

BS EN 61837-1:2012



BSI Standards Publication

Surface mounted piezoelectric devices for frequency control and selection. Standard outlines and terminal lead connections

Part 1: Plastic moulded enclosure outlines

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National foreword

This British Standard is the UK implementation of EN 61837-1:2012. It is identical to IEC 61837-1:2012. It supersedes BS EN 61837-1:1999 which is withdrawn.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
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English version

**Surface mounted piezoelectric devices for frequency control and selection -
 Standard outlines and terminal lead connections -
 Part 1: Plastic moulded enclosure outlines
 (IEC 61837-1:2012)**

Dispositifs piézoélectriques à montage en surface pour la commande et le choix de la fréquence -
 Encombrements normalisés et connexions des sorties -
 Partie 1: Encombrements des enveloppes en plastique moulées
 (CEI 61837-1:2012)

Oberflächenmontierbare piezoelektrische Bauteile zur Frequenzstabilisierung und -selektion -
 Norm-Gehäusemaße und Anschlüsse -
 Teil 1: Kunststoffgehäuse
 (IEC 61837-1:2012)

This European Standard was approved by CENELEC on 2012-05-25. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre 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

Foreword

The text of document 49/930/CDV, future edition 2 of IEC 61837-1, 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 approved by CENELEC as EN 61837-1:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-02-25
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-05-25

This document supersedes EN 61837-1:1999.

EN 61837-1:2012 includes the following significant technical changes with respect to EN 61837-1:1999:

- one enclosure type (SIP-L5/01) has been deleted;
- configuration symbol of enclosures is currently consolidated into one as DCC (dual chip carrier).

This standard shall be read in conjunction with EN 61240:1997.

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

Endorsement notice

The text of the International Standard IEC 61837-1:2012 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

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

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 61240	1994	Piezoelectric devices - Preparation of outline drawings of surface-mounted devices (SMD) for frequency control and selection - General rules	EN 61240	1997

CONTENTS

1	Scope.....	5
2	Normative references	5
3	Configuration of enclosures	5
4	Designation of types	5
5	Plastic moulded enclosure dimensions	6
6	Lead connections	6
7	Plastic moulded enclosures	6
	Table 1 – Designation of plastic moulded enclosures	6

SURFACE MOUNTED PIEZOELECTRIC DEVICES FOR FREQUENCY CONTROL AND SELECTION – STANDARD OUTLINES AND TERMINAL LEAD CONNECTIONS –

Part 1: Plastic moulded enclosure outlines

1 Scope

This part of IEC 61837 deals with standard outlines and terminal lead connections as they apply to SMDs for frequency control and selection in plastic moulded enclosures and is based on IEC 61240.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61240: 1994, *Piezoelectric devices – Preparation of outline drawings of surface-mounted devices (SMD), for frequency control and selection – General rules*¹

3 Configuration of enclosures

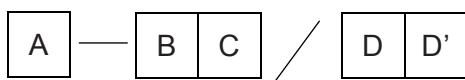
These enclosures are made of plastic moulded materials with the terminal leads based on the descriptive designation system for semiconductors, devices package.

The configuration symbols are shown as follows:

- DCC (dual chip carrier)

4 Designation of types

The designation of types is shown in four parts as follows:



A: Configuration symbol of enclosures:

- DCC (dual chip carrier);

B: Structure of terminal leads:

- J: leaded type;

C: Number of terminal leads

D: Two digit serial number

¹ A new edition is under consideration.

5 Plastic moulded enclosure dimensions

The dimensions in this standard apply to all the completed SMD-devices for frequency control and selection. Only those dimensions are given which meet the requirements of IEC 61240.

6 Lead connections

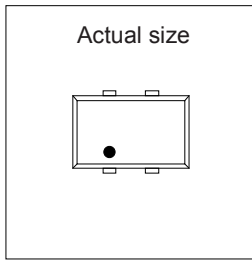
Recommendations for the lead connections of all completed SMD-devices for frequency control and selection are given in the following individual sheets. Lead connections shall always be given in the detail specification.

