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Standards

Irish Standard  
I.S. EN 60539-2:2004

Directly heated negative temperature  
coefficient thermistors -- Part 2:  
Sectional specification - Surface mount  
negative temperature coefficient  
thermistors (IEC 60539-2:2003 (EQV))

## I.S. EN 60539-2:2004

*Incorporating amendments/corrigenda issued since publication:*

EN 60539-2:2004/A1:2010

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SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60539-2/A1**

September 2010

ICS 31.040.30

English version

**Directly heated negative temperature coefficient thermistors -  
Part 2: Sectional specification -  
Surface mount negative temperature coefficient thermistors  
(IEC 60539-2:2003/A1:2010)**

Thermistors à coefficient de température  
négatif à chauffage direct -  
Partie 2: Spécification intermédiaire -  
Montage en surface de thermistors  
à coefficient de température négatif  
(CEI 60539-2:2003/A1:2010)

Direkt geheizte temperaturabhängige  
Widerstände mit negativem  
Temperaturkoeffizienten -  
Teil 2: Rahmenspezifikation -  
Oberflächenmontierbare  
temperaturabhängige Widerstände  
mit negativem Temperaturkoeffizienten  
(IEC 60539-2:2003/A1:2010)

This amendment A1 modifies the European Standard EN 60539-2:2004; it was approved by CENELEC on 2010-09-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## **Foreword**

The text of document 40/2034/CDV, future amendment 1 to IEC 60539-2:2003, prepared by IEC TC 40, Capacitors and resistors for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60539-2:2004 on 2010-09-01.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- |   |       |            |
|---|-------|------------|
| – latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2011-06-01 |
| – latest date by which the national standards conflicting with the amendment have to be withdrawn   | (dow) | 2013-09-01 |

Annex ZA has been added by CENELEC.

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## **Endorsement notice**

The text of amendment 1:2010 to the International Standard IEC 60539-2:2003 was approved by CENELEC as an amendment to the European Standard without any modification.

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
<i>Replace the reference:</i>				
IEC 60068-2-58	1999	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)	EN 60068-2-58	1999
<i>with the following:</i>				
IEC 60068-2-58	2004	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)	EN 60068-2-58 + corr. December	2004 2004

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## FOREWORD

This amendment has been prepared by IEC technical committee 40: *Capacitors and resistors for electronic equipment*.

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

CDV	Report on voting
40/2034/CDV	40/2051/RVC

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

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the stability 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.

## 1.2 Normative references

*Modify the reference to IEC 60068-2-58:1999 as follows:*

IEC 60068-2-58:2004, *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)*

### 4.6.2 Test conditions

#### 4.6.2.1 Solder bath method

*Replace the text of Subclause 4.6.2.1 by the following new text:*

See IEC 60068-2-58, Clauses 6 and 8, if not otherwise specified in the detail specification.

#### 4.6.2.2 Infrared and forced gas convection soldering system

*Replace the title and the text of Subclause 4.6.2.2 by the following new title and text:*

#### 4.6.2.2 Reflow method

See IEC 60068-2-58, Clauses 7 and 8, if not otherwise specified in the detail specification.

### 4.7.1 Test conditions

#### 4.7.1.1 Solder bath method

*Replace the text of Subclause 4.7.1.1 by the following new text:*

**I.S. EN 60539-2:2004**

60539-2 Amend. 1 © IEC:2010

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See IEC 60068-2-58, Clauses 6 and 8, if not otherwise specified in the detail specification.

**4.7.1.2 Infrared and forced gas convection soldering system**

*Replace the title and the text of Subclause 4.7.1.2 by the following new title and text:*

**4.7.1.2 Reflow method**

See IEC 60068-2-58, Clauses 7 and 8, if not otherwise specified in the detail specification.

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EUROPEAN STANDARD

**EN 60539-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2004

ICS 31.040.30

English version

**Directly heated negative temperature coefficient thermistors  
Part 2: Sectional specification -  
Surface mount negative temperature coefficient thermistors  
(IEC 60539-2:2003)**

Thermistors à coefficient de température  
négatif à chauffage direct  
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à coefficient de température négatif  
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Direkt geheizte temperaturabhängige  
Widerstände mit negativem  
Temperaturkoeffizienten  
Teil 2: Rahmenspezifikation -  
Oberflächenmontierbare  
temperaturabhängige Widerstände  
mit negativem Temperaturkoeffizienten  
(IEC 60539-2:2003)

This European Standard was approved by CENELEC on 2004-02-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: rue de Stassart 35, B - 1050 Brussels**

**I.S. EN 60539-2:2004**

EN 60539-2:2004

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**Foreword**

The text of document 40/1346/FDIS, future edition 1 of IEC 60539-2, prepared by IEC TC 40, Capacitors and resistors for electronic equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60539-2 on 2004-02-01.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2004-11-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2007-02-01

Annex ZA has been added by CENELEC.

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**Endorsement notice**

The text of the International Standard IEC 60539-2:2003 was approved by CENELEC as a European Standard without any modification.

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-2-2	1974	Basic environmental testing procedures Part 2: Tests - Tests B: Dry heat	EN 60068-2-2 <sup>1)</sup>	1993
A1	1993		A1	1993
A2	1994		A2	1994
IEC 60068-2-14	1984	Part 2: Tests - Test N: Change of temperature		
+ A1	1986		EN 60068-2-14	1999
IEC 60068-2-30	1980	Part 2: Tests - Test Db and guidance: Damp heat, cyclic (12 + 12 hour cycle)		
+ A1	1985		EN 60068-2-30	1999
IEC 60068-2-58	1999	Part 2-58: Tests - Test Td: Test methods for solderability, resistance to dissolution of metallization and to soldering heat of surface mounting devices (SMD)	EN 60068-2-58	1999
IEC 60068-2-78	- 2)	Part 2-78: Tests - Test Cab: Damp heat, steady state	EN 60068-2-78	2001 <sup>3)</sup>
IEC 60410	1973	Sampling plans and procedures for inspection by attributes	-	-
IEC 60539-1	2002	Directly heated negative temperature coefficient thermistors Part 1: Generic specification	EN 60539-1	2002

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<sup>1)</sup> EN 60068-2-2 includes supplement A:1976 to IEC 60068-2-2.

<sup>2)</sup> Undated reference.

<sup>3)</sup> Valid edition at date of issue.

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### **DIRECTLY HEATED NEGATIVE TEMPERATURE COEFFICIENT THERMISTORS –**

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

### FOREWORD

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

This bilingual version, published in 2010-07, corresponds to the English version.

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FDIS	Report on voting
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Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

The French version of this standard has not been voted upon.

**I.S. EN 60539-2:2004**

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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 web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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