

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





Feature



- Wide capacitance range from 10pF to 4700pF
- Operating Temperature: -40°C ~ 125°C
- Storage Temperature: 15°C ~ 35°C
- 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

| Approval | | Organization | Safety Standards | Certificate No. |
|---------------|---|--------------|-------------------|-----------------|
| USA Canada |  | UL CUL | UL60384 | E208107 |
| Korea |  | KTL | K60384-14 | SU03031-7002 |
| China |  | CQC | GB/T 6346.14-2015 | CQC06001018610 |
| Germany |  | VDE | En 60384-14 | 40025754 |

| Approval | | Organization | Safety Standards | Certificate No. |
|----------|---|--------------|------------------|-----------------|
| EU |  | ENEC | En 60384-14 | 40025754 |
| IEC |  | IEC-CB | IEC 60384-14 | US-21746-UL |

Part Number Code

| | | | | | | | | | | | | | |
|---|----|---|---|---|-----|---|----|---|---|---|---|---|---|
| Q | 09 | F | 1 | D | 222 | M | N0 | B | 0 | S | 0 | N | 0 |
|---|----|---|---|---|-----|---|----|---|---|---|---|---|---|

Rated Voltage
Q:Y1

Core Diameter
09:9mm
15:15mm

Temperature Characteristic
S:SL
B:Y5P
E:Y5U
F:Y5V

Pitch
D:10.0mm

Tolerance
K:±10%
M:±20%

Package
B: Bulk
T: Tape

Inner Management

Nominal capacitance
470:47pF
471:470pF
222:2200pF
103:10000pF

Environmental Standard
0:RoHS
2:RoHS+Halogen-Free

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

Lead Length
S0~S9:1.0~1.9mm
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

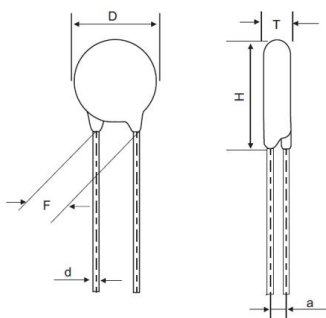
Lead Length
F0~F9:8.0~8.9mm
G0~G9:9.0~9.9mm
H0~H9:10.0~10.9mm
J0~J9:11.0~11.9mm
K0~K9:12.0~12.9mm
L0~L9:13.0~13.9mm
M0~M9:14.0~14.9mm

Lead Length
M0~M9:14.0~14.9mm
N0:16~27.0mm(Bulk)
Crimped Lead Taped
N0:H0=16.5mm
P0:H0=17.0mm
Q0:H0=19.0mm
Straight Lead
Q0:20.0mm

Specifications

| | |
|--|---|
| Capacitance and Dissipation factor testing condition | SL:25°C、1MHz、1Vrms Y5P/Y5U/Y5V:25°C、1KHz、1Vrms |
| Dissipation Factor(tanδ) | ≤2.5% |
| Rated Voltage | 400VAC、250VAC |
| Withstand Voltage | 4000VAC |
| Insulation Resistance (I.R.) | IR≥10000MΩ |
| Temperature Characteristic | SL、Y5P、Y5U、Y5V |

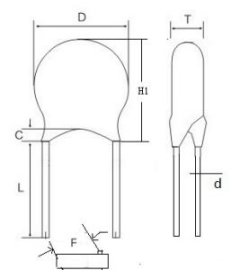
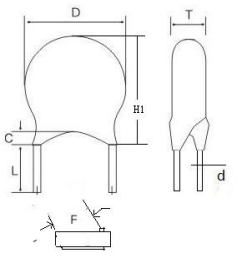
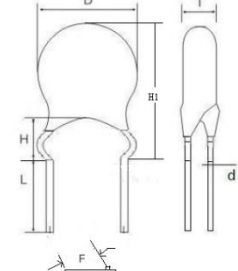
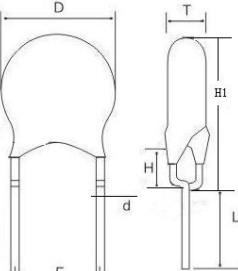
Dimensions (mm) and Approval



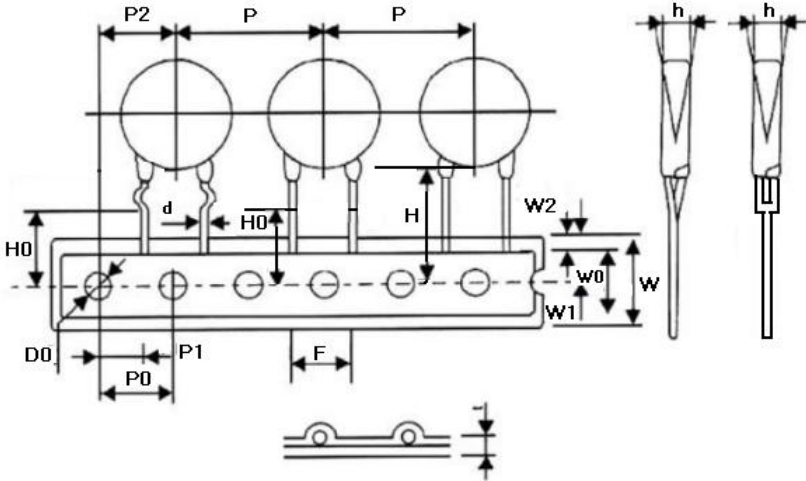
| Part No. | Size (mm) | | | | Approval | | | | |
|-------------|-----------|--------|-------|--------|----------|-----|--------------|-----|------|
| | D Max. | T Max. | F±0.8 | d±0.05 | CQC | VDE | cUL (Canada) | KTL | ENEC |
| Y1-SL-100K | 7.0 | 4.0 | 10.0 | 0.6 | √ | √ | √ | | √ |
| Y1-SL-200K | 7.0 | 4.0 | 10.0 | 0.6 | √ | √ | √ | | √ |
| Y1-SL-220K | 7.0 | 4.0 | 10.0 | 0.6 | √ | √ | √ | | √ |
| Y1-SL-330K | 7.0 | 4.0 | 10.0 | 0.6 | √ | √ | √ | | √ |
| Y1-SL-470K | 8.0 | 4.0 | 10.0 | 0.6 | √ | √ | √ | | √ |
| Y1-SL-560K | 8.0 | 4.0 | 10.0 | 0.6 | √ | √ | √ | | √ |
| Y1-SL-680K | 9.0 | 4.0 | 10.0 | 0.6 | √ | √ | √ | | √ |
| Y1-SL-820K | 9.5 | 4.0 | 10.0 | 0.6 | √ | √ | √ | | √ |
| 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 | √ | | √ | √ | |

| Part No. | Size (mm) | | | | Approval | | | | |
|-------------|-----------|--------|-------|--------|----------|-----|--------------|-----|------|
| | D Max. | T Max. | F±0.8 | d±0.05 | CQC | VDE | cUL (Canada) | KTL | ENEC |
| 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 | 14.5 | 5.5 | 10.0 | 0.65 | √ | √ | √ | √ | √ |
| Y1-Y5U-472M | 17.5 | 5.5 | 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 | 11.0 | 5.5 | 10.0 | 0.65 | √ | √ | √ | √ | √ |
| Y1-Y5V-472M | 12.0 | 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 | 11.0 Max | |
| | | Crimped Lead | 9.0 Max | |
| | t1 | 0.5±0.2 | | |
| | t2 | 1.7 Max | | |