7 Plastic moulded enclosures

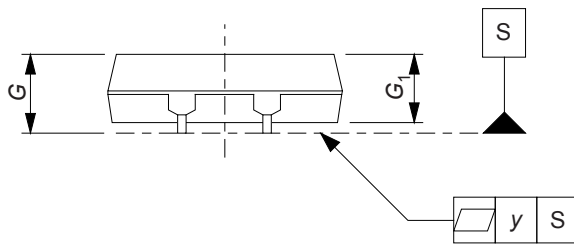
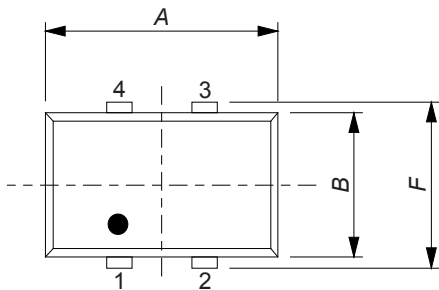
The following table sets out the designation of the plastic moulded enclosures as outlined in the ensuing specification sheets.

Table 1 – Designation of plastic moulded enclosures

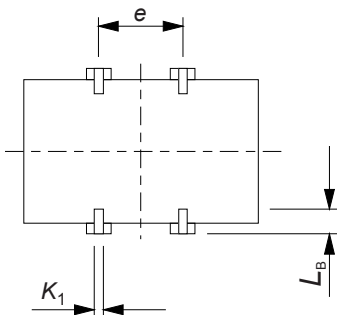
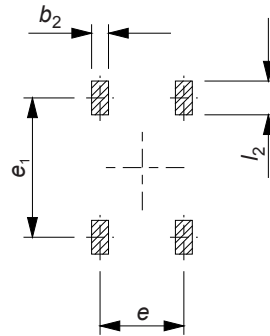
No.	Type	Sheet No.	Description
1	DCC-J4/01	Sheet 1	Plastic, moulded, four folded leads SMD outline
2	DCC-J4/02	Sheet 2	Plastic, moulded, four folded leads SMD outline
3	DCC-J4/03	Sheet 3	Plastic, moulded, four folded leads SMD outline
4	DCC-J4/04	Sheet 4	Plastic, moulded, four folded leads SMD outline
5	DCC-J4/05	Sheet 5	Plastic, moulded, four folded leads SMD outline
6	DCC-J4/06	Sheet 6	Plastic, moulded, four folded leads SMD outline
7	DCC-J4/07	Sheet 7	Plastic, moulded, four folded leads SMD outline
8	DCC-J4/08	Sheet 8	Plastic, moulded, four folded leads SMD outline



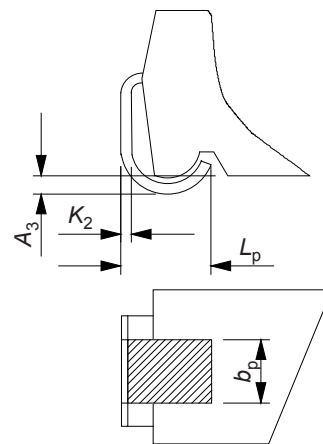
Ref.	Dimensions (mm)			Notes
	Min.	Nom.	Max.	
A			14,00	
B			8,90	
G			4,70	
G ₁			4,20	
K ₁	0,40		0,60	
K ₂	0,20		0,30	
F	9,40		9,80	
L _B	1,70		2,10	
e		5,08		
e ₁		7,62		
b ₂			0,80	
l ₂			2,30	
y			0,10	
A ₃		0,30		
b _p	0,40		0,60	
L _p	1,00		1,60	



