

INTERNATIONAL STANDARD

**Fixed resistors for use in electronic equipment -
Part 8-10: Blank detail specification: Surface mount (SMD) low-power film
resistors for assembly on circuit boards, for general electronic equipment,
classification level G**

get full document from standards.iteh.ai



THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2026 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Secretariat
3, rue de Varembe
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search -

webstore.iec.ch/advsearchform

The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, ...). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished

Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc

If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC Products & Services Portal - products.iec.ch

Discover our powerful search engine and read freely all the publications previews, graphical symbols and the glossary. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org

The world's leading online dictionary on electrotechnology, containing more than 22 500 terminological entries in English and French, with equivalent terms in 25 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

Warning! Make sure that you obtained this publication from an authorized distributor.

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
0 Introduction to the template provided by this blank detail specification	6
0.1 Scope of this blank detail specification	6
0.2 Function of this blank detail specification	6
0.3 Identification of the detail specification and the resistor.....	7
1 Scope.....	9
2 Normative references	9
3 Terms and definitions	10
4 Characteristics and ratings	10
4.1 General.....	10
4.2 Dimensions	10
4.3 Ratings	12
4.4 Resistance range and tolerance on resistance	13
5 Tests and test severities	14
5.1 General.....	14
5.2 Resistance	14
5.3 Temperature coefficient of resistance	14
5.4 Temperature rise.....	14
5.5 Endurance at the rated temperature 70 °C	15
5.6 Endurance at a maximum temperature: UCT	15
5.7 Short-term overload	15
5.8 Electrostatic discharge (ESD) test	15
5.9 Visual examination	16
5.10 Gauging of dimensions	16
5.11 Detail dimensions.....	16
5.12 Shear (adhesion) test.....	16
5.13 Substrate bending test	17
5.14 Rapid change of temperature	17
5.15 Climatic sequence.....	17
5.16 Damp heat, steady state.....	17
5.17 Solderability, with lead-free solder	18
5.18 Solderability, with SnPb solder	18
5.19 Resistance to soldering heat	18
5.20 Solvent resistance.....	19
5.21 Insulation resistance	19
5.22 Voltage proof	19
5.23 Flammability	19
6 Performance requirements	19
6.1 General.....	19
6.2 Limits for change of resistance at tests	20
6.3 Temperature coefficient of resistance	20
6.4 Temperature rise.....	21
6.5 Visual examination	21
6.5.1 General visual criteria	21
6.5.2 Visual criteria after tests.....	22

6.5.3	Visual criteria for packaging	22
6.6	Solderability	22
6.7	Insulation resistance	22
6.8	Flammability	23
7	Marking, packaging and ordering information	23
7.1	Marking of the component	23
7.2	Packaging	23
7.3	Marking of the packaging	23
7.4	Ordering information	23
8	Additional information	24
8.1	General.....	24
8.2	Storage and transportation	24
8.3	Substrate for assembly.....	24
8.4	Soldering process	24
8.5	Use of cleaning agents or solvents	25
8.6	Coating or potting after assembly	25
9	Quality assessment procedures	25
9.1	General.....	25
9.1.1	100 % test	25
9.1.2	Certificate of conformity (CoC)	26
9.1.3	Certified test records of released lots	26
9.2	Qualification approval.....	26
9.3	Maintenance of a qualification approval	26
9.3.1	Quality conformance inspection.....	26
9.3.2	Non-conforming specimen.....	26
Annex A (normative)	Symbols and abbreviated terms	35
A.1	Symbols.....	35
A.2	Abbreviated terms	38
Annex B (normative)	Reference for visual examination	39
Annex C (normative)	0 Ω resistors (jumpers)	40
C.1	General.....	40
C.2	Characteristics and ratings	40
C.3	Tests and test severities.....	41
C.4	Performance requirements	41
C.5	Marking, packaging and ordering information	41
C.6	Additional information.....	41
C.7	Quality assessment procedures	41
C.7.1	Test schedule for qualification approval	41
C.7.2	Test schedule for quality conformance inspection	42
Annex D (informative)	Cross-references to the prior revision of this specification	43
Bibliography		45
Figure 1	– Outline and dimensions	11
Figure 2	– Derating curve.....	13
Table 1	– Styles and dimensions	11
Table 2	– Climatic categories	12

