

Zertifikat *Certificate*

Zertifikatsnummer Certificate No.:

R 60188126 0001

Berichtsnummer Report No.:

HU26JA7Y 002

Genehmigungsinhaber License Holder:

Novacap, LLC
25111 Anza Drive
Valencia CA 91355
USA

Fertigungsstätte Manufacturing Site:

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

Prüfzeichen Test Mark:

Geprüft nach Tested according to:

EN IEC 60384-14:2023

Geräteidentifikation
Product Identification
Produkt:

Capacitor

Product:

(Multi-Layer Ceramic Capacitor)

Modell:

Modelle sind auf nächste(r) Seite(n) gelistet

Type:

Type designation(s) are listed on the next page(s)

Technische Daten:

Rated voltage.....: 250 V a.c. or
250 V a.c./250 V a.c.
Rated frequency.....: 50/60 Hz
Dielectric class....: Class II (X7R)
Type code.....: LS or ES
Class.....: X1 or X2 or Y2/X1

Technical Data:

Trademark.....: knowles, NOVACAP

Gültig ab:
Valid from:
Zertifizierungsstelle:
Certification body:
Ausstellungsdatum: 2026-06-29

Date of issue:

Mózes Tibor



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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Precisely Right.

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Produkt *Product:*

Capacitor
(Multi-Layer Ceramic Capacitor)

Modell *Type:*

Bezeichnung *Designation:*

X2: LS1808Baaab302NcdM

X1: ES1808Baaab502NcdM

Y2/X1: ES2211Baaab502NcdM

Type nomenclature

LS 1808 B aaa b ccc N d e M, where

- "LS" is the Style, means: X2
- "1808" is the Case size.
- "B" is the Dielectric, means: X7R
- "aaa" means the Capacitance value (in pF), can be:
 - Two significant figures • Number of zeros
 - (e.g. 121 = 120 pF)
- "b" means the Capacitance tolerance, can be:
 - J, means: $\pm 5\%$ • K, means: $\pm 10\%$ • M, means: $\pm 20\%$
- "ccc" means the Voltage surge (in V), can be:
 - Two significant figures • Number of zeros
 - (e.g. 302 = 3000 V)
- "N" is the Termination, means: Nickel Barrier
- "d" means the Thickness, can be:
 - Blank, means: standard thickness
 - X, means special thickness:
 - X080 = 0.08" • X100 = 0.10"
 - X110 = 0.11" • X150 = 0.15"
- "e" means the Packaging, can be:
 - No suffix, means: Bulk • T, means: Tape & Reel
- "M" is the Marking code, means NLS (X2)
(Marking code to consist of Novacap logo (N), and LS to define the class.)

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Capacitor
(Multi-Layer Ceramic Capacitor)

Modell *Type:*

Bezeichnung *Designation:*

ES 1808 B aaa b ccc N d e M, where

- "ES" is the Style, means: X1
- "1808" is the Case size.
- "B" is the Dielectric, means: X7R
- "aaa" means the Capacitance value (in pF), can be:
 - Two significant figures • Number of zeros
 - (e.g. 121 = 120 pF)
- "b" means the Capacitance tolerance, can be:
 - J, means: $\pm 5\%$ • K, means: $\pm 10\%$ • M, means: $\pm 20\%$
- "ccc" means the Voltage surge (in V), can be:
 - Two significant figures • Number of zeros
 - (e.g. 302 = 3000 V)
- "N" is the Termination, means: Nickel Barrier
- "d" means the Thickness, can be:
 - Blank, means: standard thickness
 - X, means special thickness:
 - X080 = 0.08" • X100 = 0.10"
 - X110 = 0.11" • X150 = 0.15"
- "e" means the Packaging, can be:
 - No suffix, means: Bulk • T, means: Tape & Reel
- "M" is the Marking code, means NY2 (X1)
(Marking code to consist of Novacap logo (N), and Y2 to define the class.)

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(Multi-Layer Ceramic Capacitor)

Modell *Type:*

Bezeichnung *Designation:*

ES 2211 B aaa b ccc N d e M, where

- "ES" is the Style, means: Y2, X1
- "2211" is the Case size.
- "B" is the Dielectric, means: X7R
- "aaa" means the Capacitance value (in pF), can be:
 - Two significant figures
 - Number of zeros
 - (e.g. 391 = 390 pF)
- "b" means the Capacitance tolerance, can be:
 - J, means: $\pm 5\%$
 - K, means: $\pm 10\%$
 - M, means: $\pm 20\%$
- "ccc" means the Voltage surge (in V), can be:
 - Two significant figures
 - Number of zeros
 - (e.g. 502 = 5000 V)
- "N" is the Termination, means: Nickel Barrier
- "d" means the Thickness, can be:
 - Blank, means: standard thickness
 - X, means special thickness:
 - X080 = 0.08"
 - X100 = 0.10"
 - X110 = 0.11"
 - X150 = 0.15"
- "e" means the Packaging, can be:
 - No suffix, means: Bulk
 - T, means: Tape & Reel
- "M" is the Marking code, means NY2 (Y2, X1)
(Marking code to consist of Novacap logo (N), and Y2 to define the class.)

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 (Multi-Layer Ceramic Capacitor)

Modell *Type:*
Bezeichnung *Designation:*
Detailed ratings

Type designation	Rated voltage (UR)	Type code	Class	Capacitance range
LS1808	250 V a.c.	LS	X2	150 pF - 4,7 nF
ES1808	250 V a.c.	ES	X1	150 pF - 1,5 nF
ES2211	250 V a.c. / 250 V a.c.	ES	Y2/X1	100 pF - 3,9 nF