Terminal land areas



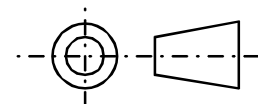
Terminal configuration



IEC 519/12

Plastic, moulded, four folded leads SMD outline, type DCC-J4/01

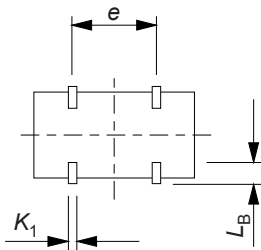
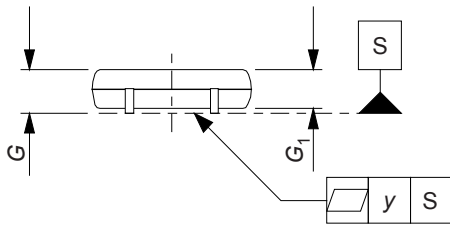
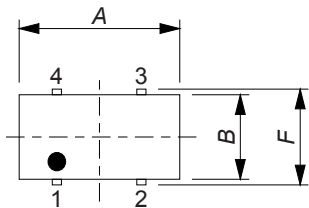
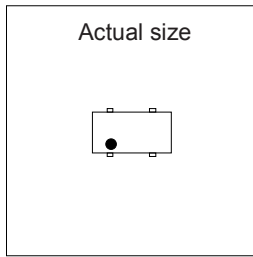
Scale 2:1



Terminal lead connections

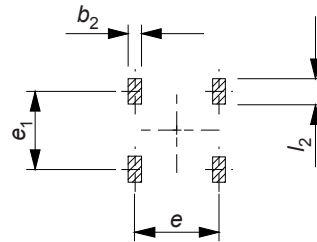
If the presence of any leads is optional, or if an enclosure is supplied with less than the maximum number of leads, this shall be indicated in the detail specification.

Type of SMD	Lead No.	Crystal unit	Crystal oscillator	Crystal filter
DCC-J4/01	1		Control voltage	
	2		Ground	
	3		Output	
	4		DC supply	

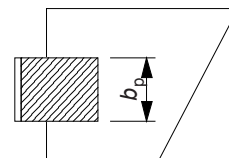
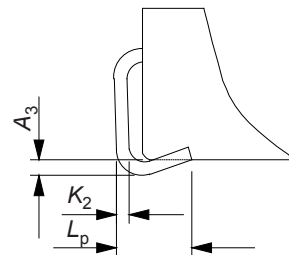


Ref.	Dimensions (mm)			Notes
	Min.	Nom.	Max.	
A			10,50	
B			5,30	
G			2,70	
G ₁			2,50	
K ₁	0,40		0,60	
K ₂	0,15		0,25	
F			5,80	
L _B	0,80		1,20	
e		5,08		
e ₁		4,60		
b ₂			0,80	
l ₂			1,40	
y			0,10	
A ₃		0,20		
b _p	0,40		0,60	
L _p	0,60		1,20	

Terminal land areas



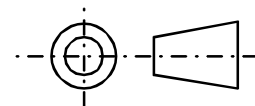
Terminal configuration



IEC 520/12

Plastic, moulded, four folded leads SMD outline, type DCC-J4/02

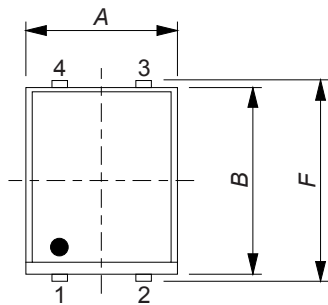
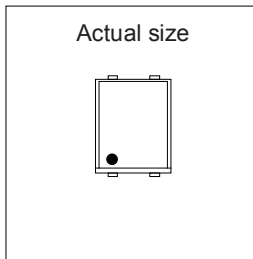
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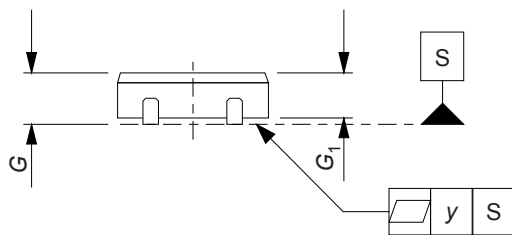
Terminal lead connections

If the presence of any leads is optional, or if an enclosure is supplied with less than the maximum number of leads, this shall be indicated in the detail specification.

