

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Piezoelectric filters of assessed quality –
Part 3: Standard outlines and lead connections**

**Filtres piézoélectriques sous assurance de la qualité –
Partie 3: Encombrements normalisés et connexions des sorties**

STANDARD PREVIEW
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IEC 60368-3:2010
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PIEZOELECTRIC FILTERS OF ASSESSED QUALITY –

Part 3: Standard outlines and lead connections

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International Standard IEC 60368-3 has been prepared by IEC Technical Committee 49: Piezoelectric, dielectric and electrostatic devices and associated materials for frequency control, selection and detection.

This fourth edition cancels and replaces the third edition published in 2001 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) four enclosure types (CF05, CF06, CF07 and CF09) have been deleted from previous edition, IEC 60368-3 Ed. 3.0;
- b) now standardized enclosures are totally 16 types. These are listed in Table.1.

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

| | |
|------------|------------------|
| CDV | Report on voting |
| 49/887/CDV | 49/905A/RVC |

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.

A list of all parts of IEC 60368 under the general title *Piezoelectric filters of assessed quality* can be found on the IEC website.

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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- withdrawn,
- replaced by a revised edition, or
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PIEZOELECTRIC FILTERS OF ASSESSED QUALITY –

Part 3: Standard outlines and lead connections

1 Scope

This part of IEC 60368 specifies the outline drawing for piezoelectric filters with lead enclosures.

2 Guidance for the standardization of outline drawings for frequency control and selection devices

In order to achieve a uniform presentation of all outline drawings for frequency control and selection devices the following guide shall be considered:

2.1 An outline drawing shall show all dimensional and geometrical characteristics of an enclosure necessary to ensure mechanical interchangeability with all other enclosures of the same outline. Enlarged detailed view may be used, if necessary.

2.2 The outline drawing shall consist of three parts:

2.2.1 A drawing with dimensional symbols (capital letter) as shown in Figure 1 below with applicable notes, if necessary.

2.2.2 A tabular listing relating to the drawing symbols to the actual dimensions. Where possible this shall be shown on the same page as the drawing.

2.2.3 An "actual-size" sketch (scale 1:1).

2.3 The outline drawing shall be executed in the third angle projection.

2.4 The function and identification of the lead connections (termination) shall be determined by agreement between the supplier and user. They shall not be defined on the outline drawing.

2.5 Descriptive notes may be used at the bottom of/ or adjacent to, the drawing with proper reference to the body of the drawing.

