

Sectional specification: Fixed low power film resistors

Sectional specification: Fixed low power film resistors

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

<p>Käesolev Eesti standard EVS-EN 140100:2008 sisaldab Euroopa standardi EN 140100:2008 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 24.03.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 09.02.2007.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 140100:2008 consists of the English text of the European standard EN 140100:2008.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 24.03.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 09.02.2007.</p> <p>The standard is available from Estonian standardisation organisation.</p>
--	---

ICS 31.040.10

Võtmesõnad: electronic components, fixed low power resistors, non-wire wound resistors, sectional specification

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
 Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

English version

**Sectional Specification:
Fixed low power film resistors**

Spécification intermédiaire:
Résistances couche fixes
à faible dissipation

Rahmenspezifikation:
Schicht-Festwiderstände
niedriger Belastbarkeit

This European Standard was approved by CENELEC on 2007-10-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard was prepared by the Technical Committee CENELEC TC 40XB, Resistors.

The text of the draft was submitted to the Unique Acceptance Procedure and was approved by CENELEC as EN 140100 on 2007-10-01.

This European Standard supersedes EN 140100:1996 + A1:2001.

Compared to the superseded standard, the following changes have been implemented:

- modification of the title;
- introduction of a test on the resistance to electrostatic discharge;
- introduction of description and test methods for lead-free soldering;
- introduction of the code letters for temperature coefficient as given in EN 60062;
- adoption of the IECQ rules of procedure, QC 001002-3;
- editorial revision.

The preceding document on the subject covered by this specification has been CECC 40 100:1980.

The following dates were fixed:

- | | | |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2008-10-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2010-10-01 |
-

Table of contents

1	General	4
1.1	Scope	4
1.2	Information to be specified in the detail specification	4
2	Preferred characteristics, ratings and severities for environmental and overload tests	5
2.1	Preferred characteristics	5
2.1.1	Style and dimensions	5
2.1.2	Preferred climatic categories	6
2.1.3	Temperature coefficients of resistance	6
2.1.4	Limits of change of resistance	7
2.2	Preferred values of ratings	9
2.2.1	Rated resistance	9
2.2.2	Tolerances on rated resistance	9
2.2.3	Rated dissipation (in the mounted state)	9
2.2.4	Limiting element voltage	9
2.2.5	Insulation resistance (insulated styles only)	9
2.2.6	Insulation voltage (insulated styles only)	9
2.2.7	Combinations of tolerance on rated resistance and temperature coefficient	9
2.3	Preferred test severities	10
2.3.1	Damp heat, steady state	10
2.3.2	Vibration	10
2.3.3	Low air pressure	10
2.3.4	Rapid change of temperature	10
2.3.5	Solderability	10
2.3.6	Resistance to soldering heat	11
2.3.7	Overload	11
2.3.8	Single pulse high voltage overload	12
2.3.9	Periodic electric overload	12
2.3.10	Resistance to electrostatic discharge	12
2.3.11	Flammability	12
2.4	Preparation of specimen	12
2.4.1	Drying	12
2.4.2	Mounting of components on a test rack	12
2.4.3	Mounting of components on test boards	13
3	Quality assessment procedures	14
3.1	General	14
3.1.1	Structurally similar components	14
3.1.2	Formation of inspection lots	14
3.2	Qualification approval on the basis of the fixed sample size procedure	14
3.3	Quality conformance inspection	15
3.4	Technology approval	15
3.5	Assessed process average procedures	15
3.6	Delayed delivery	15
Annex A (normative)	Fixed sample size Qualification Approval and Quality Conformance Inspection test schedule for fixed low power resistors	16
Annex B (informative)	Letter symbols and abbreviations	25
Bibliography	27

1 General

1.1 Scope

This sectional specification prescribes the preferred values for characteristics and ratings and also the inspection requirements for fixed film resistors of assessed quality. These resistors generally have wire terminations and are primarily intended to be mounted directly on to printed boards. It selects from the generic specification, EN 60115-1, the appropriate methods of test to be used in detail specifications derived from this specification.

Associated with this specification are one or more blank detail specifications each referenced by an EN number. A blank detail specification which has been completed as specified in 1.2 of this specification forms a detail specification. Such detail specifications may be used for the grant of Qualification approval and for the performance of Quality conformance inspection in accordance with an established quality assessment system (e.g. the IECQ-CECC system).

1.2 Information to be specified in the 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 a subclause of the detail specification and indicated in the test schedules, for example by an asterisk.

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

- | | |
|--|---|
| a) Outline drawing | There shall be an illustration of the resistor as an aid to easy recognition and for comparison of the resistor with others. Dimensions and their associated tolerances, which affect interchangeability and mounting, shall be given in the detail specification. |
| b) Style and dimensions | See 2.1.1.

The dimensions shall be given for the length and diameter of the body, using the provisions of IEC 60294, and for the diameter of the terminations. Where the configuration is other than cylindrical with axial terminations, the detail specification shall specify such dimensional information as will adequately describe the resistor.

The free termination length should be given for appropriate tape packing.

The mass of the products may be given for information. |
| c) Climatic category | See 2.1.2. |
| d) Limits of resistance change after testing | See 2.1.4. |
| e) Resistance range | See 2.2.1.

NOTE 1 When products approved to the detail specification may have different ranges, the following statement should be added: "The range of values available in each style is given in the register of approvals, available e.g. on the website www.iecq.org ." |
| f) Tolerances on rated resistance | See 2.2.2.

NOTE 2 When products approved to the detail specification may have different ranges, the following statement should be added: "The range of values available in each style is given in the register of approvals, available e.g. on the website www.iecq.org ." |
| g) Temperature coefficient of resistance | See 2.1.3.

For preferred combinations of temperature coefficient and tolerance on rated resistance see 2.2.7. |