BS EN 60122-3:2010

BSI Standards Publication

Quartz crystal units of assessed quality

Part 3: Standard outlines and lead connections

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National foreword

This British Standard is the UK implementation of EN 60122-3:2010. It is identical to IEC 60122-3:2010. It supersedes BS EN 60122-3:2001, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee EPL/49, Piezoelectric devices for frequency control and selection.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Amendments issued since publication

Amd. No.	Date	Text affected

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60122-3

December 2010

ICS 31.140

Supersedes EN 60122-3:2001

English version

Quartz crystal units of assessed quality - Part 3: Standard outlines and lead connections

(IEC 60122-3:2010)

Résonateurs à quartz sous assurance de la qualité -
Partie 3: Encombrements normalisés et connexions des sorties
(CEI 60122-3:2010)

Schwingquarze mit bewerteter Qualität -
Teil 3: Norm-Gehäusemaße und Anschlussdräht
(IEC 60122-3:2010)

This European Standard was approved by CENELEC on 2010-12-01. 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.

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 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.

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CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 60122-3:2010 E

Foreword

The text of document 49/886/CDV, future edition 4 of IEC 60122-3, prepared by IEC TC 49, Piezoelectric, Dielectric and Electrostatic Devices and Associated Materials for Frequency Control, Selection and Detection, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60122-3 on 2010-12-01.

This European Standard supersedes EN 60122-3:2001.

The main changes with respect to EN 60122-3:2001 are as follows:

– 12 of the 48 enclosure types contained in EN 60122-3:2001 have been deleted.

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 EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2011-09-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2013-12-01

Endorsement notice

The text of the International Standard IEC 60122-3:2010 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60122-1:2002 NOTE Harmonized as EN 60122-1:2002 (not modified).

CONTENTS

INTRODUCTION

The third edition of IEC 60122-3 (2004) contained 48 enclosure types showing the dimensional and geometrical characteristics of these enclosures. Since its release, due to progress in technology, many of the enclosures given in the standard have become obsolete.

Bearing this in mind, the following 12 enclosure types have been deleted from the third edition of IEC 60122-3.

AA, AB, BC, BC/1, BF, BF/1, CX, CY, CY/1, CZ, DA, DC.

Therefore, this new version (the fourth edition) contains the following 36 enclosure types ; CK, CM, CN, CP, DK, DL, DP, EH, DQ, DR, DZ, DV, DW, ED, EB, EJ, EK, CU 01A, CU 01B, CU 01C, CU 01D, CU 01E, CU 01F, CU 02A, CU 02B, CU 02C, CU 02D, CU 02E, CU 02F

QUARTZ CRYSTAL UNITS OF ASSESSED QUALITY –

Part 3: Standard outlines and lead connections

1 Scope

This part of IEC 60122 specifies the outline drawing for quartz crystal units with lead enclosures.

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

2.1 General

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

2.2 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.

2.3 The outline drawing shall consist of three parts:

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

2.3.2 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.

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

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

2.5 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.

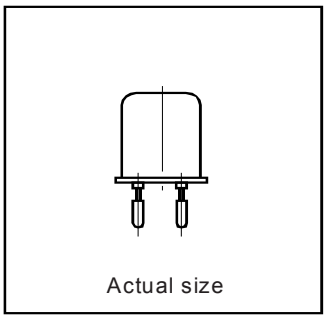
2.6 Descriptive notes may be used at the bottom of/ or adjacent to, the drawing with proper reference to the body of the drawing.

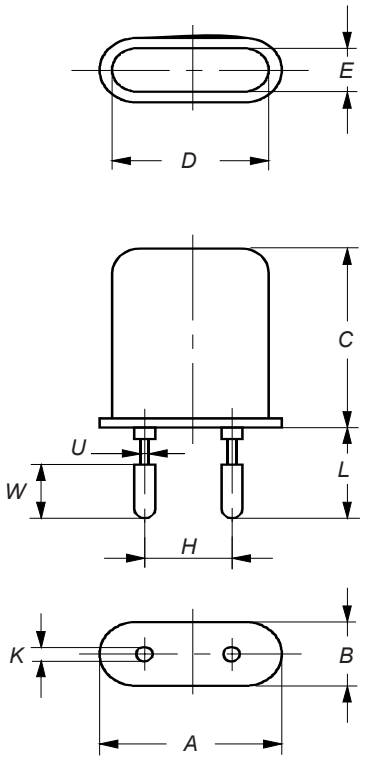
2.7 All dimensions shall be in millimeters.

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

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

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

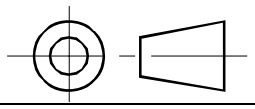




Ref.	Dimensions (mm)			Notes
	Min.	Nom.	Max.	
A	—	—	X	
B	—	—	X	
C	—	—	X	
D	—	—	X	
E	—	—	X	
H	X	X	X	
K	X	—	X	1
L	X	—	X	
U	X	—	—	2
W	X	—	—	2

NOTE 1 In this sentence, a comment related to K or to the number X should be notified.

NOTE 2 In this sentence, a comment related to U and W or to the number X should be notified

Figure 1 – Guidance for outline drawings	Scale 2 :1	
Sheet - number		

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

3 Dimensions of quartz crystal unit enclosures

The dimensions in this standard apply to the competed quartz crystal units.

