

Zertifikat

Certificate



Zertifikat Nr. *Certificate No.*
R 60166537

Blatt *Sheet*
0001

Ihr Zeichen *Client Reference*

Unser Zeichen *Our Reference*

Ausstellungsdatum

Date of Issue

0001-T.W.-HU224WLK 001

20.12.2022

(day/mo/yr)

Genehmigungsinhaber *License Holder*

Knowles (UK) Ltd
Hethel Engineering Centre,
Chapman Way, Hethel,
Norwich, Norfolk,
NR14 8FB
United Kingdom

Fertigungsstätte *Manufacturing Plant*

Knowles Electronics
(Suzhou) Co. Ltd.
No 20 Chunxing Road
Xiangcheng District
215131 Suzhou
P.R. China

Prüfzeichen *Test Mark*



Type Approved
Safety
Regular Production
Surveillance

www.tuv.com
ID 1111261162

Geprüft nach *Tested acc. to*

EN 60384-14:2013+A1

**Zertifiziertes Produkt (Geräteidentifikation)
*Certified Product (Product Identification)***

**Lizenzentgelte - Einheit
*License Fee - Unit***

Capacitor X7R Ceramic Chip Capacitor

Model / Type designation:

1808bA25ddddddefgSYS; 1812bA25ddddddefgSYS; 2220bA30ddddddefgS3X

For detailed type nomenclature see Annex 1.

Ratings:

Syfer family code	Class	Size	Capacitor range
1808bA25ddddddefgSYS	Y2/X1	1808	82pF - 1,8nF
1812bA25ddddddefgSYS	Y2/X1	1812	100pF - 3,9nF
2220bA30ddddddefgS3X	X2	2220	10nF - 56nF

Rated voltage: 250 Vac / 305 Vac / 1 kVdc for 1808 and 1812
305 Vac / 1 kVdc for 2220

Frequency: 50 Hz / 60 Hz

Dielectric: X7R

Type code: SYS for 1808 and 1812
S3X for 2220

Replaces certificate: R 60153664 0001.

ANLAGE (Appendix): Annex 1 - Techn.data

Dem Zertifikat liegt unsere Prüf- und Zertifizierungsordnung zugrunde und es bestätigt die Konformität des Produktes mit den oben genannten Standards und Prüfgrundlagen. Zusätzliche Anforderungen in Ländern, in denen das Produkt in Verkehr gebracht werden soll, müssen zusätzlich betrachtet werden. Die Herstellung des zertifizierten Produktes wird überwacht.
This certificate is based on our Testing and Certification Regulation and states the conformity of the product with the standards and testing requirements as indicated above. Any additional requirements in countries where the product is going to be marketed have to be considered additionally. The manufacturing of the certified product is subject to surveillance.

TÜV Rheinland LGA Products GmbH, Tillystraße 2, 90431 Nürnberg

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Zertifizierungsstelle



Gergely Bakos

Zertifikat / Certificate
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Ihr Zeichen / Client Reference 1723920 **Unser Zeichen / Our Reference** HU224WLK 001 **Ausstellungsdatum / Date of issue** 2022-12-20

Technische Daten / Technical data

List of model variants and their ratings (keys for the type designation):

1808bA25ddddddefgSYS; 1812bA25ddddddefgSYS:

Ordering Information

Example: 1808 Y A25 0102 K J T SYS ***

Type No/Size ref _____
Protection _____
SYS = 305 Vac X1, 250Vac Y2 Safety
Surge tested capacitors qualified only for use
in equipment within the scope of IEC62368

Termination
Y: **FlexiCap™** termination base
with Ni Barrier (100% matte tin
plating). RoHS compliant. _____
Packaging
T: 178mm (7") reel
R: 330mm (13") reel
H: **FlexiCap™** termination base
with Ni Barrier (Tin/ Lead plating
with min 10% Lead). _____
B: Bulk pack - tubs

J: Silver base with Nickel Barrier

Dielectric/ Release codes
J: X7R S: X7R AECQ
G: COG K: COG AECQ

(100% Matte Tin Plating). RoHS
compliant.

A: Silver base with Nickel Barrier

(Tin/ Lead Plating with min 10%
Lead)

Capacitance Tolerance code

Stable class (X7R)		Ultra stable (COG)	
± 5%	J	± 0.10 pF	B
± 10%	K	± 0.25 pF	C
± 20%	M	± 0.50 pF	D
		± 1%	F
		± 5%	G
		± 10%	J
		± 20%	K

Voltage: A25 = 250Vac (Y2)/305Vac X2

Capacitance Value

- First digit - 0 (or if cap < 10pF first significant figure of cap value)
- Second digit - First significant figure of capacitance value (or if cap < 10pF "P" to signify units of picofarads)
- Third digit - Second significant figure of capacitance value
- Fourth digit - Number of zeros following. eg. 0102 = 1000pF

*** Represents a three-character suffix code, which will be allocated by Knowles when needed for specific customer requirements. This does not change the specifications defined hereon, complies with Knowles safety capacitor requirements and also is in accordance with IEC 60384-14

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2220bA30ddddddefgS3X:

Ordering Information

Example: 2220 Y A30 0102 K J T S3X ***

Type No/Size ref _____
Protection _____
Termination _____

- Y: **FlexiCap™** termination base with Ni Barrier (100% matte tin plating). RoHS compliant.
- H: **FlexiCap™** termination base with Ni Barrier (Tin/ Lead plating with min 10% Lead).
- J: Silver base with Nickel Barrier (100% Matte Tin Plating). RoHS compliant.

A: Silver base with Nickel Barrier (Tin/ Lead Plating with min 10% Lead)

Voltage: A30 = 305Vac (X2)

Capacitance Value _____

- First digit - 0 (or if cap < 10pF first significant figure of cap value)
- Second digit - First significant figure of capacitance value (or if cap < 10pF "P" to signify units of picofarads)
- Third digit - Second significant figure of capacitance value
- Fourth digit - Number of zeros following. eg. 0102 = 1000Pf

*** Represents a three-character suffix code, which will be allocated by Knowles when needed for specific customer requirements. This does not change the specifications defined hereon, complies with Knowles safety capacitor requirements and also is in accordance with IEC 60384-14

S3X = 305Vac X2 Safety tested Surge capacitors.

Packaging
T: 178mm (7") reel
R: 330mm (13") reel
B: Bulk pack - tubs

Dielectric/ Release codes
J: X7R S: X7R AECQ
G: C0G K: C0G AECQ

Capacitance Tolerance code

Stable class (X7R)		Ultra stable (C0G)	
± 5%	J	± 0.10 pF	B
± 10%	K	± 0.25 pF	C
± 20%	M	± 0.50 pF	D
		± 1%	F
		± 5%	G
		± 10%	J
		± 20%	K