

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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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_{dc}: 3kV

| Part No. | Capacitance (pF) | Dimensions (mm) | | | | Taping dimensions |
|--------------------|---------------------|-----------------|--------|---------------|----------------|-------------------|
| | | D max. | T max. | F | d | |
| 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_{dc}: 1kV

| Part No. | Capacitance (pF) | Dimensions (mm) | | | | Taping dimensions |
|--------------------|---------------------|-----------------|--------|---------------|----------------|-------------------|
| | | D max. | T max. | F | d | |
| 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_{dc}: 2kV

| Part No. | Capacitance (pF) | Dimensions (mm) | | | | Taping dimensions |
|--------------------|---------------------|-----------------|--------|---------------|----------------|-------------------|
| | | D max. | T max. | F | d | |
| 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_{dc}: 3kV

| Part No. | Capacitance (pF) | Dimensions (mm) | | | | Taping dimensions |
|--------------------|---------------------|-----------------|--------|---------------|----------------|-------------------|
| | | D max. | T max. | F | d | |
| 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 |

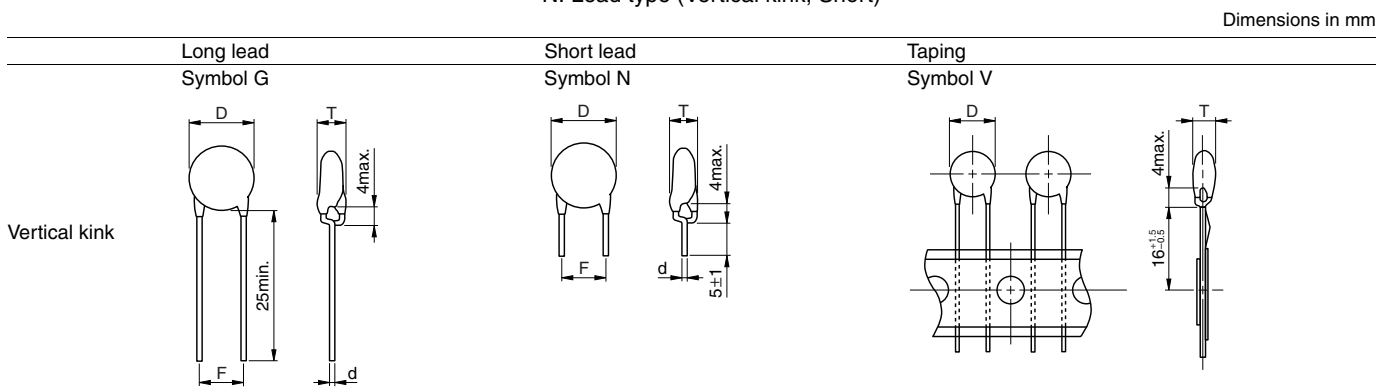
* □ : Lead shape symbol

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)



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

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