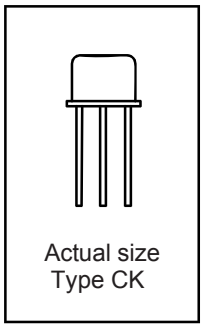
Only those dimensions which meet the requirements of the guidance for standardization of outline drawings are given (see Clause 2).

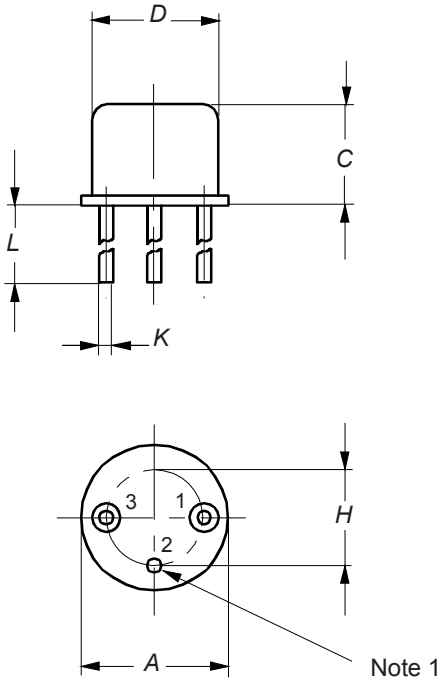
4 Designation of quartz crystal unit enclosures

See Table 1.

Table 1 – Designation of quartz crystal unit enclosures

No.	Type	Sheet No.	Description
1	CK, CM CN, CP	Sheet 1	Metal, welded, three-lead crystal unit outline
2	DK	Sheet 2	Metal, welded, three-lead crystal unit outline
3	DL	Sheet 3	Metal, welded, two-lead crystal unit outline
4	DP EH	Sheet 4	Metal, welded, two-lead crystal unit outline
5	DQ	Sheet 5	Metal, welded, two-lead crystal unit outline
6	DR	Sheet 6	Metal, welded, four-lead crystal unit outline
7	DZ	Sheet 7	Metal, welded, two-lead crystal unit outline
8	DV	Sheet 8	Metal, solder-diffusion-seared, two-lead, two-lead cylindrical unit outline
9	DW	Sheet 9	Metal, solder-diffusion-sealed, two-lead cylindrical crystal unit outline
10	ED	Sheet 10	Metal, solder-diffusion-sealed, two-lead cylindrical crystal unit outline
11	EB, EJ, EK	Sheet 11	Metal, welded, two-lead crystal unit outline
12	CU 01A. CU 01B. CU 01C. CU 01D. CU 01E. CU 01F.	Sheet 12	Metal, welded, two-lead crystal unit outline for automatic handling
13	CU 02A. CU 02B. CU 02C. CU 02D. CU 02E. CU 02F.	Sheet 13	Metal, welded, two-lead crystal unit outline for automatic handling
14	CU 04A. CU 04B. CU 04C. CU 04D.	Sheet 14	Metal, welded, two-lead crystal unit outline for automatic handling
15	CU 05A. CU 05B. CU 05C.	Sheet 15	Metal, welded, two-lead crystal unit outline for automatic handling

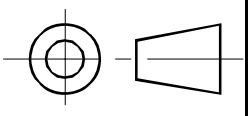




Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	9,39	
C	—	—	6,60	Type CK
C	—	—	25,40	Type CM
C	—	—	39,37	Type CN
C	—	—	59,69	Type CP
D	—	—	8,51	
H	4,83	5,08	5,33	
K	0,40	—	0,48	
L	15,24	—	—	

NOTE 1 Lead No. 2 is grounded to case.

NOTE 2 The crystal unit outline shown in this sheet can be manufactured in either “cold-welded” or “resistance-welded” form and is distinguished by the letter “C” for the cold-welded or the letter “R” for the resistance-welded form by adding the letter at the end of the type code (e.g. CKC or CKR).

Metal, welded, three-lead crystal unit outline- Type CK, CM, CN and CP	Scale 2:1	
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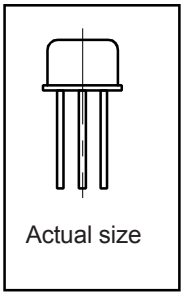
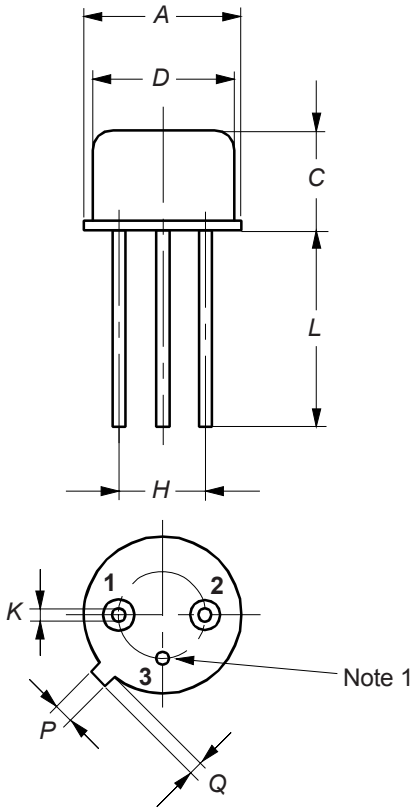


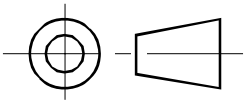


Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	10,70	
C	—	—	6,60	
D	—	—	8,50	
H	4,83	5,08	5,33	
K	0,40	—	0,48	
L	12,70	—	—	
P	—	—	0,90	2
Q	—	—	0,95	2

NOTE 1 Lead No. 3 is grounded to case.

