

INTERNATIONAL STANDARD

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Thermistors – Directly heated positive temperature coefficient –

Part 1: Generic specification

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CONTENTS

FOREWORD.....	5
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 Units and symbols	16
5 Preferred values	17
5.1 Climatic categories	17
5.2 Marking	17
5.3 Spacings	18
6 Quality assessment procedures	18
6.1 General	18
6.2 Primary stage of manufacture.....	19
6.3 Subcontracting	19
6.4 Structurally similar components.....	19
6.5 Qualification approval procedures	20
6.6 Rework and repair	27
6.7 Release for delivery	27
6.8 Certified test records of released lots	28
6.9 Delayed delivery.....	28
6.10 Alternative test methods	28
6.11 Manufacture outside the geographical limits of IECQ NSIs	28
6.12 Unchecked parameters.....	28
7 Test and measurement procedures.....	28
7.1 General	28
7.2 Standard conditions for testing	29
7.3 Drying and recovery	29
7.4 Visual examination and check of dimensions.....	30
7.5 Zero-power resistance.....	30
7.6 Temperature coefficient of resistance.....	31
7.7 Insulation resistance (for insulated types only)	31
7.8 Voltage proof (for insulated types only)	32
7.9 Resistance/temperature characteristic.....	32
7.10 Dissipation factor at $U_{\max}(\delta)$	33
7.11 Response time by ambient temperature change (t_a).....	34
7.12 Response time by power change (t_p).....	34
7.13 Thermal time constant by ambient temperature change (τ_a).....	35
7.14 Thermal time constant by cooling (τ_c).....	35
7.15 Robustness of terminations	37
7.16 Solderability	38
7.17 Resistance to soldering heat	39
7.18 Rapid change of temperature	40
7.19 Vibration.....	40
7.20 Bump	40
7.21 Shock.....	41

7.22 Climatic sequence	41
7.23 Damp heat, steady state	42
7.24 Endurance	43
7.25 Tripping current and tripping time	46
7.26 Non-tripping current	47
7.27 Residual current	47
7.28 Surface temperature	47
7.29 Inrush current	48
7.30 Mounting (for surface mount thermistors only)	49
7.31 Shear (adhesion) test	50
7.32 Substrate bending test	50
Annex A (normative) Interpretation of sampling plans and procedures as described in IEC 60410 for use within the IEC quality assessment system for electronic components (IECQ)	51
Annex B (informative) Mounting for electrical measurements (except surface mount types)	52
Annex C (informative) Mounting for temperature measurements	55
Figure 1 – Typical resistance-temperature characteristic and definitions for PTC thermistors (at zero power)	10
Figure 2 – Typical R-TNF characteristic for PTC thermistors in sensor applications	11
Figure 3 – Typical current/voltage characteristic for PTC thermistors	11
Figure 4 – I_{in} against t at U_{dc}	14
Figure 5 – I_{in} against t at U_{rms}	15
Figure 6 – Dissipation factor test circuit	33
Figure 7 – Temperature gradient	34
Figure 8 – Circuit for measurement of thermal time constant by cooling	36
Figure 9 – Circuit for endurance at maximum operating temperature and maximum voltage	45
Figure 10 – Circuit for surface temperature measurement	48
Figure 11 – Measuring circuit	48
Figure B.1 – Example of a preferred mounting method for thermistors without wire terminations	52
Figure B.2 – Example of a preferred mounting method for thermistors with wire terminations	53
Figure B.3 – Example of a preferred mounting method for surface mount thermistors	54
Figure C.1 – Example of a preferred mounting method for temperature measurement on cylindrical heating elements	55
Table 1 – Creepage distances and clearances	18
Table 2 – Fixed sample size test schedule for qualification approval of thermistors for current limitation – Assessment level EZ	22
Table 3 – Fixed sample size test schedule for qualification approval of thermistors for use as heating elements – Assessment level EZ	23
Table 4 – Fixed sample size test schedule for qualification approval of thermistors for inrush current application – Assessment level EZ	24
Table 5 – Fixed sample size test schedule for qualification approval of thermistors for use as temperature sensing elements, Assessment level EZ	25

Table 6 – Quality conformance inspection for lot-by-lot inspection	26
Table 7 – Quality conformance inspection for periodic testing	27
Table 8 – Tensile force	37
Table 9 – Number of cycles per climatic category	42

INTERNATIONAL ELECTROTECHNICAL COMMISSION

THERMISTORS – DIRECTLY HEATED POSITIVE TEMPERATURE COEFFICIENT –

Part 1: Generic specification

FOREWORD

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International Standard IEC 60738-1 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 1998 and constitutes a minor revision. The changes with respect to the previous edition refer to the tables, figures and references.

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

FDIS	Report on voting
40/1651/FDIS	40/1730/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 QC number that appears on the front cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

IEC 60738 consists of the following parts, under the general title *Thermistors – Directly heated positive step-function coefficient*:

- Part 1: Generic specification
- Part 1-1: Blank detail specification – Current limiting application – Assessment level EZ
- Part 1-2: Blank detail specification – Heating element application – Assessment level EZ
- Part 1-3: Blank detail specification – Inrush current application – Assessment level EZ
- Part 1-4: Blank detail specification – Sensing application – Assessment level EZ

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 standard may be issued at a later date.

THERMISTORS – DIRECTLY HEATED POSITIVE TEMPERATURE COEFFICIENT –

Part 1: Generic specification

1 Scope

This part of IEC 60738 describes terms and methods of test for positive step-function temperature coefficient thermistors, insulated and non-insulated types typically made from ferro-electric semi-conductor materials.

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.

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 (all parts), *Letter symbols to be used in electrical technology*

IEC 60050 (all parts), *International Electrotechnical Vocabulary (IEV)*

IEC 60062, *Marking codes for resistors and capacitors*

IEC 60068-1:1988, *Environmental testing – Part 1: General and guidance*
Amendment 1 (1992)

IEC 60068-2-1:1990, *Environmental testing – Part 2: Tests – Tests A: Cold*
Amendment 1 (1993)
Amendment 2 (1994)

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

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

IEC 60068-2-11, *Environmental testing – Part 2: Tests – Test Ka: Salt mist*

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

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

IEC 60068-2-20:1979, *Environmental testing – Part 2: Tests – Test T: Soldering*
Amendment 2 (1987)

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 60068-2-30:2005, *Environmental testing – Part 2: Tests – Test Db: Damp heat, cyclic (12 h + 12-hour cycle)*

IEC 60068-2-45:1980, *Environmental testing – Part 2: Tests – Test XA and guidance – Immersion in cleaning solvents*

IEC 60068-2-58, *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 60068-2-78, *Environmental testing – Part 2-78: Tests – Test Cab: Damp heat, steady state*

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 (all parts) [DB]¹: *Graphical symbols for diagrams*

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

IEC 61249-2-7, *Materials for printed boards and other interconnecting structures – Part 2-7: Reinforced base materials clad and unclad – Epoxide woven E-glass laminated sheet of defined flammability (vertical burning test), copper-clad*

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

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

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

¹ “DB” refers to the IEC on-line database.