Table 3 – Ratings	12
Table 4 – Temperature coefficients, tolerances and resistance ranges for climatic category ... / ... /	13
Table 5 – Short-term overload duration	15
Table 6 – ESD test voltages.....	16
Table 7 – Shear test force.....	16
Table 8 – Additional cycles of the damp heat, cyclic test.....	17
Table 9 – Damp heat, steady state test duration	18
Table 10 – Limits for change of resistance at tests	20
Table 11 – Permitted change of resistance due to the variation of temperature.....	21
Table 12 – Test schedule for the qualification approval.....	27
Table 13 – Test schedule for quality conformance inspection	31
Table C.1 – Climatic category	40
Table C.2 – Ratings for 0 Ω resistors.....	40
Table D.1 – Cross-references to clauses of the prior edition	43
Table D.2 – Cross-references to figures of the prior edition.....	44
Table D.3 – Cross-references to tables of the prior edition.....	44

Sample Document

get full document from standards.iteh.ai

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**Fixed resistors for use in electronic equipment -
Part 8-10: Blank detail specification: Surface mount (SMD)
low-power film resistors for assembly on circuit boards,
for general electronic equipment, classification level G**

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) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at <https://patents.iec.ch>. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 60115-8-10 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment. It is an International Standard.

This edition includes the following significant technical changes with respect to the previous edition IEC 60115-8-1:2014:

- a) it supports solderability testing for both traditional lead-bearing soldering and up-to-date lead-free soldering, as required;
- b) it supports the provision of detailed visual acceptance criteria;
- c) it includes the requirement for a visual examination of the primary and proximity packaging;
- d) it provides for the inclusion of specific visual acceptance criteria, to be applied in addition to those given in Annex B of the sectional specification IEC 60115-8:2023.

The text of this International Standard is based on the following documents:

Draft	Report on voting
40/3264/CDV	40/3309/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

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 document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

Sample Document

get full document from standards.iteh.ai

INTRODUCTION

0 Introduction to the template provided by this blank detail specification

COMMENT This introduction is not intended to be copied into the drafted detail specification. Therefore, it is positioned in front of the conventional document structure and clause numbering range. It nevertheless contains normative requirements to the drafted detail specification.

0.1 Scope of this blank detail specification

This part of IEC 60115-8 is applicable to the drafting of detail specifications for surface mount (SMD) low-power film resistors, classified to level G, based on the definition of the product classification levels in IEC 60115-1:2020, 3.4.

Another part of IEC 60115-8 provides a separate blank detail specification for the drafting of detail specifications for surface mount (SMD) low-power film resistors, classified to level P and to level R.

Yet other parts of IEC 60115-8 may be issued to provide blank detail specifications for the drafting of detail specifications for surface mount (SMD) resistors, of other technologies or of other classification levels.

0.2 Function of this blank detail specification

A blank detail specification is a supplementary document to the sectional specification and contains requirements for style, layout and minimum contents of detail specifications. Detail specifications not complying with these requirements shall not be accepted as being in accordance with IEC specifications nor shall they be described as such.

Detail specifications complying with the requirements of this blank detail specification are a legitimate basis for the quality assessment of leaded fixed low-power film resistors under an adequate quality assessment system, e.g. the IEC Quality Assessment System for Electronic Components (IECQ System), whereas the plain blank detail specification is not a suitable basis.

The detail specification should contain a table of contents prior the first page of the actual specification.

In the preparation of the detail specification, the content of IEC 60115-8:2023, 8.2 shall be taken into account. The detail specification should be written by using the preferred values given in IEC 60115-8.

Units, graphical symbols and letter symbols shall, whenever possible, be taken from those prescribed by the following standards:

- IEC 60027-1, *Letter symbols to be used in electrical technology - Part 1: General*
- IEC 60617, *Graphical symbols for diagrams*
- IEC 80000 (all parts), *Quantities and units*
- ISO 80000 (all parts), *Quantities and units*

This blank detail specification uses for its purpose two different kinds of notes:

- NOTE For notes which give additional information intended to assist the understanding or use of the resulting document and therefore shall be copied as NOTE into the drafted detail specification. As outlined in the ISO/IEC directives, these notes shall not contain any requirement, instruction, recommendation or permission.
- COMMENT For editorial notes which are intended to aid and direct the specification writer and therefore shall not be copied into the drafted detail specification. In order to accomplish their function, editorial notes require the use of instructions, recommendations and permissions addressed to the writer of the detail specification.