NOTE 2 The tag's position or presence is optional.

NOTE 3 The crystal unit outline shown in this sheet can be manufactured in either "cold-welded" or "resistance – welded" form and is distinguished by the letter "C" for the cold-welded or the letter "R" for the resistance-welded form by adding the letter at the end of the type code (e.g. DKC or DKR).

Metal, welded, three-lead crystal unit outline – Type DK	Scale 2:1	
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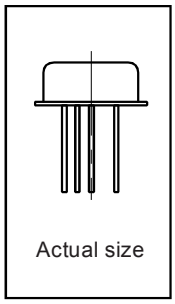
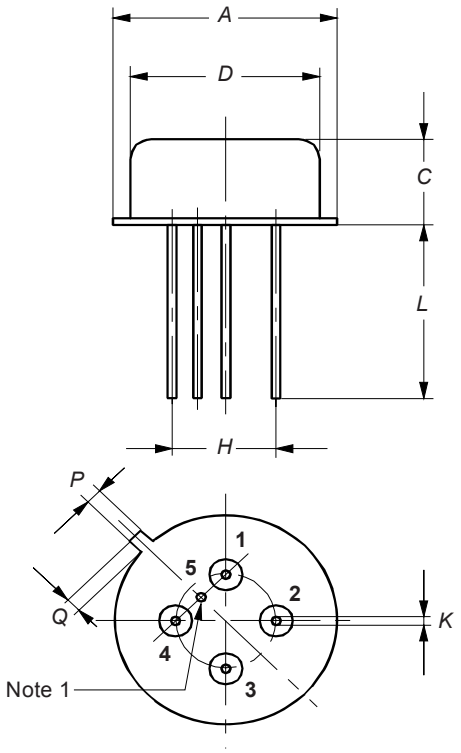


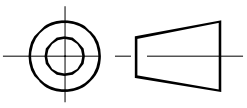


Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	15,75	
C	—	—	6,60	
D	—	—	13,30	
H	6,90	7,16	7,40	
K	0,40	—	0,48	
L	12,70	—	—	
P	—	—	0,90	2
Q	—	—	0,95	2

NOTE 1 Lead No. 5 is grounded to case.

NOTE 2 The tag's position or presence is optional.

NOTE 3 The crystal unit outline shown in this sheet can be manufactured in either "cold-welded" or "resistance – welded" form and is distinguished by the letter "C" for the cold-welded or the letter "R" for the resistance-welded form by adding the letter at the end of the type code (e.g. DLC or DLR).

Metal, welded, five-lead crystal unit outline – Type DL	Scale 2:1	
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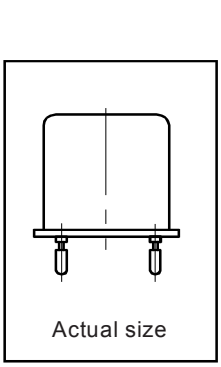
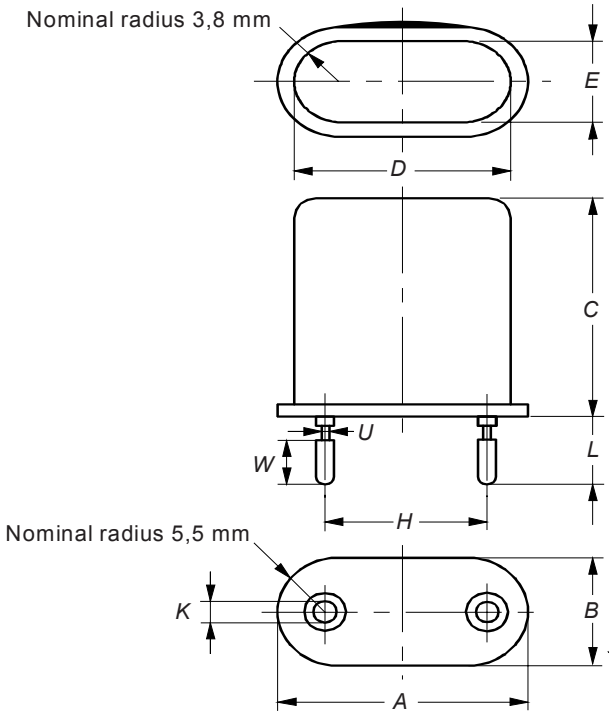




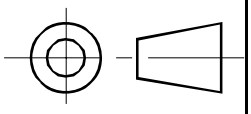
IEC 2260/10

Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	19,40	
B	—	—	9,10	
C	—	—	19,75	
D	—	—	18,05	
E	—	—	7,65	
H	12,14	12,35	12,55	
K	1,22	1,27	1,32	
L	5,66	—	6,30	1
U	0,76	—	—	2
W	4,45	—	—	2

NOTE 1 Lead ends rounded.

