDE, A ANODE POREUSE  
(SOUS-FAMILLE 3)

Harmonized System of Quality Assessment for  
Electronic Components

DETAIL SPECIFICATION:

FIXED TANTALUM CAPACITORS  
WITH SOLID ELECTROLYTE,  
POROUS ANODE  
(SUB-FAMILY 3)

Harmonisiertes Gütebestätigungssystem für  
Bauelemente der Elektronik

BAUARTSPEZIFIKATION:

TANTAL-FESTKONDENSATOREN  
MIT FESTEM ELEKTROLYTEN  
UND SINTERANODE  
(UNTERFAMILIE 3)



# 2

Edition  
Issue  
Ausgabe

## CECC 30 201-801

1993



Documents

Document Sharing Hub

Information about the System may be obtained from:



FEN e.V. Secretariat  
and  
CECC General Secretariat  
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D - 60596 Frankfurt  
Telephone:  
Int. + 49 69 639171  
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or from the National Authorized Institutions  
of the participating countries listed  
who can supply copies of:

- 1 The Internal Regulations of the FEN e.V.
- 2 The Rules of Procedure of the System
- 3 CECC Specifications of the FEN and National Specifications for the System
- 4 CECC 00 200: Register of Firms, Products, and Services Approved under the CECC System
- 5 CECC 00 300: Register of National Documents Implementing CECC Publications and CECC European Standards
- 6 CECC 00 301: Register of CECC Specifications and Related Detail Specifications
- 7 Other CECC Publications and publicity documents

#### AUSTRIA

Österreichischer Verband für Elektrotechnik (ÖVE)  
Eschenbachgasse 9  
A-1010 VIENNA

#### BELGIUM

Comité Electrotechnique Belge  
Galerie Ravenstein 28 ( Boîte 2 )  
B-1000 BRUSSELS

#### DENMARK

Dansk Elektroteknisk Komite  
Dansk Standard  
Electrotechnical Sector  
Baunegårdsvej 73  
DK-2900 HELLERUP

#### FINLAND

Finnish Electrotechnical Standards Association (SESKO)  
P.O. Box 134  
SF-00211 HELSINKI 21

#### FRANCE

Union technique de l'Electricité  
Participation française au CECC  
F-92052 PARIS La Défense Cedex 64

#### GERMANY

Deutsche Elektrotechnische Kommission im DIN und VDE (DKE)  
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D-60596 FRANKFURT

#### IRELAND

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Glasnevin  
IRL-DUBLIN 9

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New Spanish Member  
to be determined.

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S-16428 KISTA-STOCKHOLM

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#### UNITED KINGDOM

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## FOREWORD

The CENELEC Electronic Components Committee is composed of those member countries of the European Committee for Electrotechnical Standardization (CENELEC) who wish to take part in a harmonized System for electronic components of assessed quality.

The object of the System is to facilitate international trade by the harmonization of specifications and quality assessment procedures for electronic components, and by the grant of an internationally recognized Mark, or Certificate, of Conformity. The components produced under the System are thereby acceptable in all member countries without further testing.

This specification should be read in conjunction with the current regulations for the CECC System.

At the date of printing of this specification, the member countries of the CECC are Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom, and copies of it can be obtained from the addresses shown on the blue fly sheet.

## PREFACE

This specification was prepared by CECC WG3: "Capacitors", and is a revised version of CECC 30 201-801, Issue 1.

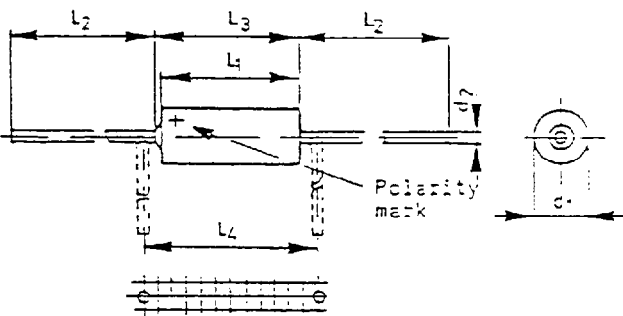
It is based wherever possible, on the Publications of the International Electrotechnical Commission (IEC).

The text of this specification was circulated to the members of CECC WG3 under CECC WG3(Secretariat)254. At its Nuremberg meeting in May 1993 the WG3 decided to publish this Issue 2 after unanimous agreement upon amendments (14.1 of the minutes of the Nuremberg meeting: CECC WG3(Secretariat)255).

This second issue of CECC 30 201-801 shall become effective for all new qualification approvals on 2nd September 1993. Issue 1 will continue to remain effective to cover all past approvals.