0.3 Identification of the detail specification and the resistor

The first page of the detail specification should have a layout starting with a title block as recommended on the following page.

The numbers in square brackets are editorial references, which are not intended to be copied into the drafted detail specification, and which correspond to the following information on the contents which shall be inserted in the indicated fields.

- [1] The name of the standardisation organisation under whose authority the detail specification is published and, if applicable, the organization from whom the detail specification is available.
- [2] The number allocated to the detail specification by the IEC or by the responsible standardisation organisation, together with the date of issue and issue number, as applicable. Further reference details required by the responsible standardisation organisation or quality assessment system may be given here, including an established mark of conformity, as applicable.
- [3] The number and issue date and number, as applicable, of the relevant generic specification, sectional specification and blank detail specification, where the referenced issues shall be the most recent issues of the respective specifications.
- [4] The title of the detail specification, providing a short description of the type of resistors.
This entry should support the discrimination between similar specifications and should be suitable for an entry in a register of approvals or in a catalogue of standards. It may duplicate information given in fields [6] and [7] and in the textual scope in Clause 1.
- [5] An outline drawing or illustration of the products. This entry should aid the easy recognition of the specified resistors and, if possible, support the discrimination between similar specifications. It may duplicate information given in Figure 1.
- [6] Information on the typical construction of the resistors (where applicable), information of the specified resistors being insulated or non-insulated (see IEC 60115-1:2020, 3.1.7), and information on compatibility with a specific soldering process (if applicable, see 8.4). This entry may duplicate information given in the textual scope in Clause 1.
- [7] The classification level of the resistors covered by this detail specification, the level of quality assessment (Assessment level EZ), and the general level of stability requirements at performance tests (Stability class).
This information may duplicate information given in the textual scope in Clause 1.
- [8] Optional field for table notes.
- [9] Statement(s) about the availability of information on components qualified to this detail specification, if applied within a full quality assessment system.

Example for the use within the IECQ system:

Information about components qualified to this detail specification is available in the approvals section of the website <http://www.iecq.org>.

Specification available from:	IEC 60115-8-10xx:20yy
[1]	[2]
Electronic components of assessed quality in accordance with: Generic specification: IEC 60115-1:2020 [3] Sectional specification: IEC 60115-8:2023 Blank detail specification: IEC 60115-8-10:2026	
FIXED RESISTORS FOR USE IN ELECTRONIC EQUIPMENT – Part 8-10xx: Detail specification – Surface mount (SMD) low-power film resistors for assembly on circuit boards, ..., for general electronic equipment, classification level G	
[4]	
[5]	Technology ...
	[6]
	Insulated / Non-insulated
	Termination plating ...
[7]	Product classification level G
	Assessment level EZ
	Stability classes ...
[8]	

COMMENT The remainder of this page is intentionally left empty in order to start Clause 1 on top of the next page.

Information about components qualified to this detail specification is available	[9]
--	-----

**Fixed resistors for use in electronic equipment -
Part 8-10: Blank detail specification: Surface mount (SMD)
low-power film resistors for assembly on circuit boards,
for general electronic equipment, classification level G**

COMMENT The above title without the introductory word "blank" is to become the title of the intended detail specification, which is drafted on the basis of this blank detail specification.

The actual title of the intended detail specification should hold some wording descriptive for the particular kind of components covered therein, where indicated by "...", in order to support the differentiation between parallel detail specification on the same level. An example for such descriptive wording would be: "rectangular shape, stability classes 0,1; 0,25".

1 Scope

COMMENT The text of this clause may repeat information already given in some fields of the above title block. Essential information on the special type of components covered by the drafted detail specification may be added, preferably at the place marked with "...".

This detail specification specifies the characteristics and ratings of surface mount (SMD) film resistors for use in electronic equipment, which are typically assembled on the surface of circuit boards.

...

The resistors covered herein are classified to level G, as defined in IEC 60115-1:2020, 3.4 for general electronic equipment, typically operated under benign or moderate environmental conditions, where the major requirement is function. Examples for level G include consumer products and telecommunication user terminals.

This detail specification is based upon the blank detail specification IEC 60115-8-10:2026.