2.6 All dimensions shall be in millimeters.

2.7 Outline dimensions *A*, *B*, *C*, *D* and *E* shall be listed with maximum values only.

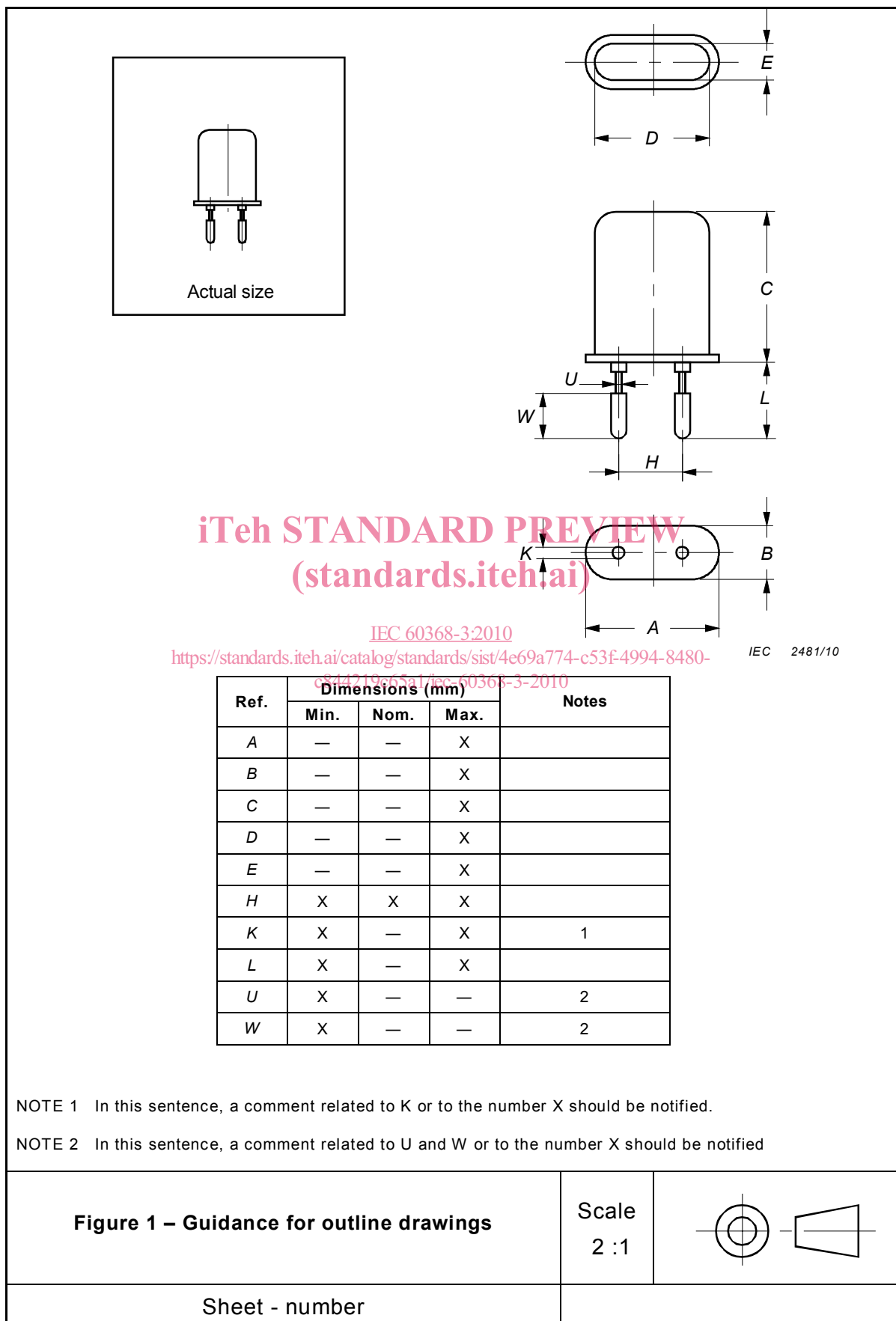
2.8 Lead (termination) cross-sectional dimensions shall be listed with minimum and maximum values. If applicable, nominal dimensions may be added.

2.9 The spacing of the leads (termination) – symbol *H* – shall be listed with minimum, nominal and maximum dimensions.

2.10 Leads (terminations) for soldering application shall be specified with the minimum length dimensions (symbol *L*) only.

Lead (termination) for plug-in application shall be specified with minimum and maximum length dimensions.

2.11 If leads (terminations) are provided with an undercut dimensions U and W shall be listed with minimum dimensions only.



