## INTERNATIONAL STANDARD

## IEC 60938-1

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# Fixed inductors for electromagnetic interference suppression –

Part 1: Generic specification

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### CONTENTS

FO	FOREWORD4			
1	Gene	ral	6	
	1.1	Scope	6	
	1.2	Normative references	6	
2	Technical data			
	2.1	Units and symbols	8	
	2.2	Definitions	8	
	2.3	Preferred values	11	
	2.4	Marking	11	
3	Quality assessment procedures			
	3.1	General		
	3.2	Primary stage of manufacture	11	
	3.3	Primary stage of manufacture	11	
	3.4	Qualification approval procedures	11	
	3.5	Quality conformance inspection	12	
	3.6	Alternative test methods	12	
	3.7	Unchecked parameters	13	
4	Test	Unchecked parameters	13	
	4.1	General	13	
	4.2	Standard atmospheric conditions	13	
	4.3	Drying	14	
	4.4	Visual examination and check of dimensions	14	
	4.5	Insulation resistance	16	
	4.6	Voltage proof	18	
	4.7	Inductance	21	
	4.8	Insertion loss	21	
	4.9	Robustness of terminations	21	
	4.10	Resistance to soldering heat		
	4.11	Solderability (applicable only for terminations intended to be soldered)		
		Rapid change of temperature		
		Vibration		
		Bump		
		Shock		
		Container sealing		
		Climatic sequence		
		Damp heat, steady state		
		Temperature rise		
		Endurance		
		Passive flammability		
		Active flammability		
		Solvent resistance of marking		
	4.24	Component solvent resistance	28	

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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)
Annex B (normative) Rules for the preparation of detail specifications for capacitors and resistors for electronic equipment
Annex C (normative) Requirements for earth inductors
Figure 1 – Voltage proof test circuit19
Table 1 – Reference test: standard atmospheric conditions14
Table 2 – Creepage distances and clearances  15
Table 3 – Measuring voltage 16
Table 4 – Measuring points
Table 5 – Force
Table 6 – Torque
Table 6 – Torque. 22   Table 7 – Number of cycles 26
Table 8 – Severities and requirements
Table C.1 – Rated current related to minimum cross-sectional area of copper lead (mm <sup>2</sup> ) of the earth inductor

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- 4 -

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#### INTERNATIONAL ELECTROTECHNICAL COMMISSION

#### FIXED INDUCTORS FOR ELECTROMAGNETIC INTERFERENCE SUPPRESSION –

#### Part 1: Generic specification

#### FOREWORD

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International Standard IEC 60938-1 has been prepared by IEC technical committee 40: Capacitors and resistors for electronic equipment.

This consolidated version of IEC 60938-1 consists of the second edition (1999) [documents 40/1110/FDIS and 40/1136/RVD] and its amendment 1 (2006) [documents 40/1602/CDV and 40/1699A/RVC].

The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience.

It bears the edition number 2.1.

A vertical line in the margin shows where the base publication has been modified by amendment 1.

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).

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Annexes A, B and C form an integral part of this standard.

The committee has decided that the contents of the base publication and its amendments 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.

- 6 -

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#### FIXED INDUCTORS FOR ELECTROMAGNETIC INTERFERENCE SUPPRESSION –

#### Part 1: Generic specification

#### 1 General

#### 1.1 Scope

This International Standard applies to inductors designed for electromagnetic interference suppression intended for use within, or associated with, electronic or electrical equipment and machines. It is restricted to inductors for which safety tests are appropriate.

The combination of two or more inductors within one enclosure is also included.

Inductors within the scope of this standard may also be used to protect apparatus and machines from electrical noise and voltage or current transients coming from either the supply or from other parts of the apparatus.

This standard does not necessarily apply in its entirety to inductors intended for use on motor vehicles, in aircraft or for marine applications.

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

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

IEC 60062:1992, 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) Amendment 2 (1994)

IEC 60068-2-3:1969, Environmental testing – Part 2: Tests – Test Ca: Damp heat, steady state Amendment 1 (1984)

IEC 60068-2-6:1995, Environmental testing – Part 2: Tests – Test Fc: Vibration (sinusoidal)

IEC 60068-2-13:1983, Environmental testing – Part 2: Tests – Test M: Low air pressure

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- 7 -
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IEC 60068-2-14:1984, Environmental testing – Part 2: Tests – Test N: Change of temperature Amendment 1 (1986)

IEC 60068-2-17:1994, Environmental testing - Part 2: Tests - Test Q: Sealing

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

IEC 60068-2-21:1983, Environmental testing – Part 2: Tests – Test U: Robustness of terminations and integral mounting devices Amendment 2 (1991) Amendment 3 (1992)

IEC 60068-2-27:1987, Environmental testing – Part 2: Tests – Test Eg and guidance. Shock

IEC 60068-2-29:1987, Environmental testing – Part 2: Tests – Test Eb and guidance: Bump

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 60068-2-45:1980, Environmental testing Rave 2: Tests Test XA and guidance: Immersion in cleaning solvents Amendment 1 (1993)

IEC 60294:1969, Measurement of the dimensions of a cylindrical component having two axial terminations

IEC 60335-1:1991, Safety of household and similar electrical appliances – Part 1: General requirements

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

IEC 60617 (all parts), Graphical symbols for diagrams

IEC 60695-2-2:1991, Fire hazard testing – Section 2: Needle-flame test Amendment 1 (1994)

CISPR 17:1981, Methods of measurement of the suppression characteristics of passive radio interference filters and suppression components

IEC QC 001002-3:1998, Rules of Procedure of the IEC Quality Assessment System for Electronic Components (IECQ) – Part 3: Approval procedures

ISO 1000:1992, SI units and recommendations for the use of their multiples and of certain other units