

Safety Standard Certified Ceramic Capacitors-CD Series (Class Y1) Data Sheet

Feature

- Wide capacitance range from 100pF to 4700pF
- Operating Temperature: -40℃~125℃
- Storage Temperature: 15℃~35℃
- Fix capacitors Y1 for electromagnetic interference suppression and connection to the supply mains has high dielectric coefficient ceramic dielectric and flame retardant epoxy resin package

Applications

- Can be used for power supply noise suppression circuit in cross connection and bypass. It is a primary and secondary coupling X/Y capacitor used as AC line filter and switching power supply and AC converter

Applicable Standard

Country	Certification Body	Report Reference	Certificate No.	Capacitance Range	Rated Voltage
USA Canada	UL CUL	UL60384-14	E208107	100~4700pF	X1Y1: 500VAC 400VAC 250VAC
China	CQC	IEC60384-14:2013 +AMD1:2016	CQC19001213616	100~4700pF	
Germany	VDE	En 60384-14: 2017-04	40025754	100~4700pF	
EU	ENEC	En 60384-14: 2017-04	40025754	100~4700pF	

Part Number Code

N: Certify voltage
500VAC

Q	09	F	1	D	222	M	N0	B	0	N	0	N	0
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Rated Voltage
Q: Y1

Pitch

D: 10.0mm

Tolerance

K: $\pm 10\%$
M: $\pm 20\%$

Package

B: Bulk
T: Tape

Inner Management

Core Diameter

09: 9mm
15: 15mm

Nominal capacitance

471: 470pF
222: 2200pF
103: 10000pF

Environmental Standard

0: RoHS
2: RoHS+Halogen-Free

Temperature Characteristic

B: Y5P
E: Y5U
F: Y5V

Foot Type

1: Long straight
2: Outside Crimped
3: Short Straight
8: Vertical Crimped

Lead Length (Bulk)

X0~X9: 2.0~2.9mm
A0~A9: 3.0~3.9mm
B0~B9: 4.0~4.9mm
C0~C9: 5.0~5.9mm
D0~D9: 6.0~6.9mm
E0~E9: 7.0~7.9mm
N0: 16~27.0mm

Lead Length (Tape)

Crimped Lead Taped

N0: H0=16.5mm
P0: H0=17.0mm
Q0: H0=19.0mm

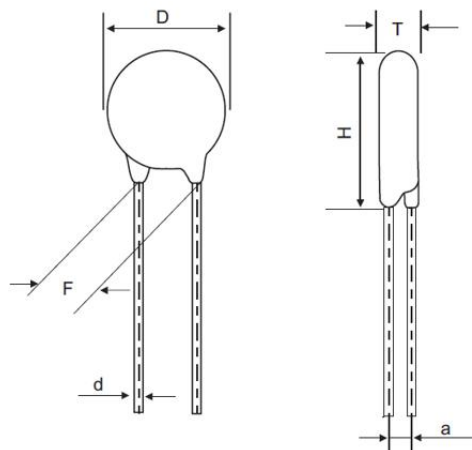
Straight Lead

Q0: H=20.0mm

Specifications

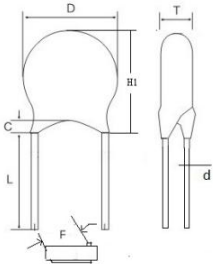
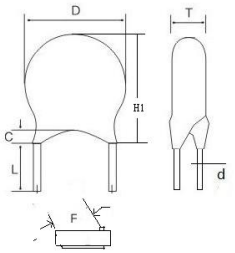
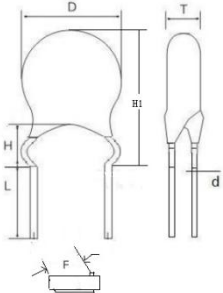
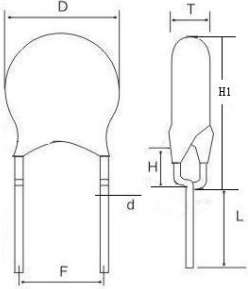
Capacitance and Dissipation factor testing condition	Y5P/Y5U/Y5V: 25°C、1KHz、1Vrms
Dissipation Factor(tanδ)	≤2.5%
Rated Voltage	500VAC、400VAC、250VAC 1500VDC
Withstand Voltage	4000VAC
Insulation Resistance (I.R.)	IR≥10000MΩ
Temperature Characteristic	Y5P、Y5U、Y5V
Operating Temperature Range	-40°C to +125°C