3 Dimensions of piezoelectric filter enclosures

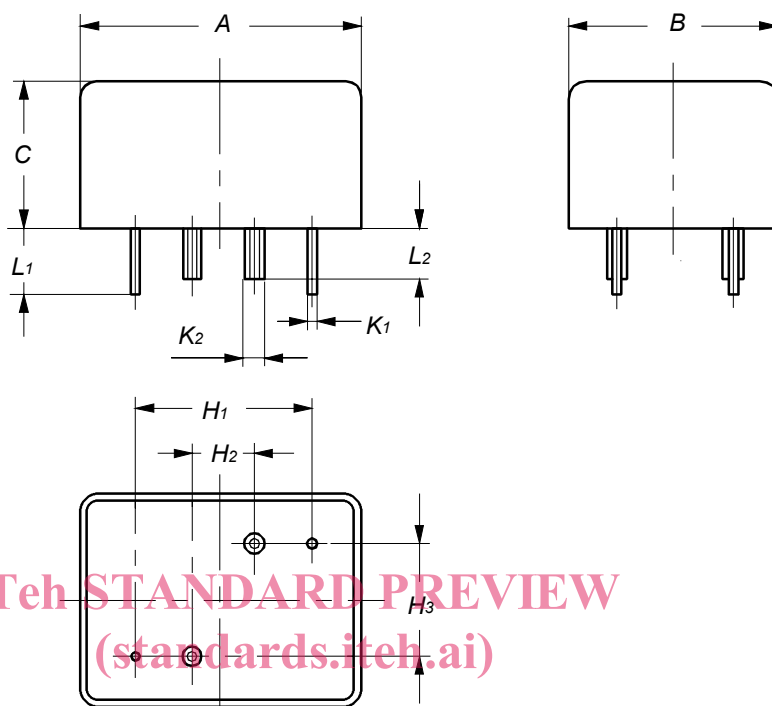
The dimensions in this standard apply to the competed piezoelectric filters.

Only those dimensions which meet the requirements of the guidance for standardization of outline drawings are given (see Clause 2).

4 Designation of piezoelectric filter enclosures

Table 1 – Designation of piezoelectric filter enclosures

| No. | Type | Sheet No. | Description |
|-----|--------------------------------------|-----------|---|
| 1 | F 01 | Sheet 1 | Metal enclosure, soldered, two-lead crystal filter outline |
| 2 | F 02 | Sheet 2 | Metal enclosure, soldered, seven-lead crystal filter outline |
| 3 | F 03 | Sheet 3 | Metal enclosure, soldered, four-lead crystal filter outline |
| 4 | F 04 F 05 F 06 F 07 F 08 | Sheet 4 | Metal enclosure, soldered, four-lead crystal filter outline |
| 5 | F 12 | Sheet 5 | Metal enclosure, soldered, four-lead crystal filter outline |
| 6 | F 14 F 15 | Sheet 6 | Metal enclosure, welded, three-lead crystal filter outline |
| 7 | F 16 | Sheet 7 | Metal enclosure, welded, three-lead crystal filter outline |
| 8 | CF 01 CF 02 CF 03 CF 04 | Sheet 8 | Metal enclosure, soldered, four-lead piezoelectric ceramic filter outline |



IEC 60368-3:2010

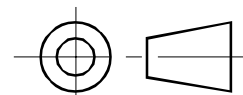
IEC 2482/10

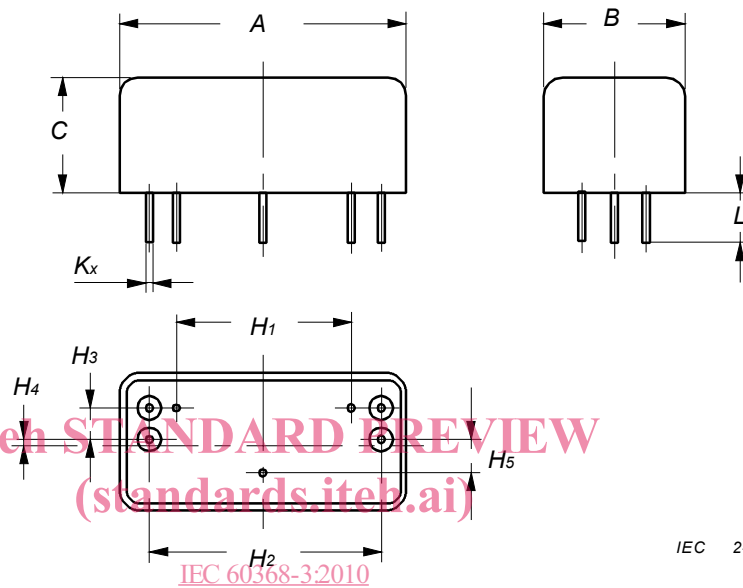
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| Ref. | Dimensions (mm) | | | Identity reference | Notes Types |
|----------------|-----------------|-------|-------|--------------------|-------------|
| | Min. | Nom. | Max. | | |
| A | — | — | 36,10 | | |
| B | — | — | 27,20 | | |
| C | — | — | 19,40 | | |
| H ₁ | 22,61 | 22,86 | 23,11 | | |
| H ₂ | 7,37 | 7,62 | 7,87 | | |
| H ₃ | 14,75 | 15,00 | 15,49 | | |
| K ₁ | 0,95 | — | 1,05 | | |
| K ₂ | — | M3 | — | | |
| L ₁ | 2,50 | — | — | | |
| L ₂ | 3,50 | — | 6,40 | | |