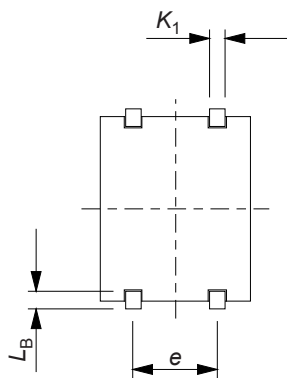
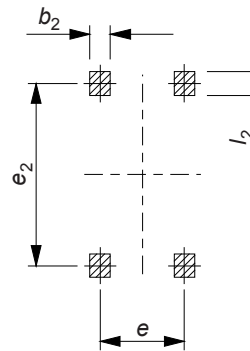
Type of SMD	Lead No.	Crystal unit	Crystal oscillator	Crystal filter
DCC-J4/02	1		Control voltage	
	2		Ground	
	3		Output	
	4		DC supply	



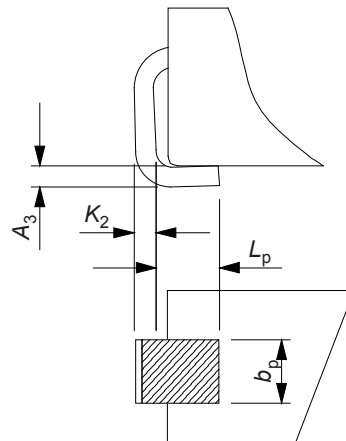
Ref.	Dimensions (mm)			Notes
	Min.	Nom.	Max.	
A			9,10	
B			11,20	
G			3,00	
G ₁			2,80	
K ₁	0,80		1,10	
K ₂	0,20		0,35	
F			12,00	
L _B	0,90		1,20	
e		5,08		
e ₂		10,70		
b ₂			1,30	
l ₂			1,40	
y			0,10	
A ₃		0,30		
b _p	0,80		1,10	
L _p	0,80		1,10	



Terminal land areas



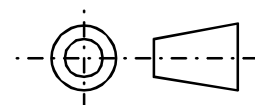
Terminal configuration



IEC 521/12

Plastic, moulded, four folded leads SMD outline, type DCC-J4/03

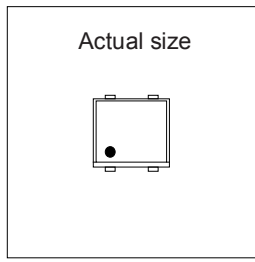
Scale
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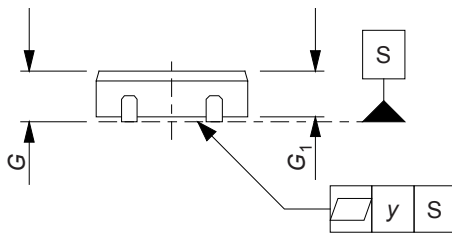
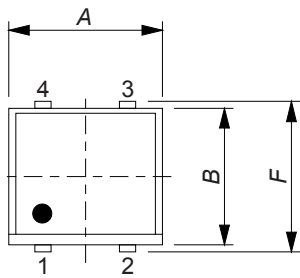
Terminal lead connections

If the presence of any leads is optional, or if an enclosure is supplied with less than the maximum number of leads, this shall be indicated in the detail specification.

