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2005-02

Polymeric thermistors – Directly heated positive step function temperature coefficient –

Part 1: Generic specification

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

POLYMERIC THERMISTORS – DIRECTLY HEATED POSITIVE STEP FUNCTION TEMPERATURE COEFFICIENT –

Part 1: Generic specification

FOREWORD

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International Standard IEC 62319-1 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

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

FDIS	Report on voting
40/1505/FDIS	40/1534/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.

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 maintenance result date indicated on the IEC web site 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- withdrawn;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.

A bilingual version of this publication may be issued at a later date.

POLYMERIC THERMISTORS – DIRECTLY HEATED POSITIVE STEP FUNCTION TEMPERATURE COEFFICIENT –

Part 1: Generic specification

1 General

1.1 Scope

This part of IEC 62319 prescribes terms and methods of test for polymeric positive temperature coefficient thermistors, insulated and non-insulated types, typically intended for use in current limiting and overcurrent protection applications.

It establishes standard terms, inspection procedures and methods of test for use in detail specifications for Qualification Approval and for Quality Assessment Systems for electronic components.

1.2 Normative references

The following referenced documents are indispensable for the application 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 60027-1: *Letter symbols to be used in electrical technology – Part 1: General*

IEC 60050: *International Electrotechnical Vocabulary*

IEC 60068-1: *Environmental testing – Part 1*: *General and guidance*

IEC 60068-2-6: *Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)*

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

IEC 60068-2-20: *Environmental testing – Part 2: Tests – Test T: Soldering*

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

IEC 60068-2-27: *Environmental testing – Part 2: Tests – Test Ea and guidance: Shock*

IEC 60068-2-29: *Environmental testing – Part 2: Tests – Test Eb and guidance: Bump*

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

IEC 60294: *Measurement of the dimensions of a cylindrical component having two axial terminations*

IEC 60410: *Sampling plans and procedures for inspection by attributes.*

IEC 60617-DB: 2001[1] G*raphical symbols for diagrams*

IECQ 001003: *IEC Quality Assessment System for Electronic Components – Guidance documents*

IECQ 001002-3: *IEC Quality Assessment System for Electronic Components – Rules of Procedure – Part 3: Approval procedures*

ISO 1000: *SI units and recommendations for the use of their multiples and of certain other units*

2 Technical data

2.1 Units and symbols

Units, graphical symbols, letter symbols and terminology shall, whenever possible, be taken from the following documents:

IEC 60027

IEC 60050

IEC 60617

ISO 1000

The following subclauses contain additional terminology applicable to thermistors.

Where further items are required they shall be derived in accordance with the principles of the documents listed above.

2.2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.2.1
thermistor
thermally sensitive semiconducting resistor whose primary function is to exhibit an important change in electrical resistance with a change in body temperature

2.2.2
positive temperature coefficient thermistor
thermistor in which the resistance increases with increasing temperature throughout the useful part of its characteristic. The PTC thermistors covered in this specification typically exhibit a very sharp increase in resistance over a narrow temperature range

2.2.3
directly heated positive temperature coefficient thermistor
thermistor in which the change in temperature is obtained either by the flow of current through the thermo-sensitive element, or by a change in ambient temperature, or by a combination of both of these means

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[1] "DB" refers to the IEC on-line database.