NOTE 2 Shape of undercut at the discretion of the manufacturer.

NOTE 3 The crystal unit outline shown in this sheet can be manufactured in either “cold-welded” or “resistance – welded” form and is distinguished by the letter “C” for the cold-welded or the letter “R” for the resistance-welded form by adding the letter at the end of the type code (e.g. DNC or DNR).

Metal, welded, two-lead crystal unit outline – Type DN	Scale 2:1	
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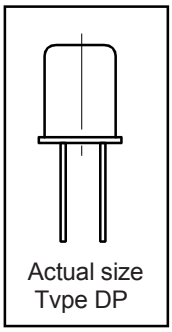
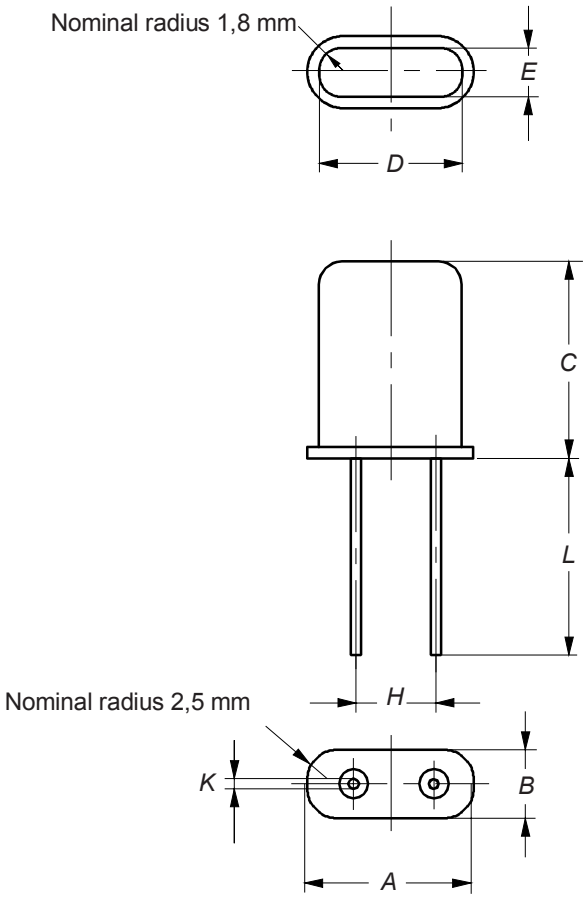
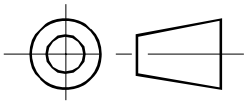


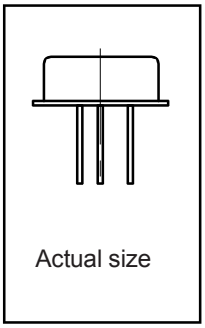


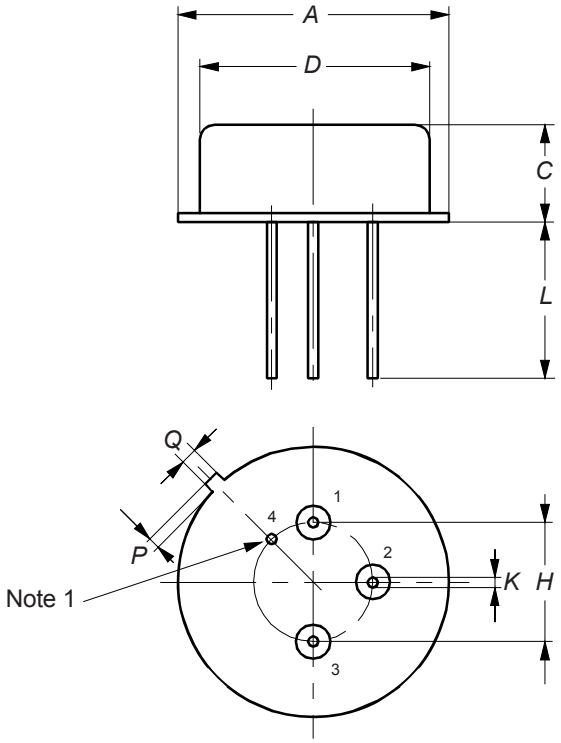
IEC 2261/10

Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	11,10	
B	—	—	5,00	
C_1	—	—	11,50	Type EH
C_2	—	—	13,50	Type DP
D	—	—	10,20	
E	—	—	3,80	
H	4,46	4,90	5,08	
K	0,40	—	0,48	
L	12,70	—	—	

NOTE The crystal unit outline shown in this sheet can be manufactured in either “cold-welded” or “resistance – welded” form and is distinguished by the letter “C” for the cold-welded or the letter “R” for the resistance-welded form by adding the letter at the end of the type code (e.g. DPC or DPR).