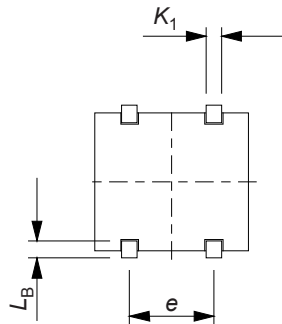
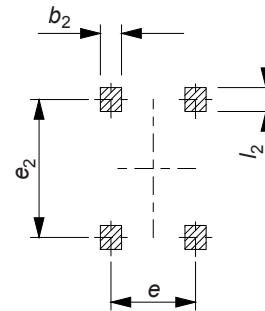
Type of SMD	Lead No.	Crystal unit	Crystal oscillator	Crystal filter
DCC-J4/03	1	Terminal 1	Control voltage	
	2	NC	Ground	
	3	NC	Output	
	4	Terminal 2	DC supply	



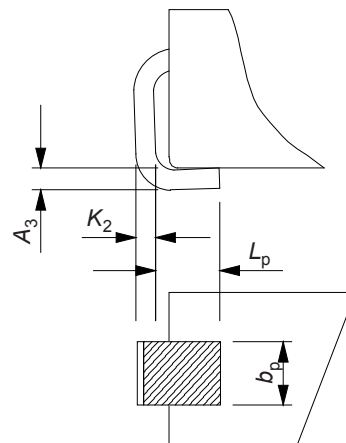
Ref.	Dimensions (mm)			Notes
	Min.	Nom.	Max.	
A			9,10	
B			8,20	
G			3,00	
G ₁			2,80	
K ₁	0,80		1,10	
K ₂	0,20		0,35	
F			10,00	
L _B	0,90		1,20	
e		5,08		
e ₂		8,70		
b ₂			1,30	
l ₂			1,40	
y			0,10	
A ₃		0,30		
b _p	0,80		1,10	
L _p	0,80		1,10	



Terminal land areas



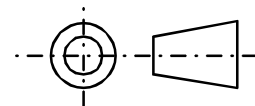
Terminal configuration



IEC 522/12

Plastic, moulded, four folded leads SMD outline, type DCC-J4/04

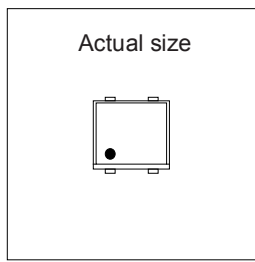
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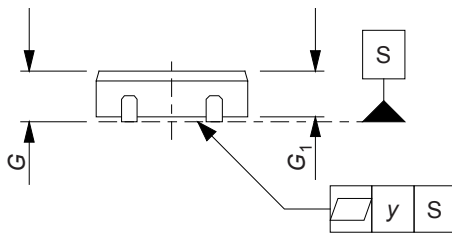
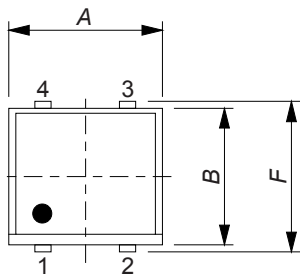
Terminal lead connections

If the presence of any leads is optional, or if an enclosure is supplied with less than the maximum number of leads, this shall be indicated in the detail specification.

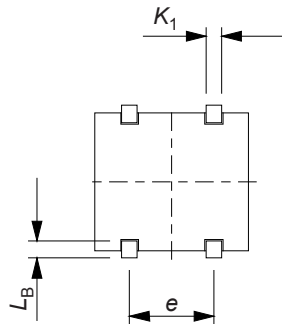
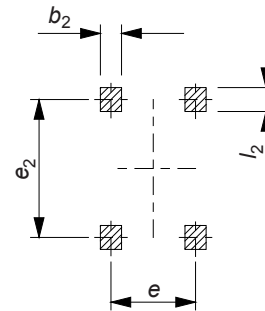
Type of SMD	Lead No.	Crystal unit	Crystal oscillator	Crystal filter
DCC-J4/04	1	Terminal 1	Control voltage	
	2	NC	Ground	
	3	NC	Output	
	4	Terminal 2	DC supply	



