

# Disc Type Capacitors with Lead

## High Voltage Ceramic Capacitors Commercial Grade

### CK45 series

Issue date: February 2013

- All specifications are subject to change without notice.
  - Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.
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# Disc Type Capacitors with Lead

Conformity to RoHS Directive

## High Voltage Ceramic Capacitors Commercial Grade

### CK45 Series

#### FEATURES

- High voltage ceramic capacitors series higher reliability has been achieved through the use of TDK original dielectric and copper for electrode material due to nice matching of the ceramic dielectrics material for copper for electrode.
- These products shall conform to RoHS Directive due to lead(Pb) free of lead wire and internal solder material.
- Compatible with halogen-free external resin coating.

#### OPERATING TEMPERATURE RANGE: -25 to +105°C

(The maximum operating temperature of 105°C includes capacitor self-generated heat of up to 20°C.)



#### PRODUCT IDENTIFICATION

CK	45	-B	3AD	102	K	Y	N	N	A
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

- (1) Type
- (2) Shape
- (3) Temperature characteristics
- (4) Rated voltage
- (5) Nominal capacitance
- (6) Capacitance tolerance
- (7) Class
- (8) Lead type
- (9) General use
- (10) Halogen-free compatible product

#### TEMPERATURE CHARACTERISTICS AND TOLERANCE

Temperature characteristics	Test temperature range	Capacitance tolerance
B ( $\pm 10\%$ )	-25 to +85°C	K ( $\pm 10\%$ )
E (+20, -55%)	-25 to +85°C	Z (+80, -20%)

#### CAPACITANCE AND DIMENSIONS

##### TEMPERATURE CHARACTERISTICS: B ( $\pm 10\%$ )

RATED VOLTAGE Edc: 1kV

Part No.	Capacitance (pF)	Dimensions (mm)				Taping dimensions
		D max.	T max.	F	d	
CK45-B3AD101KY□*NA	100	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3AD151KY□*NA	150	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3AD221KY□*NA	220	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3AD331KY□*NA	330	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3AD471KY□*NA	470	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3AD681KY□*NA	680	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3AD102KY□*NA	1,000	6.0	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3AD152KY□*NA	1,500	7.0	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3AD222KY□*NA	2,200	8.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3AD332KY□*NA	3,300	9.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3AD472KY□*NA	4,700	11.0	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1

\* □ : Lead shape symbol

RATED VOLTAGE Edc: 2kV

Part No.	Capacitance (pF)	Dimensions (mm)				Taping dimensions
		D max.	T max.	F	d	
CK45-B3DD101KY□*NA	100	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3DD151KY□*NA	150	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3DD221KY□*NA	220	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3DD331KY□*NA	330	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3DD471KY□*NA	470	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3DD681KY□*NA	680	6.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3DD102KY□*NA	1,000	7.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3DD152KY□*NA	1,500	8.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3DD222KY□*NA	2,200	10.0	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-B3DD332KY□*NA	3,300	11.5	5.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-B3DD472KY□*NA	4,700	14.0	5.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2

\* □ : Lead shape symbol

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## CAPACITANCE AND DIMENSIONS

### TEMPERATURE CHARACTERISTICS: B ( $\pm 10\%$ )

RATED VOLTAGE E<sub>dc</sub>: 3kV

Part No.	Capacitance (pF)	Dimensions (mm)		F	d	Taping dimensions
		D max.	T max.			
CK45-B3FD101KY□*NA	100	5.5	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-B3FD151KY□NA	150	5.5	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-B3FD221KY□NA	220	5.5	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-B3FD331KY□NA	330	6.5	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-B3FD471KY□NA	470	7.0	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-B3FD681KY□NA	680	8.0	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-B3FD102KY□NA	1,000	9.0	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-B3FD152KY□NA	1,500	10.5	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-B3FD222KY□NA	2,200	12.5	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2

\* □ : Lead shape symbol

### TEMPERATURE CHARACTERISTICS: E (+20, -55%)

RATED VOLTAGE E<sub>dc</sub>: 1kV

Part No.	Capacitance (pF)	Dimensions (mm)		F	d	Taping dimensions
		D max.	T max.			
CK45-E3AD471ZY□*NA	470	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-E3AD102ZY□NA	1,000	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-E3AD222ZY□NA	2,200	6.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-E3AD472ZY□NA	4,700	8.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-E3AD103ZY□NA	10,000	11.5	5.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2

\* □ : Lead shape symbol

RATED VOLTAGE E<sub>dc</sub>: 2kV

Part No.	Capacitance (pF)	Dimensions (mm)		F	d	Taping dimensions
		D max.	T max.			
CK45-E3DD471ZY□*NA	470	5.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-E3DD102ZY□NA	1,000	6.0	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-E3DD222ZY□NA	2,200	8.0	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-E3DD472ZY□NA	4,700	10.5	5.0	5.0 $\pm$ 1.5	0.6 $\pm$ 0.05	V1
CK45-E3DD103ZY□NA	10,000	14.5	5.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V3

\* □ : Lead shape symbol

RATED VOLTAGE E<sub>dc</sub>: 3kV

Part No.	Capacitance (pF)	Dimensions (mm)		F	d	Taping dimensions
		D max.	T max.			
CK45-E3FD471ZY□*NA	470	6.0	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-E3FD102ZY□NA	1,000	7.5	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-E3FD222ZY□NA	2,200	9.5	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2
CK45-E3FD472ZY□NA	4,700	12.5	6.0	7.5 $\pm$ 1.5	0.6 $\pm$ 0.05	V2

\* □ : Lead shape symbol

## LIST OF STANDARD LEAD SHAPES

The lead type is indicated by the letter which is the 15th character of the product name.

Example) TDK Product Name: **CK45-B3AD102KYNNNA**

└─N: Lead type (Vertical kink, Short)

	Long lead Symbol G	Short lead Symbol N	Taping Symbol V
Vertical kink			

- We recommend using a vertical kink type.
- For bulk products, we recommend a short lead type with the symbol N.