Mid-high Voltage Ceramic Capacitors

Disk type with lead
General use

CK45 series

Issue date: February 2011

- 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.

TDK

Mid-high Voltage Ceramic Capacitors(Disk with Lead) General Use CK45 Series

Conformity to RoHS Directive

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.

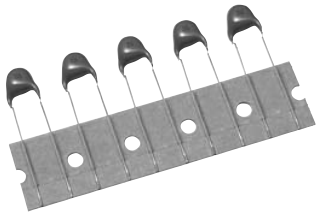
OPERATING TEMPERATURE RANGE: –25 to +105°C

(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
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

(1) Type
(2) Shape
(3) Capacitance temperature characteristics
(4) Rated voltage
(5) Nominal capacitance
(6) Capacitance tolerance
(7) Class
(8) Lead type
(9) General use



CAPACITANCE TEMPERATURE CHARACTERISTICS AND TOLERANCE

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

CAPACITANCE AND DIMENSIONS

TEMPERATURE CHARACTERISTICS: B(±10%)

RATED VOLTAGE Edc: 1kV

Part No.	Capacitance (pF)	Dimensions (mm)			Taping dimensions
		D max.	T max.	F	
CK45-B3AD101KY☐*N to CK45-B3AD681KY☐N	100, 150, 220, 330, 470, 680	5.5	5	5±1.5	V1
CK45-B3AD102KY☐N	1,000	6	5	5±1.5	V1
CK45-B3AD152KY☐N	1,500	7	5	5±1.5	V1
CK45-B3AD222KY☐N	2,200	8.5	5	5±1.5	V1
CK45-B3AD332KY☐N	3,300	9.5	5	5±1.5	V1
CK45-B3AD472KY☐N	4,700	11	5	5±1.5	V1
CK45-B3AD682KY☐N	6,800	13	5	7.5±1.5	V2
CK45-B3AD103KY☐N	10,000	15	5	7.5±1.5	V3

* ☐ : Lead shape symbol
• 1kV and 2kV are E6 series standard products in Temperature characteristics B.

RATED VOLTAGE Edc: 2kV

Part No.	Capacitance (pF)	Dimensions (mm)			Taping dimensions
		D max.	T max.	F	
CK45-B3DD101KY☐*N to CK45-B3DD471KY☐N	100, 150, 220, 330, 470	5.5	5	5±1.5	V1
CK45-B3DD681KY☐N	680	6.5	5	5±1.5	V1
CK45-B3DD102KY☐N	1,000	7.5	5	5±1.5	V1
CK45-B3DD152KY☐N	1,500	8.5	5	5±1.5	V1
CK45-B3DD222KY☐N	2,200	10	5	5±1.5	V1
CK45-B3DD332KY☐N	3,300	11.5	5	7.5±1.5	V2
CK45-B3DD472KY☐N	4,700	14	5	7.5±1.5	V2

* ☐ : Lead shape symbol
• 1kV and 2kV are E6 series standard products in Temperature characteristics B.

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RATED VOLTAGE Edc: 3kV

Part No.	Capacitance (pF)	Dimensions (mm)			Taping dimensions
		D max.	T max.	F	
CK45-B3FD101KY□*N	100	5.5	6	7.5±1.5	V2
CK45-B3FD151KY□N	150	5.5	6	7.5±1.5	V2
CK45-B3FD221KY□N	220	5.5	6	7.5±1.5	V2
CK45-B3FD331KY□N	330	6.5	6	7.5±1.5	V2
CK45-B3FD471KY□N	470	7	6	7.5±1.5	V2
CK45-B3FD681KY□N	680	8	6	7.5±1.5	V2
CK45-B3FD102KY□N	1,000	9	6	7.5±1.5	V2
CK45-B3FD152KY□N	1,500	10.5	6	7.5±1.5	V2
CK45-B3FD222KY□N	2,200	12.5	6	7.5±1.5	V2
CK45-B3FD332KY□N	3,300	14.5	6	7.5±1.5	V3

* □ : Lead shape symbol

TEMPERATURE CHARACTERISTICS: E(+20, –55%)

RATED VOLTAGE Edc: 1kV

Part No.	Capacitance (pF)	Dimensions (mm)			Taping dimensions
		D max.	T max.	F	
CK45-E3AD471ZY□*N	470	5.5	5	5±1.5	V1
CK45-E3AD102ZY□N	1,000	5.5	5	5±1.5	V1
CK45-E3AD222ZY□N	2,200	6.5	5	5±1.5	V1
CK45-E3AD472ZY□N	4,700	8.5	5	5±1.5	V1
CK45-E3AD103ZY□N	10,000	11.5	5	7.5±1.5	V2

* □ : Lead shape symbol
• 1kV and 2kV are E3 series standard products in Temperature characteristics E.

RATED VOLTAGE Edc: 2kV

Part No.	Capacitance (pF)	Dimensions (mm)			Taping dimensions
		D max.	T max.	F	
CK45-E3DD471ZY□*N	470	5.5	5	5±1.5	V1
CK45-E3DD102ZY□N	1,000	6	5	5±1.5	V1
CK45-E3DD222ZY□N	2,200	8	5	5±1.5	V1
CK45-E3DD472ZY□N	4,700	10.5	5	5±1.5	V1
CK45-E3DD103ZY□N	10,000	14.5	5	7.5±1.5	V3

* □ : Lead shape symbol
• 1kV and 2kV are E3 series standard products in Temperature characteristics E.