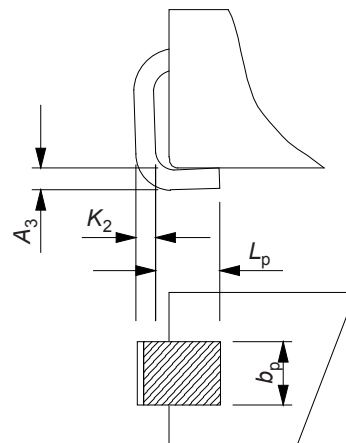
Ref.	Dimensions (mm)			Notes
	Min.	Nom.	Max.	
A			9,10	
B			8,20	
G			3,00	
G ₁			2,80	
K ₁	0,80		1,10	
K ₂	0,20		0,35	
F			9,00	
L _B	0,90		1,20	
e		5,08		
e ₂		7,70		
b ₂			1,30	
l ₂			1,40	
y			0,10	
A ₃		0,30		
b _p	0,80		1,10	
L _p	0,80		1,10	



Terminal land areas



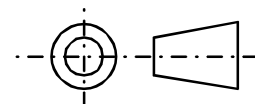
Terminal configuration



IEC 523/12

Plastic, moulded, four folded leads SMD outline, type DCC-J4/05

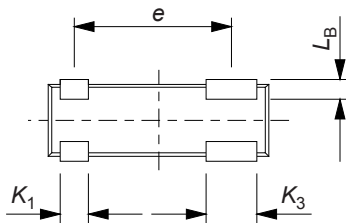
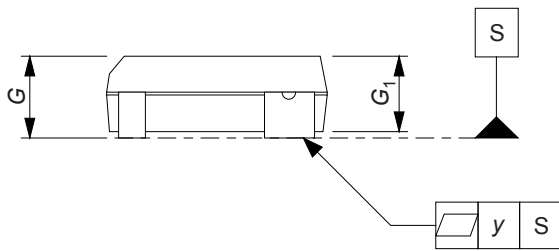
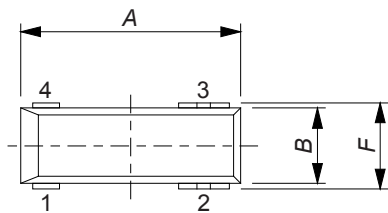
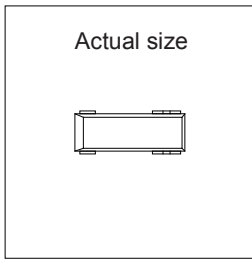
Scale
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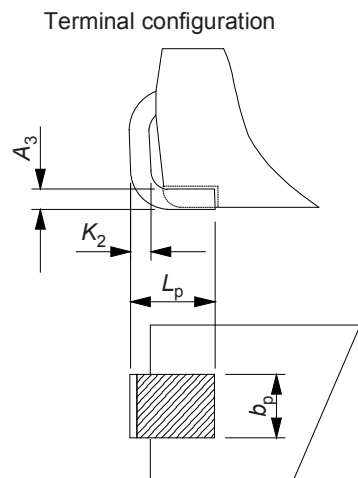
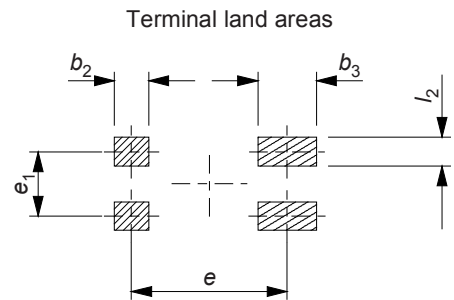
Terminal lead connections

If the presence of any leads is optional, or if an enclosure is supplied with less than the maximum number of leads, this shall be indicated in the detail specification.

