Tabelle X.2 – Verweisliste zu den Bildern

IEC 60115-8:2009 2. Ausgabe Bild	IEC 60115-8:202X 3. Ausgabe Bild	Anmerkungen
1	1	
2	3	
3	5	
4	7	
5	8	
6	9	

Tabelle X.3 – Verweisliste zu den Tabellen

IEC 60115-8:2009 2. Ausgabe Tabelle	IEC 60115-8:202X 3. Ausgabe Tabelle	Anmerkungen
1a	1	
1b	3	
2	11	
3a	10	in eine einzige Tabelle zusammengeführt
3b		
4	9	
5	5	die Maße für Lötflächen wurden nach Bauart (RR, RT und RC) aufgeteilt
	6	
	7	
6	12	
7a	13	der Prüfplan für die Bauartanerkennung wurde für losweise und periodische Prüfung in eine einzige Tabelle zusammengeführt
7b		

Literaturhinweise

IEC 60027-1, *Letter symbols to be used in electrical technology – Part 1: General*

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

IEC 60068-2-1, *Environmental testing – Part 2-1: Tests - Tests A: Cold*

IEC 60068-2-2, *Environmental testing – Part 2-2: Tests - Tests B: Dry heat*

IEC 60068-2-13, *Environmental testing – Part 2-13: Tests - Test M: Low air pressure*

IEC 60068-2-14, *Environmental testing – Part 2-14: Tests - Test N: Change of temperature*

IEC 60068-2-21, *Environmental testing – Part 2-21: Tests - Test U: Robustness of terminations and integral mounting devices*

IEC 60068-2-30, *Environmental testing – Part 2-30: Tests - Test Db: Damp heat, cyclic (12 h + 12 h cycle)*

IEC 60068-2-45, *Environmental testing – Part 2-45: Tests - Test Xa and guidance: Immersion in cleaning solvents*

IEC 60068-2-78, *Environmental testing – Part 2-78: Tests - Test Cab: Damp heat, steady state*

IEC 60195, *Method of measurement of current noise generated in fixed resistors*

IEC 60286-2, *Packaging of components for automatic handling - Part 2: Packing of components with unidirectional leads on continuous tapes*

IEC 60440, *Method of measurement of non-linearity in resistors*

IEC 60695-11-5, *Fire hazard testing – Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance*

IEC 60717, *Method for the determination of the space required by capacitors and resistors with unidirectional terminations*

IEC 61191-1, *Printed board assemblies – Part 1: Generic specification – Requirements for soldered electrical and electronic assemblies using surface mount and related assembly technologies*

IEC 61191-3, *Printed board assemblies – Part 3: Sectional specification – Requirements for through-hole mount soldered assemblies*

IEC 61192-1:2003, *Workmanship requirements for soldered electronic assemblies - Part 1: General*

Note to entry IEC 61192-1:2003 has been withdrawn in 2018.

IEC 61192-3:2002, *Workmanship requirements for soldered electronic assemblies - Part 3: Through-hole mount assemblies*

Note to entry IEC 61192-3 has been withdrawn in 2018.

IEC 61340-3-1, *Methods for simulation of electrostatic effects – Human body model (HBM) – Component testing*

IEC 80000 (all parts), *Quantities and units*

IECQ 03-3, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 3: IECQ Approved Component Products, Related Materials & Assemblies Scheme*

IECQ 03-3-1, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 3-1: IECQ Approved Component Products, Related Materials & Assemblies Scheme, IECQ Approved Component – Technology Certification (IECQ AC-TC)*

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

ISO 17, *Guide to the use of preferred numbers and of series of preferred numbers*

ISO 497, *Guide to the choice of series of preferred numbers and of series containing more rounded values of preferred numbers*

ISO 2533, *Standard atmosphere*

ISO 80000 (all parts), *Quantities and units*

IPC A-610, *Acceptability of electronic assemblies*

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIXED RESISTORS FOR USE IN ELECTRONIC EQUIPMENT –

Part 8: Sectional specification: Fixed surface mount resistors

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60115-8 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 2009, and it constitutes a technical revision.

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

a) the definitions of product technologies and product classification levels of the generic specification, IEC 60115 1:2020, have been adopted;
b) the new style of transverse (RT) resistors has been added in 3.1.5 and 4.2.2 to cover the resistors with wide terminals which has become common in market;
c) the recommended test boards in 5.2.2 has been revised to fit the demands from the market for higher rated power in resistors.

d) the ‘period-pulse high-voltage overload test’ of IEC 60115-1:2020, 8.3 has been adopted as default test method in 5.3.8, thereby replacing the legacy test ‘periodic-pulse overload test’ of IEC 60115-1:2020, 8.4;

e) the revised solderability test of IEC 60115-1:2020, 11.1 has been adopted in 5.3.21 and 5.3.22;

f) the combined solvent resistance test of IEC 60115-1:2020, 11.3 has been adopted in 5.3.24;

g) the ‘endurance at room temperature test’ of IEC 60115-1:2020, 7.2 has been adopted as an optional test in 5.4.1;

h) the ‘single-pulse high-voltage overload test’ of IEC 601115-1:2020, 8.2, applied with the pulse shape 10/700 in 5.3.7, is complemented with the optional alternative provided by the pulse shape 1,2/50 in 5.4.2;

i) climatic tests for ‘operation at low temperature’ of IEC 60115-1:2020, 10.2, and for ‘damp heat, steady state, accelerated’ of IEC 60115-1:2020, 10.4, have been adopted as optional tests in 5.4.4. and 5.4.5, respectively;

j) new guidance is provided in 6.2 on the presentation of stability requirements with their permissible absolute and relative deviations;

k) acceptance criteria for the visual inspection have been added in 6.5 and in Annex B;

l) visual inspection for the primary and proximity packaging has been added in 6.5.3 and in 7.2

m) the periodical evaluation of termination plating has been added as a new topic of quality assessment in 9.8;

n) the revised test clause numbering of IEC 60115 1:2020 has been applied;

o) a normative Annex A has been moved from Annex B of the old version to stay in line with other sectional specifications;

p) an informative Annex C has been added to summarize workmanship requirements for the assembly. However, it is not applicable for general fixed surface mount resistors, so they are omitted but reserved in this document;

q) a normative Annex D has been moved from Annex A of the old version to stay in line with other sectional specifications;

r) an informative Annex E has been added to show a guide for optional and/or additional tests;

s) an informative Annex F has been added to show typical temperature rise of recommended test boards in the endurance test at the rated temperature 70 °C;

t) an informative Annex G has been added to explain why some recommended test boards have extremely wide copper patterns;

u) an informative Annex X has been added to show the cross reference for the prior revision of this document;

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

FDIS	Report on voting
40/XX/FDIS	40/XX/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.

A list of all parts in the IEC 60115 series, published under the general title *Fixed resistors for use in electronic equipment*, can be found on the IEC website.

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

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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.