To allow for early publication, this detail specification is issued initially in English only. Corresponding versions in French and German will follow on request of ONHs.



|                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Specification available from:<br/>CECC General Secretariat</p>                                                                                                                                                                                                                                                                                             | <p>CECC 30 201-801</p> <p>Issue 2 1992</p>                                                                                                                                                                                     |
| <p>ELECTRONIC COMPONENTS OF ASSESSED<br/>QUALITY - DETAIL SPECIFICATION<br/>IN ACCORDANCE WITH:</p> <p>EN 130 000 (1993)<br/>EN 130 200 (1993)</p>                                                                                                                                                                                                            |                                                                                                                                                                                                                                |
| <p>First angle projection </p> <p>Outline and dimensions</p>  <p><math>L_4</math> is the minimum wire spacing for mounting<br/>on printed boards<br/>All dimensions in mm, see Table 1</p> | <p>WG-DETAIL SPECIFICATION FOR<br/>FIXED TANTALUM CAPACITORS<br/>WITH SOLID ELECTROLYTE,<br/>POROUS ANODE (SUB-FAMILY 3)</p> <p>Polar<br/>Cylindrical<br/>Metallic case<br/>Insulated/non insulated<br/>Axial terminations</p> |
|                                                                                                                                                                                                                                                                                                                                                               | <p>Assessment level E</p>                                                                                                                                                                                                      |

QUICK REFERENCE DATA: Capacitance range: 0,068  $\mu$ F to 330  $\mu$ F  
 Capacitance tolerance:  $\pm 5\%$ ,  $\pm 10\%$ ,  $\pm 20\%$   
 Voltage range: 6,3 V to 125 V d.c.  
 Climatic category: 55/125/56  
 Performance grade: Long life grade

Information about manufacturers who have components qualified to this detail specification is available in the current CECC 00 200: Register of Firms, Products and Services Approved under the CECC System (Register of Approvals)

It is intended that this specification should replace national specifications. Relevant numbers will be published by the National Committees and published under Issue 2 of this specification.

## 1 - GENERAL DATA

## 1.1 Method of mounting for vibration and bump or shock tests

For normal use the capacitors shall be mounted by the terminations. In extreme conditions of shock and vibration clamping of the body is recommended.

For shock and vibration testing the capacitors shall be mounted by clamping the body and the terminations.

## 1.2 Dimensions

TABLE 1

| Case size<br>reference | Dimensions mm |            |            |            |            |                   |
|------------------------|---------------|------------|------------|------------|------------|-------------------|
|                        | $L_1$ max.    | $L_2$ min. | $L_3$ max. | $L_4$ min. | $d_1$ max. | $d_2$             |
| 1                      | 7,3           | 30         | 10,7       | 15,2       | 3,6        | 0,5±0,05          |
| 2                      | 12,0          | 30         | 15,5       | 20,3       | 4,9        |                   |
| 3                      | 17,5          | 30         | 20,9       | 27,9       | 7,5        | 0,6+0,06<br>-0,05 |
| 4                      | 20,0          | 30         | 23,4       | 30,5       | 9,1        |                   |

Note 1: The dimensions in Table 1 are for the uninsulated style. For the insulated style the insulation shall extend 0,4 mm minimum and 1,1 mm maximum beyond each end of the capacitor body. However, when a shrink fitted insulated sleeve is used, it shall be shrunk over the ends of the body. The increase in diameter for insulated types shall not exceed 0,25 mm.

Note 2:  $L_2$  min. is not applicable for capacitors supplied with tape packaging.

## 1.3 Ratings and characteristics

|                                                 |                          |
|-------------------------------------------------|--------------------------|
| Capacitance range (E6 and E12 series)           | see Table 2A             |
| Tolerance on rated capacitance                  | ± 5 %, ± 10 %, ± 20 %    |
| Rated voltage                                   | see Table 2A             |
| Category voltage                                | see Table 2A             |
| Surge voltage                                   | 1,3 $U_R$ or 1,3 $U_C$   |
| Climatic category                               | 55/125/56                |
| Rated temperature                               | 85 °C                    |
| Capacitance change with temperature             | see Table 2B             |
| Tangent of loss angle ( $\tan \delta$ )         | see Table 2B             |
| Leakage current in $\mu A$                      | see Table 2B             |
| Impedance                                       | see Table 2B             |
| Reverse voltage (test voltage)<br>(if required) | 0,05 $U_R$ or 0,05 $U_C$ |
| Voltage derating                                | see Picture 1            |