IEC 60539-2

Edition 2.0 2019-07

REDLINE VERSION

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Directly heated negative temperature coefficient thermistors – Part 2: Sectional specification – Surface mount negative temperature coefficient thermistors

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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DIRECTLY HEATED NEGATIVE TEMPERATURE COEFFICIENT THERMISTORS –

Part 2: Sectional specification – Surface mount negative temperature coefficient thermistors

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International Standard IEC 60539-2 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

This second edition cancels and replaces the first edition published in 2003 and Amendment 1:2010. This edition constitutes a technical revision.

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

a) revision for the structure in accordance with ISO/IEC Directives, Part 2:2016 (seventh edition) to the extent practicable, and for harmonizing with IEC 60539-1:2016;
b) the upper category temperatures of 175 °C, 200 °C, 250 °C, 315 °C, 400 °C in Table 1 have been added;
c) the dimensions of 0402M in Annex A have been added.

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

FDIS	Report on voting
40/2672/FDIS	40/2680/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

A list of all parts in the IEC 60539 series, published under the general title *Directly heated negative temperature coefficient thermistors*, can be found on the IEC website.

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DIRECTLY HEATED NEGATIVE TEMPERATURE COEFFICIENT THERMISTORS –

Part 2: Sectional specification – Surface mount negative temperature coefficient thermistors

~~1 General~~

1 Scope

This part of IEC 60539 is applicable to surface mount directly heated negative temperature coefficient thermistors, typically made from transition metal oxide materials with semiconducting properties. These thermistors have metallized connecting pads or soldering strips and are intended to be mounted directly on to substrates for hybrid circuits or on to printed boards.

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 60068-2-2:~~1974~~2007, *Environmental testing – Part 2-2: Tests – Tests B: Dry heat*
~~Amendment 1 (1993)~~
~~Amendment 2 (1994)~~

IEC 60068-2-14:~~1984~~2009, *Environmental testing – Part 2-14: Tests – Test N: Change of temperature* ~~Amendment 1 (1986)~~

~~IEC 60068-2-30:1980, *Environmental testing – Part 2: Tests – Test Db and guidance: Damp heat, cyclic (12 + 12-hour cycle)*~~
~~Amendment 1 (1985)~~

IEC 60068-2-58:~~1999~~2015, *Environmental testing – Part 2-58: Tests – Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)*
IEC 60068-2-58:2015/AMD1:2017

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

~~IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*~~

IEC 60539-1:~~2002~~2016, *Directly heated negative temperature coefficient thermistors – Part 1: Generic specification*

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

IEC 60539-2

Edition 2.0 2019-07

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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Directly heated negative temperature coefficient thermistors – Part 2: Sectional specification – Surface mount negative temperature coefficient thermistors

Thermistances à coefficient de température négatif à chauffage direct – Partie 2: Spécification intermédiaire – Thermistances à coefficient de température négatif pour montage en surface



IEC 60539-2:2019-07(en-fr)

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Part 2: Sectional specification – Surface mount negative temperature coefficient thermistors

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

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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THERMISTANCES À COEFFICIENT DE TEMPÉRATURE NÉGATIF À CHAUFFAGE DIRECT –

Partie 2: Spécification intermédiaire – Thermistances à coefficient de température négatif pour montage en surface

AVANT-PROPOS

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La Norme internationale IEC 60539-2 a été établie par le comité d'études 40 de l'IEC: Condensateurs et résistances pour équipements électroniques.

Cette deuxième édition annule et remplace la première édition publiée en 2003, ainsi que son amendement 1:2010, dont elle constitue une révision technique.

La présente édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) révision de la structure conformément aux directives ISO/IEC, Partie 2:2016 (septième édition), dans la mesure du possible, et pour l'harmonisation avec l'IEC 60539-1:2016;

b) les températures maximales de catégorie 175 °C, 200 °C, 250 °C, 315 °C, 400 °C ont été ajoutées dans le Tableau 1;

c) les dimensions de 0402M à l'Annexe A ont été ajoutées.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
40/2672/FDIS	40/2680/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de cette Norme internationale.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

Une liste de toutes les parties de la série IEC 60539, publiées sous le titre général *Thermistances à coefficient de température négatif à chauffage direct*, peut être consultée sur le site web de l'IEC.

Le comité a décidé que le contenu de ce document ne sera pas modifié avant la date de stabilité indiquée sur le site web de l'IEC sous "http://webstore.iec.ch" dans les données relatives au document recherché. A cette date, le document sera

- reconduit,
- supprimé,
- remplacé par une édition révisée, ou
- amendé.

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THERMISTANCES À COEFFICIENT DE TEMPÉRATURE NÉGATIF À CHAUFFAGE DIRECT –

Partie 2: Spécification intermédiaire – Thermistances à coefficient de température négatif pour montage en surface

1 Domaine d'application

La présente partie de l'IEC 60539 s'applique aux thermistances à coefficient de température négatif à chauffage direct pour montage en surface, typiquement constituées de matériaux faits d'oxyde de métal de transition dotés de propriétés semi-conductrices. Ces thermistances sont équipées de contacts de connexion métallisés ou de bandes de brasure et sont destinées à être montées directement sur des substrats pour circuits hybrides ou sur des cartes imprimées.

2 Références normatives

Les documents suivants sont cités dans le texte de sorte qu'ils constituent, pour tout ou partie de leur contenu, des exigences du présent document. Pour les références datées, seule l'édition citée s'applique. Pour les références non datées, la dernière édition du document de référence s'applique (y compris les éventuels amendements).

IEC 60068-2-2:2007, *Essais d'environnement – Partie 2-2: Essais – Essais B: Chaleur sèche*

IEC 60068-2-14:2009*, Essais d'environnement – Partie 2-14: Essais – Essai N: Variations de température*

IEC 60068-2-58:2015, *Essais d'environnement – Partie 2-58: Essais – Essai Td: Méthodes d'essai de la soudabilité, résistance de la métallisation à la dissolution et résistance à la chaleur de brasage des composants pour montage en surface (CMS)*
IEC 60068-2-58:2015/AMD1:2017

IEC 60068-2-78, *Essais d'environnement – Partie 2-78: Essais – Essai Cab: Essai continu de chaleur humide*

IEC 60539-1:2016, *Thermistances à coefficient de température négatif à chauffage direct – Partie 1: Spécification générique*

IEC 61193-2:2007*, Quality assessment systems – Part 2: Selection and use of sampling plans for inspection of electronic components and packages* (disponible en anglais seulement)