



NSAI
Standards

Irish Standard
I.S. EN 140402-801:2015

Detail specification: Fixed low power
wirewound surface mount (SMD) resistors -
Rectangular - Stability classes 0,5; 1; 2

I.S. EN 140402-801:2015

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN 140402-801:2015

Published:

2015-04-03

This document was published under the authority of the NSAI and comes into effect on:

2015-04-21

ICS number:

31.040.10

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

EUROPEAN STANDARD

EN 140402-801

NORME EUROPÉENNE

EUROPÄISCHE NORM

April 2015

ICS 31.040.10

Supersedes EN 140402-801:2005

English Version

Detail specification: Fixed low power wirewound surface mount (SMD) resistors - Rectangular - Stability classes 0,5; 1; 2

Spécification particulière: Résistances fixes bobinées à faible dissipation pour montage en surface (CMS) - Rectangulaire - Catégories de stabilité 0,5; 1; 2

Bauartspezifikation: Oberflächenmontierbare drahtgewickelte Festwiderstände (SMD) niedriger Belastbarkeit - Rechteckig - Stabilitätsklassen 0,5; 1; 2

This European Standard was approved by CENELEC on 2014-12-15. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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



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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Foreword	4
1 Characteristics and ratings	6
1.1 General	6
1.2 Dimensions and ratings	6
1.3 Derating curve	7
1.4 Resistance range and tolerance on rated resistance.....	7
1.4.1 Level P	7
1.4.2 Level R.....	8
1.5 Variation of resistance with temperature and temperature rise	9
1.6 Climatic categories	10
1.7 Limits for change of resistance at tests	10
1.8 Non-linearity	12
1.9 Tests related to soldering	12
1.9.1 Severities for solderability testing	12
1.9.2 Severities for testing resistance to soldering heat.....	12
1.10 Marking, packaging and ordering designation	12
1.10.1 Marking of the component	12
1.10.2 Packaging	12
1.10.3 Marking of the packaging	12
1.10.4 Ordering information	12
1.11 Additional information (not for inspection purpose)	13
1.11.1 Storage	13
1.11.2 Mounting	13
1.11.3 Soldering process	13
1.11.4 Conductive gluing	14
1.11.5 Use of cleaning solvents	14
1.11.6 Pulse load capability.....	14
2 Quality assessment procedures	21
2.1 General.....	21
2.1.1 Zero defect approach.....	21
2.1.2 100 % Test.....	21
2.1.3 Certificate of Conformity (CoC)	21
2.1.4 Certified test records	22
2.1.5 Failure rate level	22
2.2 Qualification approval	22
2.2.1 General	22
2.2.2 Level P	22
2.2.3 Level R.....	22
2.3 Quality conformance inspection	22
2.3.1 General	22
2.3.2 Qualification approval according to QC 001002-3:2005, Clause 3.....	23
2.3.3 Technology approval according to QC 001002-3:2005, Clause 6	23
2.3.4 Non-conforming items	23
Annex A (normative) Fixed sample size Qualification Approval and Quality Conformance Inspection test schedule for fixed low power wire wound SMD resistors	24
Annex B (informative) Letter symbols and abbreviations	34

B.1 Letter symbols	34
B.2 Abbreviations	35
Annex C (normative) Normative references	36
Annex D (normative) Mounting of components	37
D.1 Layout for mechanical tests	37
D.2 Layout for electrical test	38
Bibliography	39

Foreword

This document (EN 140402-801:2015) has been prepared by CLC/TC 40XB "Resistors".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2015-12-15
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2017-12-15

This European Standard supersedes EN 140402-801:2005.

Preceding document on the subject covered by this specification has been:

- CECC 40 402-801:2000-02.

EN 140402-801:2015 includes the following significant technical changes with respect to EN 140402-801:2005:

- adoption of P_{70} as the rated dissipation, leaving the prior used P_{25} as an additional information;
- for style RW1607M, increase of P_{70} to 2,4 W, with $P_{25} = 3,0$ W;
- introduction of a test on the resistance to electrostatic discharge (ESD) in 1.7 and Annex A;
- introduction of code letters for the temperature coefficient (TCR) as in EN 60062:2005;
- revision of ordering information in 1.10.4;
- adoption of the IECQ rules of procedure according to QC 001002-3:2005;
- revision of the sample quantities and the sequence of tests in Annex A;
- editorial revision.


Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This specification is part of a series of documents describing fixed low power wire wound surface mount (SMD) resistors as follows:

- EN 60115-1, *Fixed resistors for use in electronic equipment — Part 1: Generic specification (IEC 60115-1, modified)*
- EN 60115-8, *Fixed resistors for use in electronic equipment — Part 8: Sectional specification — Fixed surface mount resistors (IEC 60116-8, modified)*
- This detail specification.

Any detail specification within this series is written on the basis of

- EN 140402, *Blank Detail Specification: Fixed low power wirewound surface mount (SMD) resistors.*
-

<p>Specification available from CENELEC Central Secretariat, Avenue Marnix 17, B – 1000 Brussels, or from the National Committees members of CENELEC</p>	<p>EN 140402-801</p> 
<p>Electronic components of assessed quality in accordance with: EN 60115-1:2011 EN 60115-8:2012 EN 140402:2015</p>	<p>Issue 2 April 2015</p>
<p>Other shapes are permitted within the given dimensions.</p> <p>Figure 1 — Outline and dimensions (see Table 1)</p>	<p>Fixed low power wire wound resistors with rectangular base for surface mounting. Style: RW</p> <p>Wire wound, insulated resistor with end terminations for application on printed board and flexible foils.</p> <p>Assessment level EZ ^a</p> <p>Level P: with 100 %-test Level R: with failure rate level and 100 %-test Stability classes 0,5; 1 and 2</p>
<p>^a See 2.1.1 for an explanation on the assessment level EZ.</p>	

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-