Dimensions (mm) and Approval

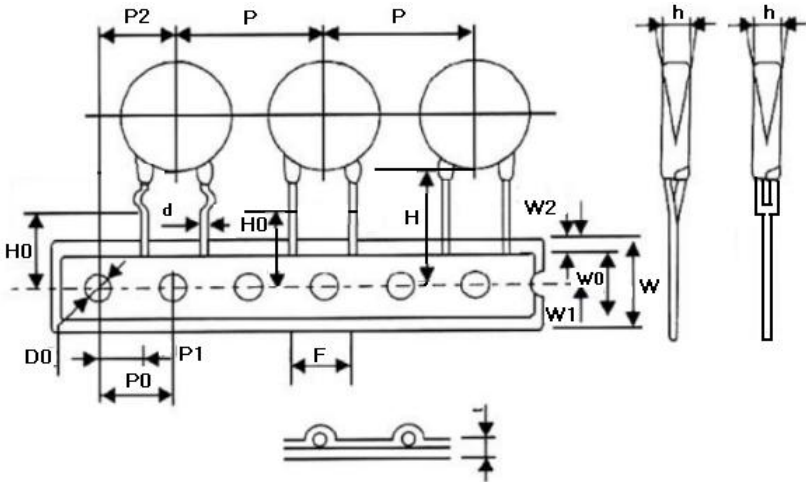


Part No.	Size (mm)				Approval			
	D Max.	T Max.	F±0.5	d±0.05	CQC	VDE	cUL (Canada)	ENEC
Y1-Y5P-101K	7.0	4.0	10.0	0.6	√	√	√	√
Y1-Y5P-151K	7.0	5.0	10.0	0.6	√	√	√	√
Y1-Y5P-221K	7.0	5.0	10.0	0.6	√	√	√	√
Y1-Y5P-331K	8.5	5.0	10.0	0.6	√	√	√	√
Y1-Y5P-471K	9.0	5.0	10.0	0.65	√	√	√	√
Y1-Y5P-561K	10.0	5.0	10.0	0.65	√	√	√	√
Y1-Y5P-681K	10.0	5.0	10.0	0.65	√	√	√	√
Y1-Y5P-102K	12.0	5.5	10.0	0.65	√	√	√	√
Y1-Y5U-331K	7.0	5.0	10.0	0.6	√	√	√	√
Y1-Y5U-471K	7.0	5.0	10.0	0.6	√	√	√	√
Y1-Y5U-561K	7.0	5.0	10.0	0.6	√	√	√	√
Y1-Y5U-102M	8.0	5.0	10.0	0.6	√	√	√	√
Y1-Y5U-152M	10.0	5.0	10.0	0.65	√	√	√	√
Y1-Y5U-222M	11.0	5.0	10.0	0.65	√	√	√	√
Y1-Y5U-332M	13.5	5.5	10.0	0.65	√	√	√	√
Y1-Y5U-472M	14.5	5.0	10.0	0.65	√	√	√	√
Y1-Y5V-102M	7.0	5.0	10.0	0.6	√	√	√	√
Y1-Y5V-152M	8.0	5.0	10.0	0.6	√	√	√	√
Y1-Y5V-222M	9.0	5.0	10.0	0.65	√	√	√	√
Y1-Y5V-332M	11.5	5.5	10.0	0.65	√	√	√	√
Y1-Y5V-472M	12.5	5.5	10.0	0.65	√	√	√	√