Type of SMD	Lead No.	Crystal unit	Crystal oscillator	Crystal filter
DCC-J4/05	1	Terminal 1	Control voltage	
	2	NC	Ground	
	3	NC	Output	
	4	Terminal 2	DC supply	



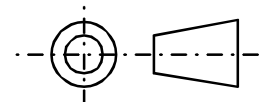
Ref.	Dimensions (mm)			Notes
	Min.	Nom.	Max.	
A			13,40	
B			4,60	
G			5,00	
G ₁			4,60	
K ₁	1,40		1,80	
K ₂	0,10		0,20	
K ₃	2,80		3,20	
F	4,60		5,10	
L _B	1,00		1,40	
e		9,40		
e ₁		3,60		
b ₂			2,00	
b ₃			3,40	
l ₂			1,60	
y			0,20	
A ₃		0,30		
b _{p1}	1,50		1,90	
b _{p2}	2,90		3,30	
L _p	1,00		1,40	



IEC 524/12

Plastic, moulded, four folded leads SMD outline, type DCC-J4/06

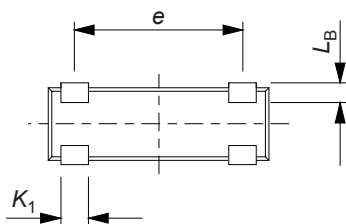
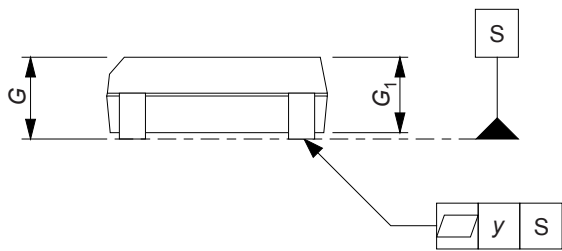
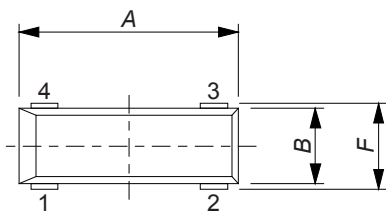
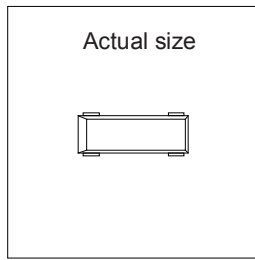
Scale 2:1



Terminal lead connections

If the presence of any leads is optional, or if an enclosure is supplied with less than the maximum number of leads, this shall be indicated in the detail specification.

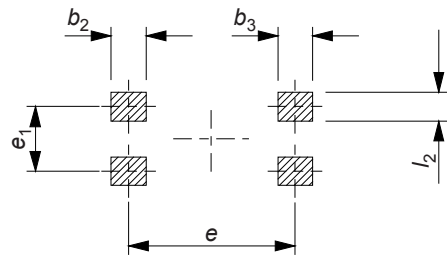
Type of SMD	Lead No.	Crystal unit	Crystal oscillator	Crystal filter
DCC-J4/06	1	Terminal 1		
	2	NC		
	3	NC		
	4	Terminal 2		



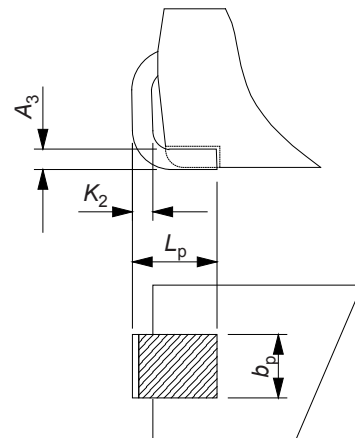
IEC 525/12

Ref.	Dimensions (mm)			Notes
	Min.	Nom.	Max.	
A			11,70	
B			4,20	
G			3,70	
G_1			3,60	
K_1	0,60		0,80	
K_2	0,10		0,20	
F	4,40		4,80	
L_B	1,00		1,40	
e		9,60		
e_1		3,40		
b_2			1,00	
b_3			1,00	
l_2			1,60	
y			0,10	
A_3		0,20		
b_p	0,60		0,80	
L_p	0,80		1,40	

