INTERNATIONAL STANDARD

IEC 60939-2-2

First edition
2004-11

Complete filter units for radio interference suppression –

Part 2-2: Blank detail specification – Passive filter units for electromagnetic interference suppression – Filters for which safety tests are required (safety tests only)

© IEC 2004 — Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE M

For price, see current catalogue

INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMPLETE FILTER UNITS FOR RADIO INTERFERENCE SUPPRESSION –

Part 2-2: Blank detail specification – Passive filter units for electromagnetic interference suppression – Filters for which safety tests are required (safety tests only)

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60939-2-2 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
40/1467/FDIS	40/1488/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.

IEC 60939 consists of the following parts under the general title *Complete filter units for radio interference suppression:*

Part 1: Generic specification

Part 2: Sectional specification

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.

INTRODUCTION

This blank detail specification forms the basis for a uniform procedure for a common Safety Mark. It implements the approval schedule for the safety test described in IEC 60939-2, requires a declaration of design for parameters relevant to safety and prescribes conformance tests to be conducted on every lot prior to its release and requalification tests depending on changes to the declared design.

In comparison with IEC 60939-2-1, which provides quality conformance and safety tests this specification is restricted to safety tests only. The use of IEC 60939-2-1 may be more appropriate for components manufactured in mass production, whereas the employment of this specification may be necessary in those cases where approval and requalification tests contribute considerably to the costs of the product.

Blank detail specification

A blank detail specification is a supplementary document to the sectional specification and contains requirements for style and layout and minimum content of detail specifications. In the preparation of detail specifications the content of 1.4 of the sectional specification shall be taken into account.

Identification of the detail specification and of the component

The first page of the detail specification should have the layout recommended on the next page of this blank detail specification. The numbers between square brackets correspond to the following information which shall be inserted at the position indicated:

[1] The name of the National Standards Organization under whose authority the detail specification is published and, if applicable, the organization from which the detail specification is available.

[2] The IECQ symbol and the number allotted to the detail specification by the IECQ General Secretariat.

[3] The number and issue number of the IECQ generic or sectional specification as relevant; also national reference if different.

[4] If different from the IECQ number, the national number of the detail specification, date of issue and any further information required by the national system, together with any amendment numbers.

[5] A brief description of the component or range of components.

[6] Information on typical construction (when applicable).

For [5] and [6] the text to be given in the detail specification should be suitable for an entry in the IECQ Register of Approvals.

[7] Outline drawing with main dimensions which are of importance for interchangeability and/or reference to the appropriate national or international documents for outlines. Alternatively the drawing may be given in an annex to the detail specification, but [7] should always contain an illustration of the general outer appearance of the component.

[8] The level(s) of quality assessment covered by the detail specification, as appropriate.

[9] Reference data giving information on the most important properties of the component which allow comparison between the various component types intended for the same or similar applications.

<table>
<tr><td>[1]</td><td>IEC 60939-2-2-XXX [2]
QC XXXXXXXXX</td></tr>
<tr><td>ELECTRONIC COMPONENTS OF ASSESSED QUALITY IN ACCORDANCE WITH:
IEC 60939-1
IEC 60939-2
[3]</td><td>[4]</td></tr>
<tr><td rowspan="4">Outline and dimensions:
(... angle projection)
[7]
(Other shapes are permitted within the dimensions given, see Table 1.)</td><td>PASSIVE FILTER UNITS FOR ELECTROMAGNETIC INTERFERENCE SUPPRESSION AND FOR CONNECTION TO THE SUPPLY MAINS – FILTERS FOR WHICH SAFETY TESTS ARE REQUIRED (SAFETY TESTS ONLY)
[5]</td></tr>
<tr><td>TYPICAL CONSTRUCTION:
[6]</td></tr>
<tr><td>Class or subclass of incorporated capacitors</td></tr>
<tr><td>[8]
Safety tests only</td></tr>
<tr><td colspan="2">NOTE For [1] to [9], see preceding page.</td></tr>
<tr><td colspan="2">REFERENCE DATA: Rated voltages, current range, climatic category, frequency range, insertion loss range, functional circuit diagram. [9]</td></tr>
</table>

Information on the availability of components qualified to this detail specification is given in IEC QC 001005.

COMPLETE FILTER UNITS FOR RADIO INTERFERENCE SUPPRESSION –

Part 2-2: Blank detail specification – Passive filter units for electromagnetic interference suppression – Filters for which safety tests are required (safety tests only)

1 General data

1.1 Dimensions

Table 1 – Dimensions related to case size

Case size reference	Dimensions mm							
	L	*W*	*H*	...	...	...	...	...

When there is no case size reference, Table 1 may be omitted and the dimensions shall be given in Table 2, which then becomes Table 1.

The dimensions shall be given as maximum dimensions or as nominal dimensions with a tolerance.

1.2 Ratings and characteristics

Rated voltages (see Table 2)

Category voltage (if applicable) (see Table 2)

Rated current (see Table 2)

DC line resistance or d.c. voltage drop at rated current

Maximum current at upper category temperature and derating curve (if applicable)

Maximum internal and external temperatures for temperature rise test (if applicable)

Climatic category

Rated temperature

Insertion loss (see Table 2)

Insulation resistance

Category of passive flammability (if applicable)

Discharge resistance (if applicable)

Table 2 – Insertion loss at no load

Case size or type designation	Rated voltage	Category voltage	Rated current	Minimum insertion loss dB						
				kHz	kHz	MHz	MHz	MHz	GHz	GHz

1.3 Normative references

IEC 60939-1, *Complete filter units for radio interference suppression – Part 1: Generic specification* [1]

IEC 60939-2, *Complete filter units for radio interference suppression – Part 1: Sectional specification*

IEC 60939-2-1, *Complete filter units for radio interference suppression – Part 2-1: Blank detail specification: Passive filter units for electromagnetic interference suppression – Filters for which safety tests are required (Assessment level D / DZ)*

---

[1] To be published.