Lead Configuration

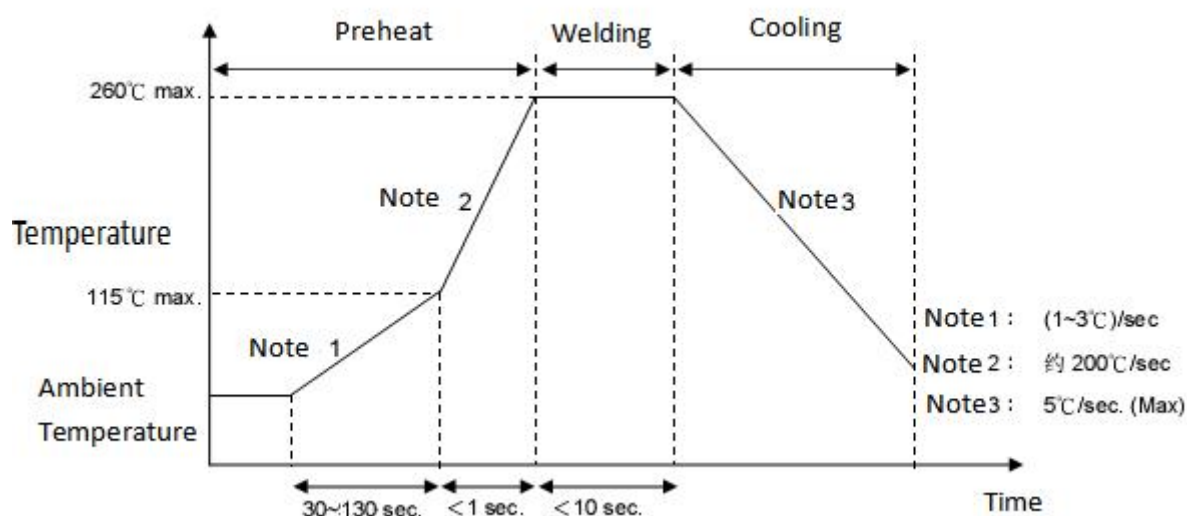
Lead Style	Drawing	Lead Length L (mm)	Coating Lead Length C (mm)	Height H (mm)
Long Straight		16.0 min	① C≤2.5mm (Product diameter < 12mm) ② C≤3.0mm (Product diameter ≥ 12mm)	/
Short Straight		① [2.5≤L < 6.0] +/- 0.5; ② [6.0≤L ≤ 10] +/- 1.0	① C≤2.5mm (Product diameter < 12mm) ② C≤3.0mm (Product diameter ≥ 12mm)	/
Outside Crimped		① [2.5≤L < 6.0] +/- 0.5; ② [6.0≤L ≤ 10] +/- 1.0	Not exceed the bend point	5.0mm Max
Vertical Crimped		① [2.5≤L < 6.0] +/- 0.5; ② [6.0≤L ≤ 10] +/- 1.0	Not exceed the bend point	4.0mm Max

Taping And Dimensions (mm)

Figure	Symbol	P=10.0	
	Po	12.7±0.3	
	P	25.4±1.0	
	P1	7.7±0.7	
	P2	12.7±1.3	
	F	10.0±0.8	
	Δh	0±2.0	
	W	18.0 +1.5/-1.0	
	Wo	10.5 Max	
	W1	9.0+0.75/-0.5	
	W2	3.0 Max	
	Do	4.0±0.2	
	H	20+1.5/-1.0	
	Ho	16.5&17.0&19.0 +1.5/-1.0	
	L	Straight Lead	Crimped Lead
		11.0 Max	9.0 Max
	t1	0.5±0.2	
	t2	1.7 Max	

Soldering Condition

Wave Soldering Graph



Note: Film capacitor is not suitable for reflow soldering, because it will cause thermal contraction and affect electrical performance.

Iron Soldering Condition

Item	Condition
Temperature of soldering copper bit	350°C (max.)
Soldering duration	3sec (max.)
Space between soldering position and coating layer	2mm (min.)

Storage Conditions

- When store under the atmosphere, the terminal may contact with the substance of hydrochloride, hydrosulfide, sulfuric acid, etc. in the atmosphere, which needs to be paid attention to the deterioration of the solderability of the terminal.
- Product could not be exposed to high humidity and high temperature environment. Please store under below condition with the original packing.
 - A. Temperature: $\leq 35^{\circ}\text{C}$
 - B. Humidity: $\leq 70\%\text{RH}$
 - C. Storage period: Max 12 months