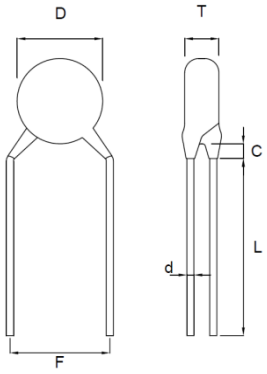
X1Y1
AC Ceramic Disc Safety Capacitor

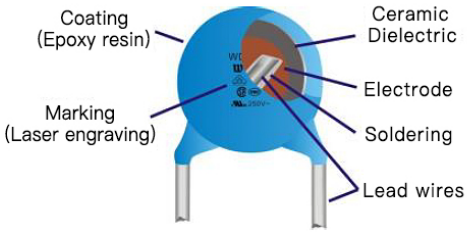
Fixed capacitors for the suppression of electromagnetic interference from power sources

CCDG

■ Outline Drawing



Features



- Operating temperature Range Guaranteed up to 125℃(UI:85℃)
- Dielectric strength: AC 4000V
- X1/Y2 class capacitors certified by VDE/ENEC/UL/CQC/KC
- Flame retardant epoxy coating (in accordance with UL94 V-0 specification)
- Automatic insertion is cost-effective
- Products available for RoHS/SVHC/Halogen Free restrictions
- Ideal for use as X/Y cap acitors for AC line filter and primary-secondary coupling on switching Power supplies and AC adapters.
- Ideal for use on D-A isolation and noise absorption For DAA modems without transformers.
- By Pass

• Specifications

Safety class	X1、Y1
Reference Standard	GB/T 6346-14:2015 (IEC 60384-14)
Climatic Category	21/125/21
Passlve Flammability Category	C
Rated temperature	-25～+85℃
Operating temperature	-40℃~125℃
Temperature Characteristic	Y5P (ΔC/C: ≤10% @ -25°C ~ +85°C) Y5U (ΔC/C: ≤+22%/-56% @ -25°C ~ +85°C) Y5V (ΔC/C: ≤+22%/-82% @ -25°C ~ +85°C)
Rated Voltage	X1:500V Y1: AC 250V/300V/400V/500V
Capacitance Range	10PF ~ 4700PF
Capacitance Tolerance	±10% (K), ±20% (M)
Voltage Proof	4000VAC (60s)
Dissipation Factor	≤0.025 (20℃, 1kHz)
Insulation Resistance	≥10 000MΩ, (20℃,100V,1min)
Marking	

■ Dimensions (mm)

Y5P

Part number	(VAC)	T.C.	(PF)	%	D (MAX)	T (MAX)	C (MAX)	F(±1)	Φd(±0.1)
CCDGP100K*100***	250/300/400/500	Y5P	10	± 10	6.0	3.5	2.0	10	0.6
CCDGP150K*100***	250/300/400/500	Y5P	15	± 10	6.0	3.5	2.0	10	0.6
CCDEP220K*100***	250/300/400/500	Y5P	22	± 10	7.0	3.5	2.0	10	0.6
CCDGP330K*100***	250/300/400/500	Y5P	33	± 10	6.0	3.5	2.0	10	0.6
CCDGP470K*100***	250/300/400/500	Y5P	47	± 10	7.0	3.5	2.0	10	0.6
CCDGP560K*100***	250/300/400/500	Y5P	56	± 10	7.0	3.5	2.0	10	0.6
CCDGP680K*100***	250/300/400/500	Y5P	68	± 10	8.2	3.5	2.0	10	0.6
CCDGP820K*100***	250/300/400/500	Y5P	82	± 10	9.5	3.5	2.0	10	0.6
CCDGP101K*100***	250/300/400/500	Y5P	100	± 10	6.5	4.5	2.0	10	0.6
CCDGP151K*100***	250/300/400/500	Y5P	150	± 10	6.5	4.5	2.0	10	0.6
CCDGP221K*100***	250/300/400/500	Y5P	220	± 10	6.5	4.5	2.0	10	0.6
CCDGP331K*100***	250/300/400/500	Y5P	330	± 10	7.5	4.5	2.0	10	0.6
CCDGP471K*100***	250/300/400/500	Y5P	470	± 10	7.5	4.5	2.0	10	0.6
CCDGP561K*100***	250/300/400/500	Y5P	560	± 10	9.0	4.5	2.0	10	0.6
CCDGP681K*100***	250/300/400/500	Y5P	680	± 10	9.0	4.5	2.0	10	0.6
CCDGP821K*100***	250/300/400/500	Y5P	820	± 10	10.0	4.5	2.0	10	0.6
CCDGP102K*100***	250/300/400/500	Y5P	1000	± 10	10.5	4.5	2.0	10	0.6