Metal, welded, two-lead crystal unit outline – Type DP and EH	Scale 2:1	
Sheet 5		





IEC 2262/10

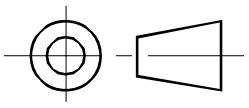
Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	22,00	
C	—	—	11,60	
D	—	—	18,16	
H	9,29	9,52	9,77	
K	0,40	—	0,48	
L	12,70	—	—	
P	—	—	0,90	2
Q	—	—	0,95	2

NOTE 1 Lead No. 4 is grounded to case.

NOTE 2 The tag's position or presence is optional.

NOTE 3 If used for a single crystal vibrator, only leads 1 and 3 are used.

NOTE 4 The crystal unit outline shown in this sheet can be manufactured in either "cold-welded" or "resistance – welded" form and is distinguished by the letter "C" for the cold-welded or the letter "R" for the resistance-welded form by adding the letter at the end of the type code (e.g. DRC or DRR).

Metal, welded, four-lead crystal unit outline – Type DR	Scale 2:1	
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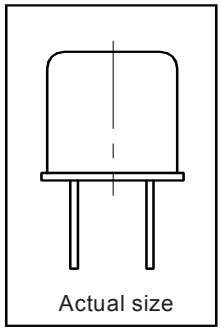
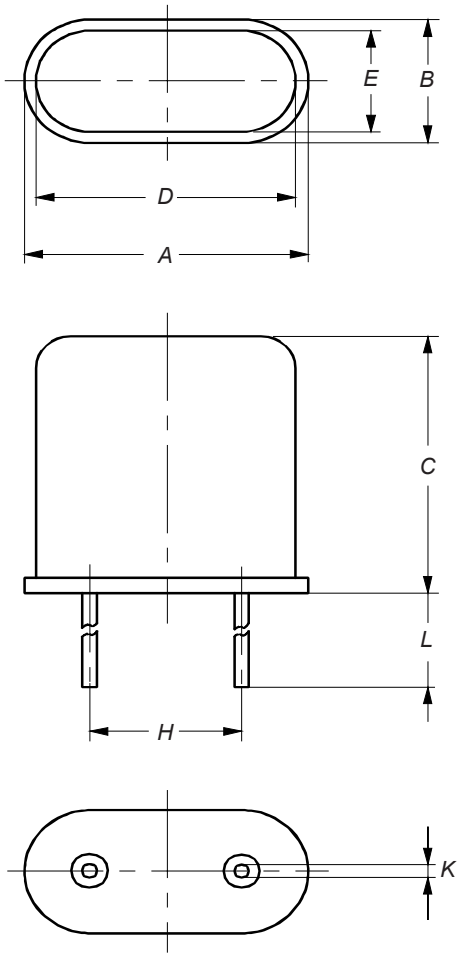
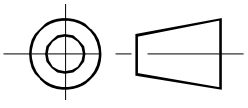


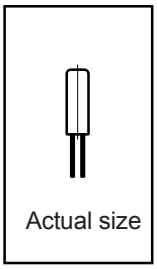


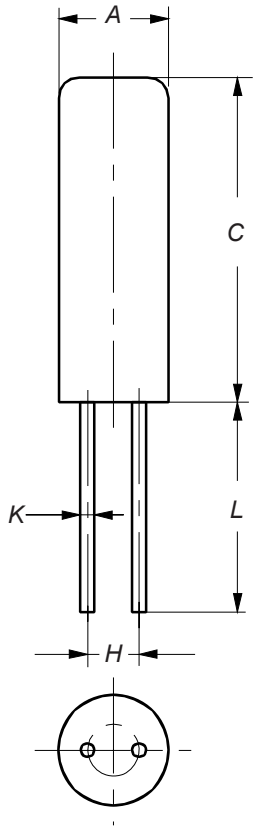
IEC 2263/10

Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	19,40	
B	—	—	9,10	
C	—	—	19,75	
D	—	—	18,05	
E	—	—	7,65	
H	12,14	12,35	12,55	
K	0,70	—	0,90	
L	12,70	—	—	

NOTE The crystal unit outline shown in this sheet can be manufactured in either “cold-welded” or “resistance – welded” form and is distinguished by the letter “C” for the cold-welded or the letter “R” for the resistance-welded form by adding the letter at the end of the type code (e.g. DZC or DZR).

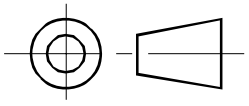
Metal, welded, two-lead crystal unit outline – Type DZ	Scale 2:1	
Sheet 7		

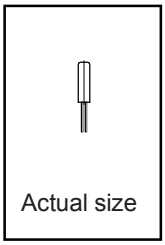


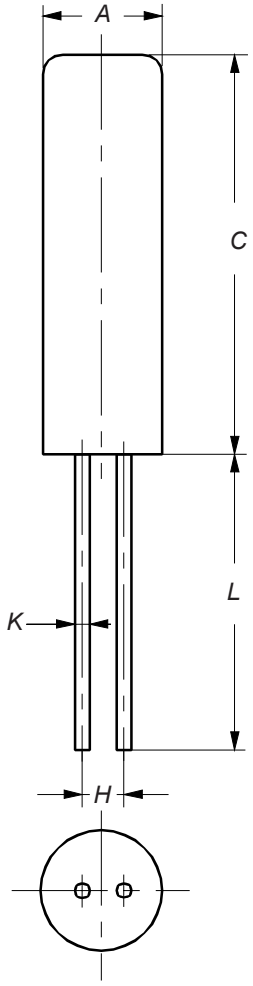


IEC 2264/10

Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	3,08	
C	—	—	8,30	
H	0,90	1,00	1,30	
K	0,23	—	0,37	
L	6,00	—	—	

