

High Voltage Ceramic Disc Capacitor Type CKD

△ Features

- Wide operating temperature range: -25°C to 125°C
- Two kinds of Capacitors for “DC circuit use” and Pulse Circuit Use” are available
- Low loss at wide range of frequency and stable against pulse voltage
- Miniaturized type applying new ceramic dielectrics
- Flame retardant insulating coating applied

△ Part Numbering

CKD 101 YF 3A K □ □
 (1) (2) (3) (4) (5) (6) (7)

- (1) Type
- (2) Nominal Capacitance
- (3) Temperature Characteristics
- (4) Rated Voltage
- (5) Capacitance Tolerance
- (6) Lead type (Omitted in straight leads)
- (7) Suffix (Omitted in bulk package)

△ Applications

- DC and pulse high voltage circuit
- Resonance circuit in F.B.T. with inductor for TV set
- Snubber circuit of switching power supply

(2) Nominal Capacitance Designation

Stated in three digits and in units of pico farads (pF). The capacitance shall be expressed in a 3 digit code. The first and second digits identify the first and second significant figures of the capacitance, the third digit identifies the multiplier. However, when capacitance is below 10pF there are decimal digits included, they are stated as D. Please check examples below:

Symbol	Capacitance (pF)
D75	0.75
5D0	5.0
100	10
101	100

(3) Temperature Characteristics

Class I (Temperature Compensating Type)

Code	SL/GP
Temp. Range	-25°C to 105°C
Temp. Coeff.	+350ppm to -1000ppm/°C

Class II (High Dielectric Type)

Code	Y5F(YF)/Y5P(YP)	Y5V(YV)/Z5V(ZV)	Y5U(YU)/Z5U(ZU)
Temp. Range	-25°C to 85°C	-25°C to 85°C	-25°C to 85°C
Temp. Coeff.	±10%	+20% to -30%	+20% to -55%

(4) Rated Voltage

Symbol	Rated Voltage	VDC
2H	500	500V
3A	1000	1kV
3D	2000	2kV
3F	3000	3kV
3G	4000	4kV
3J	6000	6kV
3K	8000	8kV
4A	10000	10kV
4C	15000	15kV

(5) Capacitance Tolerance

Symbol	Tolerance	Capacitance Range
K	±10%	
M	±20%	

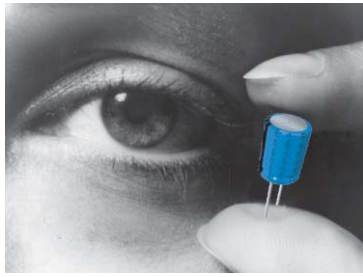
Other nonstandard values are available on special request.

(7) Suffix

Use the letter “T” when taped/box packages are needed.

(6) Lead Type

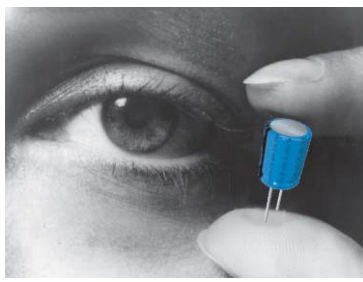
Use the letter “C” when crimped leads are needed.



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Δ Specifications

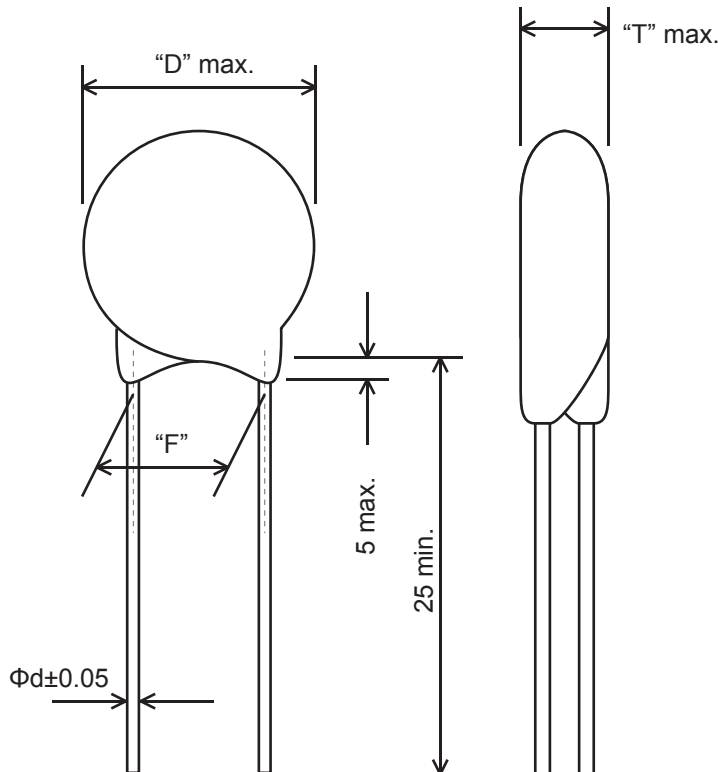
Item	Requirements		
	Class I	Class II	
Operating Temperature Range	-25°C to 105°C	[WV<4kVDC]: -25°C to 105°C [WV≥4kVDC]: -25°C to 85°C	
Rated Voltage	1kVDC to 3kVDC	500VDC to 15kVDC	
Dielectric Withstanding Voltage	150% of the rated voltage for 1 to 5 seconds	150% of the rated voltage for 1 to 5 seconds	
Capacitance	Within the specified tolerance, when measured at 1MHz, 1 to 5Vrms at 20°C	Within the specified tolerance, when measured at 1MHz, 1 to 5Vrms at 20°C	
Q or Dissipation Factor	Capacitance ≥ 30pF Q ≥1000 Capacitance , 30pF Q ≥400+20 X C (C: Capacitance in pF)	D.F. (tanθ)≤2.5%, when measured at 1kHz, 1 to 5 Vrms at 20°C	
Insulation Resistance	10,000MΩ min. at 500V and 1 minute electrification.	10,000MΩ min. at 500V and 1 minute electrification.	
Temperature Characteristics	SL/GP: +350 to -1000ppm/°C over the temperature range of 20°C to 85°C	Temp. Char.	Cap. Change Temp. Range
		Y5F/Y5P	±10% max. -25°C to 85°C
		Y5V/Z5V	+20%, -30% -25°C to 85°C
		Y5U/Z5U	+20%, -55% -25°C to 85°C
		The Reference Temperature: 20°C	