This detail specification establishes test schedules and performance requirements permitting the quality assessment of the resistors covered herein according to the quality assessment procedures prescribed by IEC 60115-1:2020, Annex Q.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60062:2016, *Marking codes for resistors and capacitors*

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

IEC 60115-1:2020, *Fixed resistors for use in electronic equipment - Part 1: Generic specification*

IEC 60115-8:2023, *Fixed resistors for use in electronic equipment - Part 8: Sectional specification: Fixed surface mount resistors*

IEC 60115-8-10:2026, *Fixed resistors for use in electronic equipment - Part 8-10: Blank detail specification: Surface mount (SMD) low-power film resistors for assembly on circuit boards, for general electronic equipment, classification level G*

IEC 60286-3, *Packaging of components for automatic handling - Part 3: Packaging of surface mount components on continuous tapes*

IEC 61193-2:2007, *Quality assessment systems - Part 2: Selection and use of sampling plans for inspection of electronic components and packages*

IEC 61760-1, *Surface mounting technology - Part 1: Standard method for the specification of surface mounting components (SMDs)*

...

COMMENT 1 The above list of normative references provides an example and needs to be adapted to the actual requirements of the drafted detail specification, indicated by the space marked with "...", which however does not preclude from sorting in proper numerical order.

COMMENT 2 According to the ISO/IEC directives, dated references are required when reference is made to a specific part of the referenced standard and generally should be applied only in such cases.

COMMENT 3 It is recommended to update any dated references to the most recent revision of the referenced standard when drafting a detail specification. This involves updating of the dated normative references within the text of the drafted detail specification.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60115-1 and in IEC 60115-8, as well as the following, apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at <https://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

...

COMMENT Any terms and their respective definitions specifically required for the scope of the drafted detail specification may be inserted in the space marked with "...", using the prescribed numbering and format. Otherwise, the above statement should be reduced to "For the purposes of this document, the terms and definitions given in IEC 60115-1 and in IEC 60115-8 apply." if no further terms or definitions are required in the drafted detail specification.

4 Characteristics and ratings

4.1 General

Various parameters of this component are precisely defined in this specification. Unspecified parameters can vary from one component to another.

4.2 Dimensions

The shape and dimensions of the resistors covered by this specification are shown in Figure 1, with the specific styles and their respective dimensions given in Table 1. Other shapes are permissible within the given dimensions.

Placeholder for outline drawing

IEC

Figure 1 – Outline and dimensions

COMMENT 1 See IEC 60115-8:2023, 8.2.1.

COMMENT 2 The details shown in Figure 1 may repeat information already given in some fields of the title block above. Figure 1 in particular needs to define all dimensions intended to be verified by measurements, which generally includes those dimensions to be prescribed in Table 1.

Table 1 – Styles and dimensions

Style		Dimensions					Mass ^b
	X ^a	<i>L</i> mm	<i>W</i> mm	<i>H</i> mm	Y	<i>T_{b min}</i> mm	<i>m</i> mg
^a Historical style code, for information only.							
^b For information only.							

COMMENT 3 See IEC 60115-8:2023, 8.2.2.

COMMENT 4 The metric style designation is the normative designation used in all other places throughout this detail specification, see IEC 60115-8:2023, 4.2. Column X is an optional column for additional style information, e.g. for traditional alphabetic designations, which generally need to be marked with a respective footnote, e.g. as "Historical style code, for information only".

COMMENT 5 The dimensions for body length *L*, body width *W*, body height *H* and minimum bottom side termination length *T_{b min}* are given as examples based on the requirements for rectangular (RR) and transversal (RT) resistors and need to correspond to the dimensions identified in Figure 1. The choice of prescribed dimensions needs to be adapted to the actual requirements of the drafted detail specification and the shape of products covered therein. The dimensions may be given in the format of nominal values plus tolerance, or by stating permissible minimum and maximum values. Columns for additional dimensions may be inserted as required.

COMMENT 6 Column Y represents one or more optional column(s) for the prescription of an additional dimension.

COMMENT 7 The component mass is not intended to be verified by an inspection procedure. It should be given as the maximum mass of a single component and should be marked with a respective footnote as "For information only".

4.3 Ratings

The climatic categories applied in this detail specification are given in Table 2.

Table 2 – Climatic categories

Climatic category
LCT / UCT / duration
... / ... / ...
... / ... / ...

COMMENT 1 See IEC 60115-8:2023, 8.2.3.

COMMENT 2 Table 2 may be amended with a column showing the key parameter to which different climatic categories are allocated for the purpose of discrimination, e.g. the applied stability classes.

The upper category temperature (UCT), which is used for test procedures, should be based on the maximum element temperature (MET).