Y5U

Part number	(VAC)	T.C.	(PF)	%	D (MAX)	T (MAX)	C (MAX)	F(±1)	Φd(±0.1)
CCDGE471M*100***	250/300/400/500	Y5U	470	± 20	6.5	4.5	2.0	10	0.6
CCDGE561M*100***	250/300/400/500	Y5U	560	± 20	6.5	4.5	2.0	10	0.6
CCDGE681M*100***	250/300/400/500	Y5U	680	± 20	7.5	4.5	2.0	10	0.6
CCDGE821M*100***	250/300/400/500	Y5U	820	± 20	7.5	4.5	2.0	10	0.6
CCDGE102M*100***	250/300/400/500	Y5U	1000	± 20	7.5	4.5	2.0	10	0.6
CCDGE152M*100***	250/300/400/500	Y5U	1500	± 20	8.5	4.5	2.0	10	0.6
CCDGE222M*100***	250/300/400/500	Y5U	2200	± 20	10.0	4.5	2.0	10	0.6
CCDGE332M*100***	250/300/400/500	Y5U	3300	± 20	12.5	4.5	2.0	10	0.6
CCDGE392M*100***	250/300/400/500	Y5U	3900	± 20	13.5	4.5	2.0	10	0.6
CCDGE472M*100***	250/300/400/500	Y5U	4700	± 20	14.5	4.5	2.0	10	0.6

Y5V

Part number	(VAC)	T.C.	(PF)	%	D (MAX)	T (MAX)	C (MAX)	F(±1)	Φd(±0.1)
CCDGF102M*100***	250/300/400/500	Y5V	1000	± 20	6.5	4.5	2.0	10	0.6
CCDGF152M*100***	250/300/400/500	Y5V	1500	± 20	7.5	4.5	2.0	10	0.6
CCDGF222M*100***	250/300/400/500	Y5V	2200	± 20	8.2	4.5	2.0	10	0.6
CCDGF332M*100***	250/300/400/500	Y5V	3300	± 20	9.5	4.5	2.0	10	0.6
CCDGF392M*100***	250/300/400/500	Y5V	3900	± 20	11.0	3.5	2.0	10	0.6
CCDGF472M*100***	250/300/400/500	Y5V	4700	± 20	11.0	3.5	2.0	10	0.6

HOW TO ORDER

CCDG	F	472	M	3E	10	Y	5
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

1. Type Code: CCDG class X1-Y2 ; CCDF class X1-Y1

2. Temperature Characteristic:

Code	Temp. Coefficient	Code	Temp. Coefficient	Code	Temp. Coefficient
C|N	C0G |NPO	P	Y5P	E	Y5U
L	SL	B	X7R	F	Y5V

3. Nominal capacitance:
Expressed by three-digit alphanumeric. The unit is pico-farad (pF). The first and second figures are significant digits, and the third figure expresses the number of zeros which follow the two numbers. If there is a decimal point in between first two figures, it is expressed by the capital letter "R". See below examples:

Code	Capacitance	Code	Capacitance	Code	Capacitance
5R1	5.1pF	100	10pF	472	4700pF
8R0	8pF	101	100pF	103	0.01uF

4. Capacitance Tolerance Code

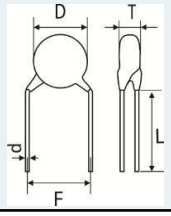
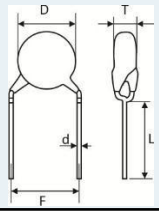
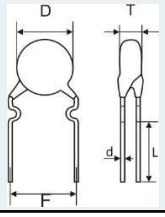
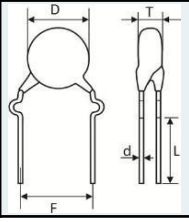
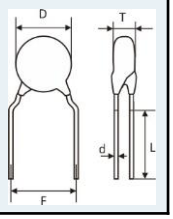
Code	Tolerance	Code	Tolerance	Code	Tolerance
C	± 0.25pF	J	± 5%	M	± 20%
D	± 0.50pF	K	± 10%	Z	+80/-20%

5. Minimum Test Voltage (AC) : X1Y2 = AC2K5 3E , X1Y1 = AC4KV 3G

6. Lead Spacing (F)

Code	Lead spacing (F)	Code	Lead spacing (F)
050	5.0±0.8mm	075	7.5±0.8mm
063	6.35±0.8mm	100	10.0±0.8mm

7. Lead style

Code	S	Y	X	W	Z
Lead Style					

8. Lead length & package style:
Omitted for un-cut bulk pack
5 = 5+/-1mm, bulk pack, 6 = 6+/-1mm ... etc.
TB = Ammo, TR = Reel