Metal, solder-diffusion-sealed, two-lead cylindrical crystal unit outline – Type DV	Scale 5:1	
Sheet 8		



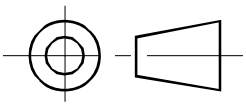


IEC 2265/10

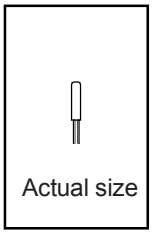
Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	2,08	
C	—	—	6,80	
H	0,50	0,70	0,90	
K	0,13	—	0,27	
L	5,00	—	—	

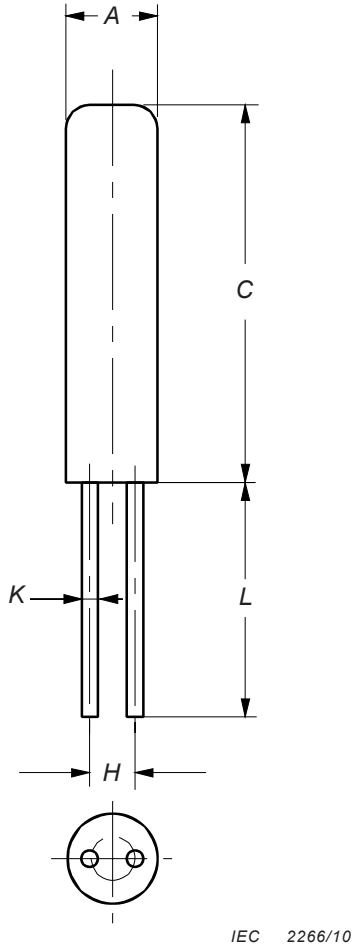
Metal, solder-diffusion-sealed, two-lead cylindrical crystal unit outline – Type DW

Scale 10:1

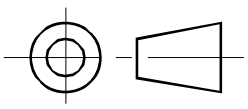


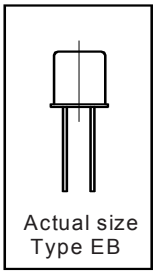
Sheet 9

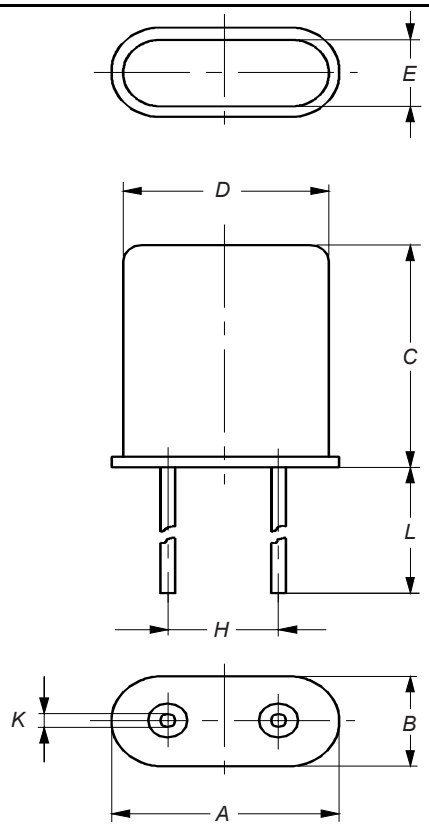




Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	1,52	
C	—	—	5,20	
H	0,30	0,45	0,60	
K	0,12	—	0,18	
L	4,20	—	—	

Metal, solder-diffusion-sealed, two-lead cylindrical crystal unit outline – Type ED	Scale 10:1	
Sheet 10		

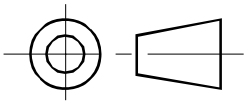


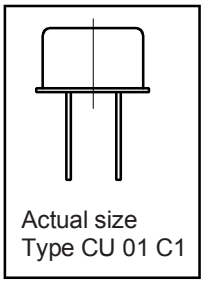


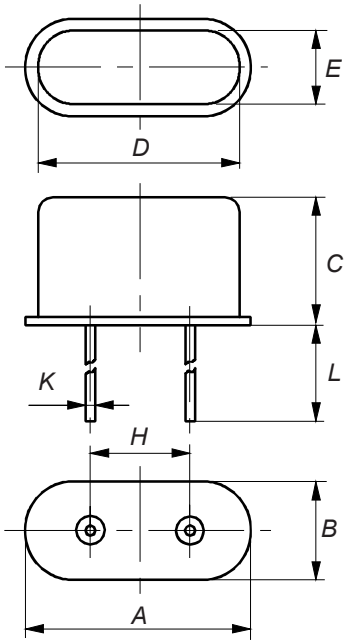
Ref.	Dimensions (mm)			Notes Types
	Min.	Nom.	Max.	
A	—	—	8,26	
B	—	—	3,70	
C_1	—	—	6,00	Type EJ
C_2	—	—	8,00	Type EK
C_3	—	—	8,80	Type EB
D	—	—	7,00	
E	—	—	2,60	
H	3,60	3,75	3,90	
K_1	0,40	—	0,48	1
K_2	0,25	—	0,35	1
L	12,70	—	—	

NOTE 1 K_1 and K_2 are alternative lead diameters and are identified by the numbers 1 and 2 on type code (e.g. EB 1 or EB 2).

