



Disc Type Capacitors with Lead

High Voltage Ceramic Capacitors

Commercial Grade, Low dissipation at high frequency

CC45 series

Type: CC45 [SL characteristics, Edc: 1kV to 6kV]



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 these products.

REMINDERS

- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Before soldering, be sure to preheat components.
The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications.
If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.
The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.
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 the each catalog, please contact us.

(1) Aerospace/Aviation equipment	(8) Public information-processing equipment
(2) Transportation equipment (cars, electric trains, ships, etc.)	(9) Military equipment
(3) Medical equipment	(10) Electric heating apparatus, burning equipment
(4) Power-generation control equipment	(11) Disaster prevention/crime prevention equipment
(5) Atomic energy-related equipment	(12) Safety equipment
(6) Seabed equipment	(13) Other applications that are not considered general-purpose applications
(7) Transportation control equipment	
- Please refer to the guideline of notabilia for fixed ceramic capacitors issued by JEITA(Japan Electronics and Information Technology Association, EIAJ RCR-2335).

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.

Disc Type Capacitors with Lead

Product compatible with RoHS directive
Halogen-free

High Voltage Ceramic Capacitors, Commercial Grade, Low dissipation at high frequency

Overview of CC45 Series


FEATURES

- Low dissipation factor, and decreased self-heating temperature in the high frequency, and high voltage application.
- The rated voltage of 6kV series have been added the rated voltage of 3kV series.
- 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.

APPLICATION

For use in snubber circuit protection for power supplies

PART NUMBER CONSTRUCTION

CC45	SL	3AD	101	J	Y		N	A					
Series name*	Temperature characteristics	Rated voltage		Nominal capacitance		Capacitance tolerance	Class	Lead type	Application classification	Internal code			
SL	+350 to -1000ppm/°C	3AD	1kV	030	3pF	C	±0.25pF	G	Long lead	N	General use	A	Halogen-free
		3DD	2kV	220	22pF	D	±0.5pF	N	Short lead				
		3FD	3kV	471	470pF	J	±5%	V	Taping				
		3JD	6kV										

* Please refer to P-5-8 about the product dimensions.

OPERATING TEMPERATURE RANGE

Temperature characteristics	Temperature range*	
	Operating temperature (°C)	Storage temperature** (°C)
SL	-25 to +125	-25 to +125


* The maximum operating temperature of 125°C includes capacitor self-generated heat of up to 20°C.

** After capacitor is mounted on board, the storage temperature range is applied.

PACKAGE QUANTITY

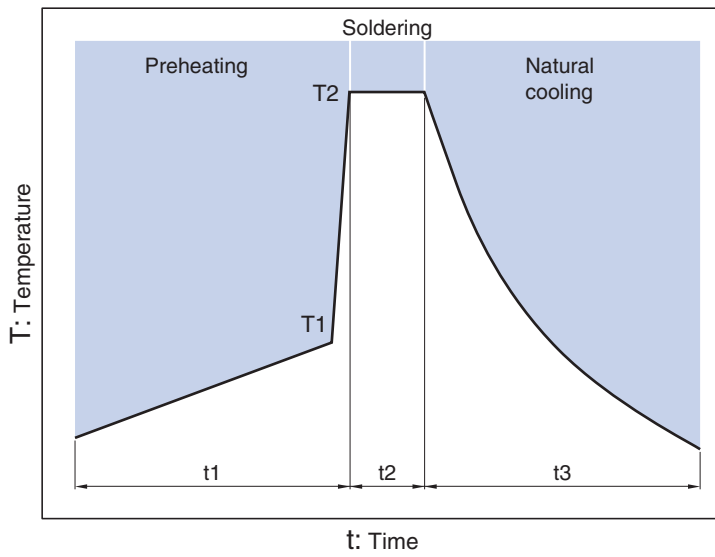
Type	Package quantity	
	Taping (pieces / box)	Bulk (pieces / bag)
CC45	1000	1000

- RoHS Directive Compliant Product: See the following for more details related to RoHS Directive compliant products. <http://product.tdk.com/en/environment/rohs/>
- Halogen-free: Indicates that Cl content is less than 900ppm, Br content is less than 900ppm, and that the total Cl and Br content is less than 1500ppm.

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Overview of CC45 Series

RECOMMENDED FLOW PROFILE



Preheating		Peak		Natural cooling
Temp.	Time	Temp.	Time	Time
T1	t1	T2	t2	t3
110°C min.	30 to 60s.	260°C	Within 10s.	Over 60s.

CC45 Type

CAPACITANCE AND DIMENSIONS

□ Temperature Characteristics: SL (+350 to -1000ppm/°C)

□ Rated Voltage Edc: 1kV

Capacitance (pF)	Capacitance tolerance	Dimensions (mm)		F (Applied to bulk)	F (Applied to taping)	d	Taping dimensions***	Part No.*
		D max.	T max.					
10	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD100JY□NA**
12	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD120JY□NA
15	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD150JY□NA
18	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD180JY□NA
22	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD220JY□NA
27	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD270JY□NA
33	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD330JY□NA
39	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD390JY□NA
47	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD470JY□NA
56	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD560JY□NA
68	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD680JY□NA
82	±5%	6.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD820JY□NA
100	±5%	6.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD101JY□NA
120	±5%	7.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD121JY□NA
150	±5%	7.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD151JY□NA
180	±5%	8.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD181JY□NA
220	±5%	8.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD221JY□NA
270	±5%	9.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD271JY□NA
330	±5%	10.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD331JY□NA
390	±5%	10.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3AD391JY□NA
470	±5%	11.5	5.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3AD471JY□NA

* The part numbers are TDK's standard specification products.