Metal enclosure, soldered, two-lead crystal filter outline
– Type F 01

Scale
1:1





IEC 2483/10

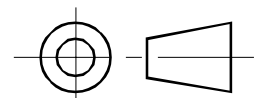
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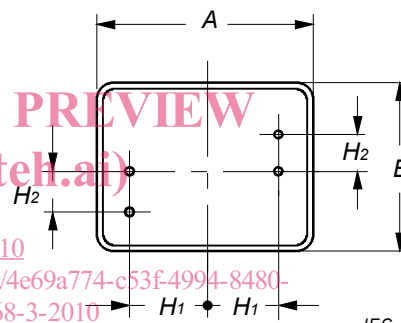
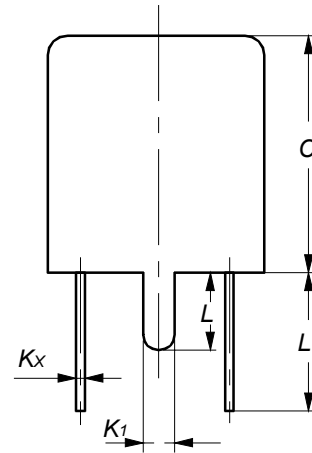
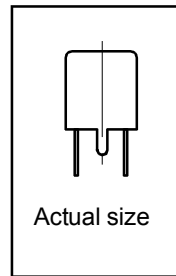
| Ref. | Dimensions (mm) | | | Identity reference | Notes Types |
|----------------|-----------------|-------|-------|--------------------|-------------|
| | Min. | Nom. | Max. | | |
| A | — | — | 38,40 | | |
| B | — | — | 18,20 | | |
| C | — | — | 15,90 | | |
| H ₁ | 23,76 | 24,00 | 24,25 | | |
| H ₂ | 31,75 | 32,00 | 32,25 | | |
| H ₃ | 3,75 | 4,00 | 4,25 | | |
| H ₄ | 0,75 | 1,00 | 1,25 | | |
| H ₅ | 4,75 | 5,00 | 5,25 | | |
| K ₁ | 0,70 | — | 0,85 | a | 1 |
| K ₂ | 0,90 | — | 1,10 | b | 1 |
| L | 2,70 | — | — | | |

NOTE 1 K₁ and K₂ are alternative lead and are identified by adding the letter a or b to the basic type designation.

Metal enclosure, soldered, seven-lead crystal filter
outline – Type F 02

Scale
1:1





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IEC 2484/10

| Ref. | Dimensions (mm) | | | Identity reference | Notes Types |
|------|-----------------|------|-------|--------------------|-------------|
| | Min. | Nom. | Max. | | |
| A | — | — | 11,00 | | |
| B | — | — | 8,50 | | |
| C | — | — | 12,00 | | |
| H1 | 3,45 | 3,70 | 3,95 | | |
| H2 | 1,75 | 2,00 | 2,25 | | |
| K1 | — | — | 1,60 | | |
| K2 | 0,25 | — | 0,40 | a | 1 |
| K3 | 0,40 | — | 0,48 | b | 1 |
| L | 4,00 | — | — | | |
| L1 | 7,00 | — | — | | |

NOTE 1 K2 and K3 are alternative lead diameters and are identified by adding the letter a or b to the basic type designation.

Metal enclosure, soldered, four-lead crystal filter outline
– Type F 03

Scale
3:1