NOTE 2 The crystal unit outline shown in this sheet can be manufactured in either “cold-welded” or “resistance – welded” form and is distinguished by the letter “C” for the cold-welded or the letter “R” for the resistance-welded form by adding the letter at the end of the type code (e.g. EB1C or EB1R).

Metal, welded, two-lead crystal unit outline- Type EB, EJ and EK	Scale 4:1	
Sheet 11		





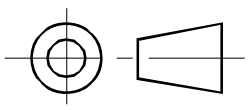
IEC 2268/10

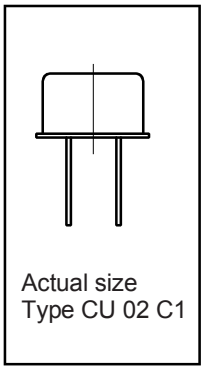
Ref.	Dimensions (mm)			Identity reference	Notes Types
	Min.	Nom.	Max.		
A	—	—	11,10		
B	—	—	5,00		
C_1	—	—	3,60	CU 01 A.	1
C_2	—	—	5,10	CU 01 B.	1
C_3	—	—	6,50	CU 01 C.	1
C_4	—	—	9,70	CU 01 D.	1
C_5	—	—	11,50	CU 01 E.	1
C_6	—	—	13,50	CU 01 F.	1
D	—	—	10,20		
E	—	—	3,80		
H	4,67	4,90	5,08		
K	0,40	—	0,48		
L_1	12,70	—	—	CU 01 .1	1
L_2	15,50	—	—	CU 01 .2	1

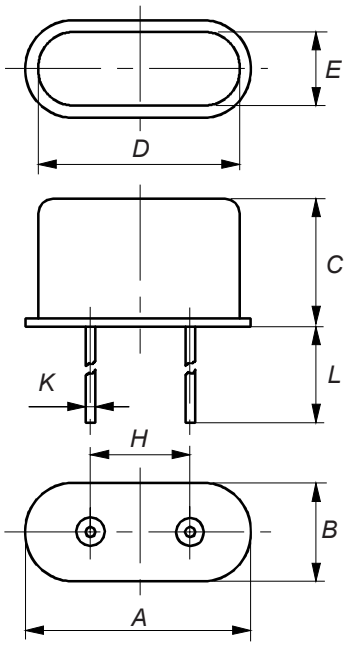
NOTE 1 The complete identity for any crystal unit outline is a six digit type number consisting of the basic type number (four digits) followed by a letter indicating the enclosure height and a number indicating the lead length.

The identity references for the last two digits are given in the table, where a dot indicates the missing information, which is given on another line.

EXAMPLE CU 01 E1 is the complete for the enclosure CU 01 with the height C_5 and the length L_1.

Metal, welded, two-lead crystal unit outline for automatic handling – Type CU 01	Scale 2:1	
Sheet 12		





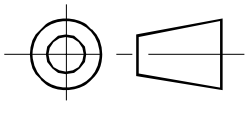
IEC 2269/10

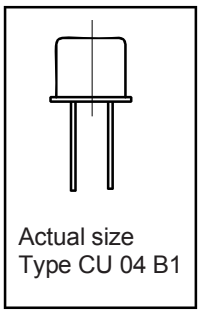
Ref.	Dimensions (mm)			Identity reference	Notes Types
	Min.	Nom.	Max.		
A	—	—	11,10		
B	—	—	5,00		
C_1	—	—	3,60	CU 02 A.	1
C_2	—	—	5,10	CU 02 B.	1
C_3	—	—	6,50	CU 02 C.	1
C_4	—	—	9,70	CU 02 D.	1
C_5	—	—	11,50	CU 02 E.	1
C_6	—	—	13,50	CU 02 F.	1
D	—	—	10,20		
E	—	—	3,80		
H	4,67	4,90	5,08		
K	0,45	—	0,55		
L_1	12,70	—	—	CU 02 .1	1
L_2	15,50	—	—	CU 02 .2	1

NOTE 1 The complete identity for any crystal unit outline is a six digit type number consisting of the basic type number (four digits) followed by a letter indicating the enclosure height and a number indicating the lead length.

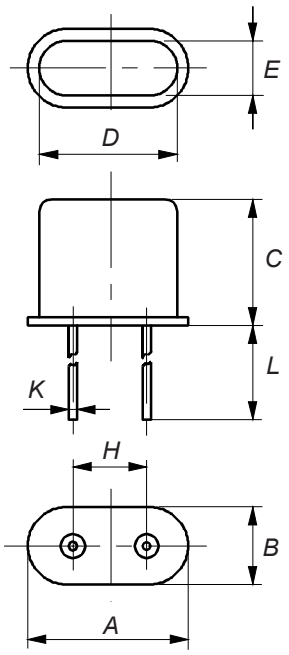
The identity references for the last two digits are given in the table, where a dot indicates the missing information, which is given on another line.