RATED VOLTAGE Edc: 3kV

Part No.	Capacitance (pF)	Dimensions (mm)			Taping dimensions
		D max.	T max.	F	
CK45-E3FD471ZY□*N	470	6	6	7.5±1.5	V2
CK45-E3FD102ZY□N	1,000	7.5	6	7.5±1.5	V2
CK45-E3FD222ZY□N	2,200	9.5	6	7.5±1.5	V2
CK45-E3FD472ZY□N	4,700	12.5	6	7.5±1.5	V2
CK45-E3FD103ZY□N	10,000	17.5	6	10±2	—

* □ : Lead shape symbol

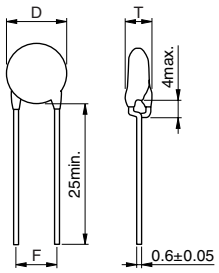
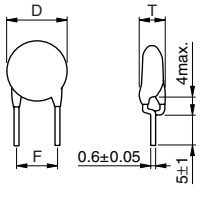
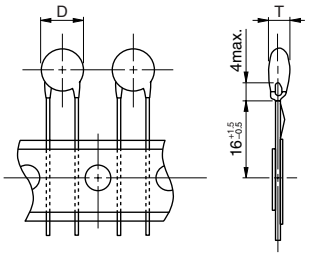
LIST OF STANDARD LEAD SHAPES

The lead type is indicated by the second-to-last character of the product name (15th character from the left) using its symbol (letter).

Example) TDK Product Name: **CK45-B3AD102KYNN**

└N: Lead type (Vertical kink, Short)

Dimensions in mm

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

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

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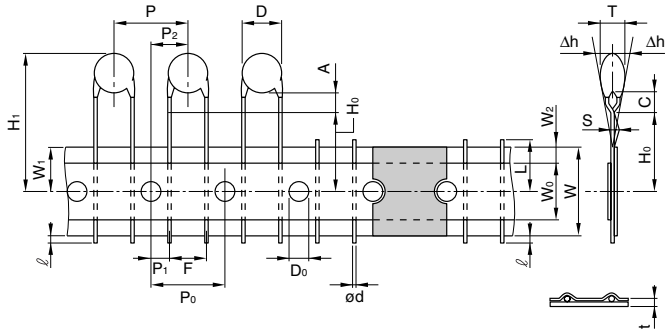
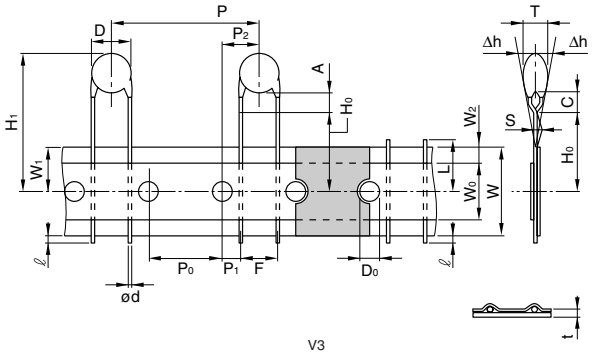
TAPING DIMEMSIONS
VERTICAL KINK LEAD TYPE



V1, V2



V3

Item	Symbol	Dimensions(mm)			Remarks
		V1	V2	V3	
Body diameter	D	Depends on the specification of each product.			
Body thickness	T	Depends on the specification of each product.			
Lead-wire diameter	ød	0.6±0.05	0.6±0.05	0.6±0.05	
Pitch of component	P	12.7±1.0	15.0±1.0	30.0±1.0	Including the slant of body
Feed hole pitch	P_0	12.7±0.3	15.0±0.3	15.0±0.3	Excepting the tape splicing part
Feed hole center to lead	P_1	3.85±0.7	3.75±0.7	3.75±0.7	
Feed hole center to component center	P_2	6.35±1.3	7.5±1.3	7.5±1.3	Including the slanting body due to bending lead-wire
Lead-to lead distance	F	5+0.8, –0.2	7.5±0.8	7.5±0.8	Measuring point is bottom kink
Component alignment, F-R	Δh	0±2.0	0±2.0	0±2.0	Including the slanting body due to bending lead-wire
Tape width	W	18.0+1.0, –0.5	18.0+1.0, –0.5	18.0+1.0, –0.5	
Adhesive tape width	W_0	11.5min.	11.5min.	11.5min.	
Hole position	W_1	9.0±0.5	9.0±0.5	9.0±0.5	
Adhesive tape position	W_2	3.0max.	3.0max.	3.0max.	Adhesive tape do not stick out the tape
Bottom of kink from tape center	H_0	16.0+1.5, –0.5	16.0+1.5, –0.5	16.0+1.5, –0.5	
Height of body from tape center	H_1	46.0max.	46.0max.	46.0max.	
Lead-wire protrusion	ℓ	1.0max.	1.0max.	1.0max.	
Feed hole diameter	D_0	4.0±0.2	4.0±0.2	4.0±0.2	
Total tape tickness	t	0.6±0.3	0.6±0.3	0.6±0.3	Including adhesive tape
Length of snipped lead	L	11.0max.	11.0max.	11.0max.	
Coating on lead	C	4.0max.	4.0max.	4.0max.	
Height of kink	A	4.0max.	4.0max.	4.0max.	Measuring point is bottom kink
Spring action	S	2.0max.	2.0max.	2.0max.	

- For more information about products with other capacitance or other data, please contact us.

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