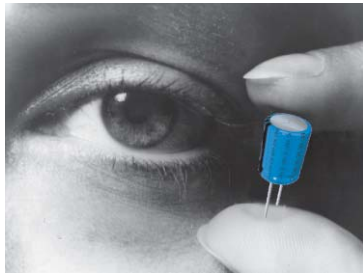
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△ Capacitance Chart

Disc Dia. mm (in.)	T max.	Available Capacitance Range, pF										
		Y5F (Y5P)			Y5U/Z5U)						(Y5V/Z5V)	
		1000V	2000V	3000V	1000V	2000V	3000V	4000V	5000V	1000V	2000V	3000V
4.0 (0.157)	3.0 (0.118)	100-270	100-150	100-150	330-680	-	-	-	-	820-1200	-	-
5.0 (0.197)	4.0 (0.157)	330-470	180-270	100-150	820-1200	330-470	-	-	-	1500	-	-
6.0 (0.236)	4.0 (0.157)	560	330	180	1500	560-820	-	-	-	1800	1000-1200	-
7.0 (0.276)	4.0 (0.157)	680-1200	390-560	220-330	1800-2700	1000-1500	390-1000	-	-	2200-3900	1500-2200	1200-1500
8.0 (0.315)	4.0 (0.157)	1500	680-820	390-560	3300-3900	1800	1200	100-820	-	-	2700	1800
9.0 (0.354)	5.0 (0.197)	1800	1000-1200	680	4700	2200-2700	1500-1800	-	-	4700-5600	3300-3900	2200-2700
10.0 (.394)	5.0 (0.197)	-	1500	820-1000	5600	3300-3900	2200	1000	-	6800-8200	-	-
11.0 (0.433)	5.0 (0.197)	2200-2700	1800	1200	6800	4700	2700-3300	1200-2200	100-1000	-	4700-6800	3300-3900
13.0 (0.512)	6.0 (0.236)	3300	2200-2700	1500-1800	8200-12000	5600-8200	3900-5600	2700-3300	1200-2200	10000-15000	8200	4700-6800
15.0 (0.591)	6.0 (0.236)	3900	3300-3900	2200-2700	15000	10000	6800	3900-4700	2700-3300	22000	10000-15000	8200
19.0 (0.748)	7.0 (0.276)	-	-	3300-3900	-	-	8200-10000	5600-6800	3900-4700	-	-	10000



Fixed Component Capacitors



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Δ Capacitance Chart

W.V. (DC)	TEMP.CHAR./CAPACITANCE RANGE(PF)					DIA (mm)
	NPO(CH)	SL	B(Y5P)(Y5E)	E(Z5U)	F(Z5V)	
3KV	1~18	15~47	100~470	1000~1200	1800~2200	6±1
	20~30	50~68	680~820	1500	2700~3300	7±1
	33~39	82~100	1000	1800~2000	3900	8±1
	47~56	120	1200	2200~2700	4700~5600	9±1
	62~68	150~180	1500	3000~3300		10±1
	72~82	200~220	1800		6800~8200	11±1
	90~100	270	2000~2200	3900~4700	10000	12±1
	110~120	300~330				13±1
	150		2700~3300	5000~6800		14±1

W.V. (DC)	TEMP.CHAR./CAPACITANCE RANGE(PF)				DIA (mm)
		SL	Y5P	E(Z5U)	
6KV		5~22	100~330		6±1
		27~39	390~500		7±1
		47~56	560~680	1000	8±1
		68			9±1
		82	820	1500	10±1
				2200	11±1
		100~120	1000		12±1
			1500		13±1
		150			14±1
			3300	15±1	

W.V. (DC)	TEMP.CHAR./CAPACITANCE RANGE(PF)		DIA (mm)
		B(Y5P)	
10KV		100~120	7±1
		150~180	8±1
		200~220	10±1
		270~330	12±1
		470~560	13±1
		680	14±1