EXAMPLE CU 02 B2 is the complete for the enclosure CU 02 with the height C_2 and the length L_2.

Metal, welded, two-lead crystal unit outline for automatic handling – Type CU 02	Scale 2:1	
Sheet 13		



Actual size
Type CU 04 B1



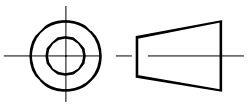
IEC 2270/10

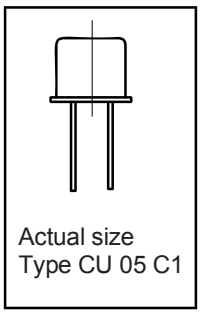
Ref.	Dimensions (mm)			Identity reference	Notes Types
	Min.	Nom.	Max.		
A	—	—	8,26		
B	—	—	3,70		
C_1	—	—	4,50	CU 04 A.	1
C_2	—	—	6,00	CU 04 B.	1
C_3	—	—	8,00	CU 04 C.	1
C_4	—	—	8,80	CU 04 D.	1
D	—	—	7,29		
E	—	—	2,60		
H	3,60	3,75	3,90		
K	0,40	—	0,48		
L_1	12,70	—	—	CU 04 .1	1

NOTE 1 The complete identity for any crystal unit outline is a six digit type number consisting of the basic type number (four digits) followed by a letter indicating the enclosure height and a number indicating the lead length.

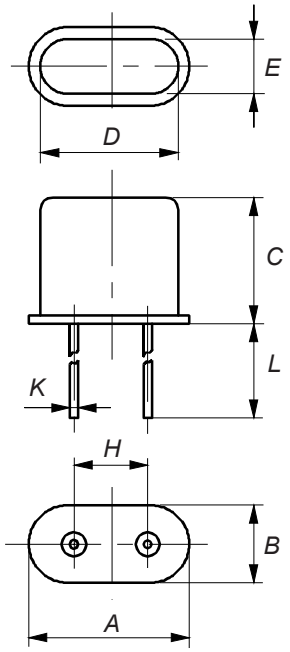
The identity references for the last two digits are given in the table, where a dot indicates the missing information, which is given on another line.

EXAMPLE CU 04 B1 is the complete for the enclosure CU 04 with the height C_2 and the length L_1.

Metal, welded, two-lead crystal unit outline for automatic handling – Type CU 04	Scale 2:1	
Sheet 14		



Actual size
Type CU 05 C1



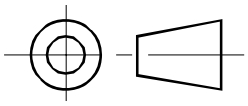
IEC 2271/10

Ref.	Dimensions (mm)			Identity reference	Notes Types
	Min.	Nom.	Max.		
A	—	—	8,26		
B	—	—	3,70		
C_1	—	—	4,50	CU 05 A.	1
C_2	—	—	6,00	CU 05 B.	1
C_3	—	—	8,00	CU 05 C.	1
D	—	—	7,29		
E	—	—	2,60		
H	3,60	3,75	3,90		
K	0,30	—	0,40		
L_1	12,70	—	—	CU 05 .1	1
L_2	15,50	—	—	CU 05 .2	1

NOTE 1 The complete identity for any crystal unit outline is a six digit type number consisting of the basic type number (four digits) followed by a letter indicating the enclosure height and a number indicating the lead length.

The identity references for the last two digits are given in the table, where a dot indicates the missing information, which is given on another line.

EXAMPLE CU 05 B1 is the complete for the enclosure CU 05 with the height C_2 and the length L_1.

Metal, welded, two-lead crystal unit outline for automatic handling – Type CU 05	Scale 2:1	
Sheet 15		

Bibliography

IEC 60122-1:2002, *Quartz crystal units of assessed quality – Part 1: Generic specification*

IEC 60122-2:1983, *Quartz crystal units for frequency control and selection – Part 2: Guide to the use of quartz crystal units for frequency control and selection*

IEC 60122-2-1:1991, *Quartz crystal units for frequency control and selection – Part 2: Guide to the use of quartz crystal units for frequency control and selection – Section One: Quartz crystal units for microprocessor clock supply*
Amendment 1 (1993)

IEC 61178-2:1993, *Quartz crystal units – A specification in the IEC Quality Assessment System for Electronic Components (IECQ) – Part 2: Sectional specification – Capability approval*

IEC 61178-2-1:1993, *Quartz crystal units – A specification in the IEC Quality Assessment System for Electronic Components (IECQ) – Part 2: Sectional specification – Capability approval – Section 1: Blank detail specification*

IEC 61178-3:1993, *Quartz crystal units – A specification in the IEC Quality Assessment System for Electronic Components (IECQ) – Part 3: Sectional specification – Qualification approval*

IEC 61178-3-1:1993, *Quartz crystal units – A specification in the IEC Quality Assessment System for Electronic Components (IECQ) – Part 3: Sectional specification – Qualification approval – Section 1: Blank detail specification*

ISO 1101:1983, *Technical drawings – Geometrical tolerancing – Tolerancing of form, orientation, location and run-out – Generalities, definitions, symbols, indications on drawings*

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