August 2026

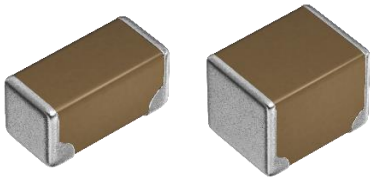
MULTILAYER CERAMIC CHIP CAPACITORS

Automotive grade, soft termination (Low resistance type)

CNA series

CNA5 3216 [CC1206]
CNA6 3225 [CC1210]

Dimensions code: JIS [EIA]



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REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using this products.

REMINDERS

1. The products listed in this specification are intended for use in automotive applications under normal operation and usage conditions. The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality requires a more stringent level of safety or reliability, or whose failure, malfunction or defect could cause serious damage to society, person or property.
Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet. If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in this specification, please contact us.

(1) Aerospace/aviation equipment
(2) Transportation equipment (electric trains, ships, etc.)
(3) Medical equipment (excepting Pharmaceutical Affairs
(4) Power-generation control equipment
(5) Atomic energy-related equipment
(6) Seabed equipment
(7) Transportation control equipment
(8) Public information-processing equipment
(9) Military equipment
(10) Electric heating apparatus, burning equipment
(11) Disaster prevention/crime prevention equipment
(12) Safety equipment
(13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

In addition, although the products listed in this specification are intended for use in automotive applications as described above, they are not prohibited to use in general electronic equipment, whose performance and/or quality doesn't require a more stringent level of safety or reliability, or whose failure, malfunction or defect could not cause serious damage to society, person or property. Therefore, the description of this caution will be applied, when the products are used in general electronic equipment under a normal operation and usage conditions.

2. We may modify products or discontinue production of a product listed in this catalog without prior notification.

3. We provide "Delivery Specification" that explain precautions for the specifications and safety of each product listed in this catalog. We strongly recommend that you exchange these delivery specifications with customers that use one of these products.

4. If you plan to export a product listed in this catalog, keep in mind that it may be a restricted item according to the "Foreign Exchange" and "Foreign Trade Control Law". In such cases, it is necessary to acquire export permission in harmony with this law.

5. Any reproduction or transferring of the contents of this catalog is prohibited without prior permission from our company.

6. We are not responsible for problems that occur related to the intellectual property rights or other rights of our company or a third party when you use a product listed in this catalog. We do not grant license of these rights.

7. This catalog only applies to products purchased through our company or one of our company's official agencies. This catalog does not apply to products that are purchased through other third parties.

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CNA series

Soft termination (Low resistance type)

Type: CNA5: 3216 [CC1206], CNA6: 3225 [CC1210]

SERIES OVERVIEW

CNA series is a product incorporating conductive resin layers into the terminal electrodes. Because the resin layers relieve mechanical stress caused by board flexure, the ceramic body is protected from cracks. In addition, unlike conventional soft termination CGA series whose whole terminal electrodes are covered with the resin layers, the resin layers are covering only a board mounting side. This structure allows electric current to pass outside the resin layers, and so electrical resistance has been reduced. CNA series is a TDK's original product.

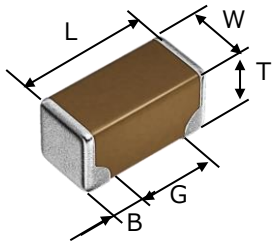
FEATURES

- Achieves both high reliability and low resistance by the original structure
- Relieves mechanical stress caused by board flexure
- Qualified based on AEC-Q200

APPLICATIONS

- Fail-safe design in battery line
- Prevention of ceramic body cracks by board bending

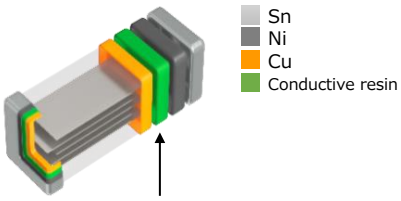
SHAPE & DIMENSIONS



L	Product length
W	Product width
T	Product thickness
B	Terminal width
G	Terminal spacing

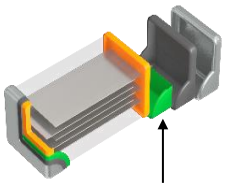
ELECTRODE STRUCTURE DRAWING

Soft termination
(Conventional type)



The conductive resin layer covers entire surface of the termination.

Soft termination
(Low resistance type)



The conductive resin layer covers only board mounting side.

Dimensions in mm

Type	L	W	T	B	G
CNA5	3.20+0.30,-0.20	1.60+0.30,-0.20	1.60+0.30,-0.20	0.30 min.	1.00 min.
CNA6	3.20±0.30	2.50±0.20	2.50±0.20	0.50 min.	---
		2.50±0.30	2.50±0.30		
	3.20+0.40,-0.30	2.50+0.40,-0.30	2.50+0.40,-0.30		
	3.20+0.50,-0.30				

Dimensional tolerances are typical values. Please check the actual values on the product page of the website.

- Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
- Please note that the contents may change without any prior notice due to reasons such as upgrading.

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CATALOG NUMBER CONSTRUCTION

CNA	6	P	1	X7S	1A	476	M	250	A	E
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(1) Series

(2) Dimensions code

Dimensions code	EIA	Length	Width	Terminal width
5	CC1206	3.20	1.60	0.30
6	CC1210	3.20	2.50	0.50

Dimensions are typical values.

(3) Thickness code

Code	Nominal thickness
L	1.60 mm
P	2.50 mm

(4) Voltage condition for life test

Code	Condition
1	1 x R.V.
4	1.2 x R.V.