Terminal land areas

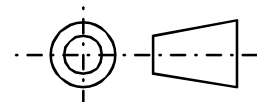


Terminal configuration



Plastic, moulded, four folded leads SMD outline, type DCC-J4/07

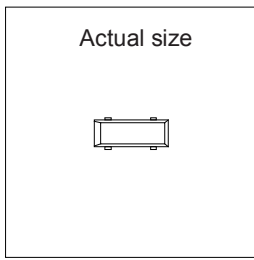
Scale 2:1



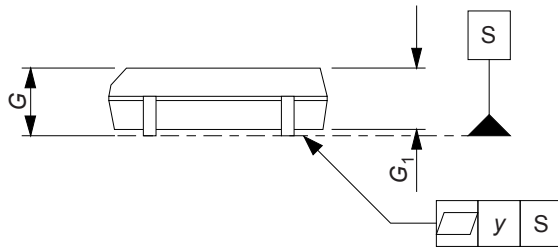
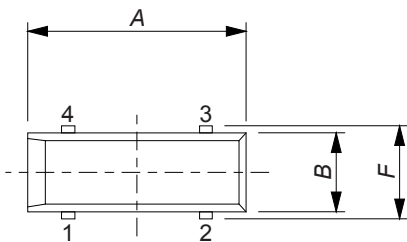
Terminal lead connections

If the presence of any leads is optional, or if an enclosure is supplied with less than the maximum number of leads, this shall be indicated in the detail specification.

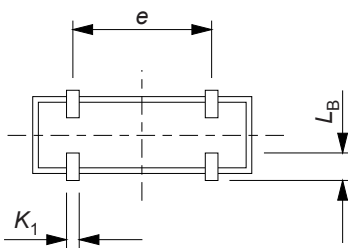
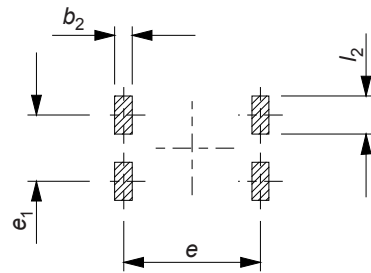
Type of SMD	Lead No.	Crystal unit	Crystal oscillator	Crystal filter
DCC-J4/07	1	Terminal 1		
	2	NC		
	3	NC		
	4	Terminal 2		



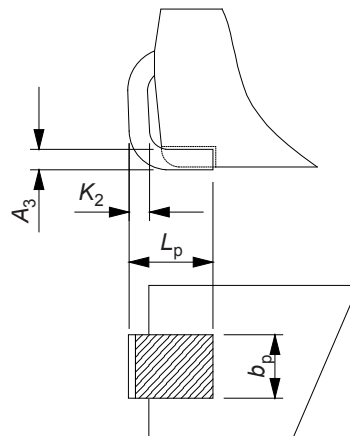
Ref.	Dimensions (mm)			Notes
	Min.	Nom.	Max.	
A			8,70	
B			3,30	
G			2,60	
G ₁			2,40	
K ₁	0,40		0,60	
K ₂	0,10		0,20	
F	3,40		3,80	
L _B	0,70		1,10	
e		5,50		
e ₁		2,70		
b ₂			0,80	
l ₂			1,30	
y			0,10	
A ₃		0,15		
b _p	0,40		0,60	
L _p	0,60		1,10	



Terminal land areas



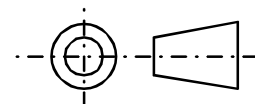
Terminal configuration



IEC 526/12

Plastic, moulded, four folded leads SMD outline, type DCC-J4/08

Scale
3:1



Terminal lead connections

If the presence of any leads is optional, or if an enclosure is supplied with less than the maximum number of leads, this shall be indicated in the detail specification.

Type of SMD	Lead No.	Crystal unit	Crystal oscillator	Crystal filter
DCC-J4/08	1	Terminal 1		
	2	NC		
	3	NC		
	4	Terminal 2		

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