** The "□" of the Part Number contains the lead type, G, N or V. Please refer to the details of each shape is shown below.

*** Please refer to P-9 about the taping dimensions.

LIST OF STANDARD LEAD SHAPES

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

- TDK's standard product is vertical kink.
- TDK's recommendation is short lead type with the symbol N for bulk products.

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.

CC45 Type

CAPACITANCE AND DIMENSIONS

□ Temperature Characteristics: SL (+350 to -1000ppm/°C)

□ Rated Voltage Edc: 2kV

Capacitance (pF)	Capacitance tolerance	Dimensions (mm)		F (Applied to bulk)	F (Applied to taping)	d	Taping dimensions***	Part No.*
		D max.	T max.					
10	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD100JY□NA**
12	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD120JY□NA
15	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD150JY□NA
18	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD180JY□NA
22	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD220JY□NA
27	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD270JY□NA
33	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD330JY□NA
39	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD390JY□NA
47	±5%	5.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD470JY□NA
56	±5%	6.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD560JY□NA
68	±5%	6.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD680JY□NA
82	±5%	7.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD820JY□NA
100	±5%	7.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD101JY□NA
120	±5%	8.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD121JY□NA
150	±5%	8.5	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD151JY□NA
180	±5%	9.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD181JY□NA
220	±5%	10.0	5.0	5.0±1.5	5.0+0.8, -0.2	0.6±0.05	V1	CC45SL3DD221JY□NA
270	±5%	11.0	5.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3DD271JY□NA
330	±5%	11.5	5.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3DD331JY□NA
390	±5%	12.5	5.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3DD391JY□NA

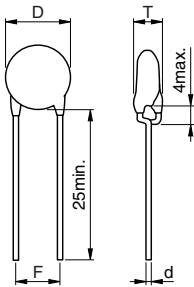
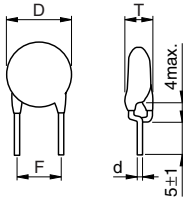
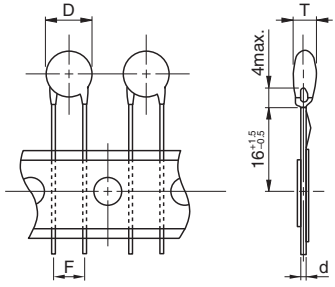
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*** Please refer to P-9 about the taping dimensions.

LIST OF STANDARD LEAD SHAPES

Dimensions in mm

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

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CC45 Type

CAPACITANCE AND DIMENSIONS

□ Temperature Characteristics: SL (+350 to -1000ppm/°C)

□ Rated Voltage Edc: 3kV

Capacitance (pF)	Capacitance tolerance	Dimensions (mm)		F (Applied to bulk)	F (Applied to taping)	d	Taping dimensions***	Part No.*
		D max.	T max.					
10	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD100JY□NA**
12	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD120JY□NA
15	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD150JY□NA
18	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD180JY□NA
22	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD220JY□NA
27	±5%	5.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD270JY□NA
33	±5%	6.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD330JY□NA
39	±5%	6.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD390JY□NA
47	±5%	6.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD470JY□NA
56	±5%	7.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD560JY□NA
68	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD680JY□NA
82	±5%	8.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD820JY□NA
100	±5%	8.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD101JY□NA
120	±5%	9.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD121JY□NA
150	±5%	10.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD151JY□NA
180	±5%	11.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD181JY□NA
220	±5%	12.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3FD221JY□NA

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LIST OF STANDARD LEAD SHAPES

Dimensions in mm

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

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CC45 Type

CAPACITANCE AND DIMENSIONS

□ Temperature Characteristics: SL (+350 to -1000ppm/°C)

□ Rated Voltage Edc: 6kV

Capacitance (pF)	Capacitance tolerance	Dimensions (mm)		F (Applied to bulk)	F (Applied to taping)	d	Taping dimensions***	Part No.*
		D max.	T max.					
3	±0.25pF	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD030CY□NA**
5	±0.5pF	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD050DY□NA
8	±0.5pF	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD080DY□NA
10	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD100JY□NA
12	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD120JY□NA
15	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD150JY□NA
18	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD180JY□NA
22	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD220JY□NA
27	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD270JY□NA
33	±5%	7.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD330JY□NA
39	±5%	8.0	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD390JY□NA
47	±5%	8.5	6.0	7.5±1.5	7.5±0.8	0.6±0.05	V2	CC45SL3JD470JY□NA

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*** Please refer to P-9 about the taping dimensions.

LIST OF STANDARD LEAD SHAPES

Dimensions in mm

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

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[S103K75Y5PN8BT0R](#) [615R100GAD10](#) [615R150GAD10](#) [NCD100K1KVSLF](#) [NCD682M1KVZ5UF](#) [CCK-100N](#) [CCK-100P](#) [CCK-22N](#)
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