(5) Temperature characteristics

Temperature characteristics	Temperature coefficient or capacitance change	Temperature range
NP0	0±30 ppm/℃	-55 to +150 ℃
C0G	0±30 ppm/℃	-55 to +125 ℃
X7R	±15%	
X7S	±22%	

(6) Rated voltage (DC)

Code	Voltage (DC)
1A	10 V
1C	16 V
1E	25 V
1H	50 V
1N	75 V
2A	100 V

(7) Nominal capacitance (pF)

The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.

(Example) 0R5 = 0.5 pF
101 = 100 pF
225 = 2,200,000 pF = 2.2 μF

(8) Capacitance tolerance

Code	Tolerance
G	±2%
J	±5%
K	±10%
M	±20%

(9) Nominal thickness

Code	Nominal thickness
160	1.60 mm
250	2.50 mm

(10) Packaging style

Code	Style
A	178 mm reel, 4 mm pitch

(11) Special reserved code

Code	Description
E	Soft termination

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Capacitance range chart — CNA5: 3216 [CC1206]

Capacitance		X7R				X7S
(pF)	Code	1N (75V)	1H (50V)	1E (25V)	1C (16V)	1A (10V)
2,200,000	225					
4,700,000	475					
10,000,000	106					
22,000,000	226					

Nominal thickness 1.60 mm

・Click the charts for details.
・For details such as the catalog numbers, please refer to the capacitance range table on page 6.

Capacitance range chart — CNA6: 3225 [CC1210]

Capacitance		C0G			NP0	X7R			X7S
(pF)	Code	3B (1,250V)	3A (1,000V)	2J (630V)	2J (630V)	2A (100V)	1H (50V)	1E (25V)	1A (10V)
8,200	822								
10,000	103								
12,000	123								
15,000	153								
18,000	183								
22,000	223								
33,000	333								
4,700,000	475								
10,000,000	106								
22,000,000	226								
47,000,000	476								

Nominal thickness 2.50 mm

・Click the charts for details.
・For details such as the catalog numbers, please refer to the capacitance range table on page 6.

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Capacitance range table — C0G (-55 to +125°C, 0±30 ppm/℃)

Capacitance	Size	Thickness (mm)	Cap Tolerance	Catalog numbers		
				Rated voltage: DC1250V	Rated voltage: DC1000V	Rated voltage: DC630V
8.2 nF	3225	2.50+0.40,-0.30	±2%	CNA6P1C0G3B822G250AE		
			±5%	CNA6P1C0G3B822J250AE		
10 nF	3225	2.50+0.40,-0.30	±2%	CNA6P1C0G3B103G250AE	CNA6P1C0G3A103G250AE	
			±5%	CNA6P1C0G3B103J250AE	CNA6P1C0G3A103J250AE	
12 nF	3225	2.50+0.40,-0.30	±2%		CNA6P1C0G3A123G250AE	
			±5%		CNA6P1C0G3A123J250AE	
15 nF	3225	2.50+0.40,-0.30	±2%		CNA6P1C0G3A153G250AE	
			±5%		CNA6P1C0G3A153J250AE	
18 nF	3225	2.50+0.40,-0.30	±2%		CNA6P1C0G3A183G250AE	
			±5%		CNA6P1C0G3A183J250AE	
22 nF	3225	2.50+0.40,-0.30	±2%		CNA6P1C0G3A223G250AE	
			±5%		CNA6P1C0G3A223J250AE	
33 nF	3225	2.50+0.40,-0.30	±2%			CNA6P4C0G2J333G250AE
			±5%			CNA6P4C0G2J333J250AE

・Click the catalog numbers for details.

Capacitance range table — NP0 (-55 to +150°C, 0±30 ppm/℃)

Capacitance	Size	Thickness (mm)	Cap Tolerance	Catalog numbers
				Rated voltage: DC630V
33 nF	3225	2.50+0.40,-0.30	±2%	CNA6P4NP02J333G250AE
			±5%	CNA6P4NP02J333J250AE

・Click the catalog numbers for details.

Capacitance range table — X7R (-55 to +125°C, ±15%)

Capacitance	Size	Thickness (mm)	Cap Tolerance	Catalog numbers		
				Rated voltage: DC100V	Rated voltage: DC75V	Rated voltage: DC50V
2.2 µF	3216	1.60+0.30,-0.20	±10%		CNA5L1X7R1N225K160AE	CNA5L1X7R1H225K160AE
4.7 µF	3216	1.60+0.30,-0.20	±10%			CNA5L1X7R1H475K160AE
	3225	2.50±0.30	±10%	CNA6P1X7R2A475K250AE		CNA6P1X7R1H475K250AE
10 µF	3225	2.50+0.40,-0.30	±10%	CNA6P1X7R2A106K250AE		
		2.50±0.20	±10%			CNA6P1X7R1H106K250AE

・Click the catalog numbers for details.

Capacitance	Size	Thickness (mm)	Cap Tolerance	Catalog numbers	
				Rated voltage: DC25V	Rated voltage: DC16V
10 µF	3216	1.60+0.30,-0.20	±10%	CNA5L1X7R1E106K160AE	CNA5L1X7R1C106K160AE
22 µF	3225	2.50±0.30	±20%	CNA6P1X7R1E226M250AE	

・Click the catalog numbers for details.

Capacitance range table — X7S (-55 to +125°C, ±22%)

Capacitance	Size	Thickness (mm)	Cap Tolerance	Catalog numbers
				Rated voltage: DC10V
22 µF	3216	1.60+0.30,-0.20	±20%	CNA5L1X7S1A226M160AE
47 µF	3225	2.50±0.30	±20%	CNA6P1X7S1A476M250AE

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