Table 3 – Ratings

Style	Rated dissipation P_{70} mW	X	Limiting element voltage DC or AC RMS $U_{\max}$ V	Insulation voltage DC or AC peak U_{ins} V

NOTE The insulation voltage U_{ins} is verified with a test duration of 1 min. However, long-term insulation properties can be affected by the influence of moisture, organic material and electrical field across the insulating layer(s).

COMMENT 3 See IEC 60115-8:2023, 8.2.6, IEC 60115-8:2023, 8.2.7 and IEC 60115-8:2023, 8.2.8.

COMMENT 4 Column X is an optional column for additional information, e.g. an additional rated dissipation at another ambient temperature than the rated temperature 70 °C. Such information should however only be presented if it is traditionally well-established information.

COMMENT 5 The insulation voltage shall not be specified lower than the peak value of the AC voltage that can be applied continuously to the resistors and therefore shall not be rated less than $U_{\text{ins}} = 1,42 \times U_{\max}$.

COMMENT 6 Different sets of ratings may be assigned to variations of another parameter, e.g. climatic categories or stability classes. Then such different sets of ratings should be given in separate tables which need to be clearly assigned to the relevant parameter(s). According to the ISO/IEC directives, such duplicate tables need to be titled with subsequent numbers as required, which will result in the need to update the numbering of subsequent tables accordingly.

The permissible dissipation of resistors covered by this detail specification is the rated dissipation as given in Table 3, which is derated for an ambient temperature above the rated temperature 70 °C according to the diagram in Figure 2.

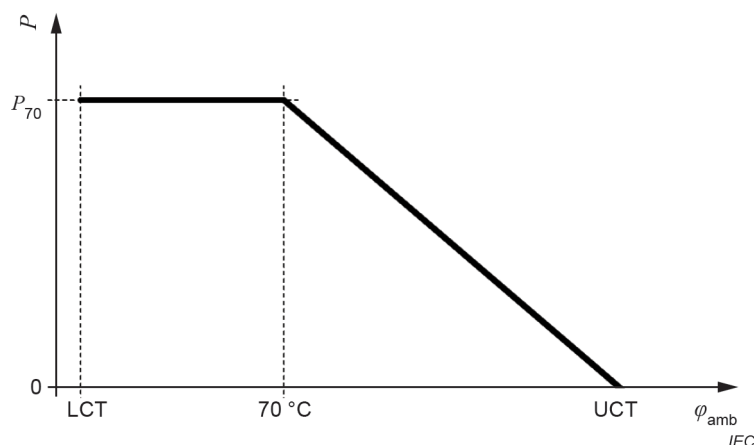


Figure 2 – Derating curve

COMMENT 7 See IEC 60115-8:2023, 8.2.6.

COMMENT 8 The scale of derated dissipation may be given as absolute value in watts or relative in percent as a fraction of the rated dissipation P_{70} .

COMMENT 9 A larger area of operation or permissible temperature rise may be given by the detail specification, provided it includes all the area given in Figure 2.

4.4 Resistance range and tolerance on resistance

Table 4 gives the combinations of temperature coefficient, tolerance on resistance and resistance range which can be approved in climatic category ... / ... / ... in accordance with this detail specification.

COMMENT 1 The above paragraph needs to be adapted to the actual requirements if more than one climatic category is applied in the drafted detail specification; see also COMMENT 5 below.

Products from the extent given in Table 4 shall be used for the initial product qualification approval in accordance with 9.2, and for the quality conformance inspection in accordance with 9.3.1.

The qualification of resistances below or above the specified resistance ranges is permissible if they fulfil the requirements of the stability class required for the closest resistance within a specified range; e.g. resistors of Style ... , ... $\cdot 10^{-6}/\text{K}$, ... %, ... Ω shall fulfil the requirements of stability class

COMMENT 2 The above paragraph should be deleted if individual extension of the approvable resistance ranges is not accepted as being suitable for the scope of the drafted detail specification.

Table 4 – Temperature coefficients, tolerances and resistance ranges for climatic category ... / ... / ...

Style	Temperature coefficient		Tolerance		Resistance range Ω	E series ^b	Stability class
	$10^{-6}/\text{K}$	Code ^a	%	Code ^a			
^a Code letters in accordance with those stated in IEC 60062. ^b Resistance values within the given range are (recommended/required) to be selected from of the given E series of IEC 60063.							