# CCD-W Series

**Ceramic Disc Capacitors (Class 2 high voltage low D.F. ceramic dielectric capacitors)**

TRIGON COMPONENTS

## FEATURES

- High Voltage，Low D.F, High Stable，High Reliability
- Coated with flame-retardant epoxy resin

Relative Standards:

- IEC 384-9: 1988 (Fixed capacitors of ceramic dielectric, class 2)
- GB/T 5698-1966 (Fixed capacitors of ceramic dielectric, class 2)
- GB 9322-88 (Fixed class 2 high voltage ceramic dielectric capacitors)
- RoHS Compliant

## APPLICATION

- Electronic Control Gear （Ballast）
- Television
- Power Supply，High Voltage Circuit etc

## ORDERING CODE

CCD – W 10 E 222 K 102 L 5 1
(1) (2) (3) (4) (5) (6) (7) (8) (9) (10)

(1) Ceramic Disc Capacitor
(1) Class 2 high voltage ceramic dielectric capacitors
(2) Diameter Code
(3) Temp. Characteristics：B, E, F
(4) Capacitance Code.
(5) Tolerance Code：K, M, Z
(6) Rated Voltage Code
(7) Lead Style. Ref To Configuration
(8) Lead Spacing Code. Refer To (CCD-Ord) document
(10) Package & Lead Length.

**Please Refer To Complete Ordering Code Document（CCD-Ord）For More Ordering Option.**



## Body Diameter (mm)

| CODE | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| D max. | 5.5 | 6.5 | 7.5 | 8.5 | 9.5 | 10.5 | 11.5 | 12.5 | 13.5 | 14.5 | 15.5 |
| **CODE** | **16** | **17** | **18** | **19** | **20** | **21** | **22** | | | | |
| D max. | 16.5 | 17.5 | 18.5 | 19.5 | 20.5 | 21.5 | 22.5 | | | | |
| **CODE** | **EE** | **FF** | **GG** | **HH** | **II** | **JJ** | **KK** | **LL** | **MM** | **NN** | **OO** |
| D max. | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 | 14.0 | 15.0 |
| **CODE** | **PP** | **QQ** | **RR** | **SS** | **TT** | **UU** | **VV** | | | | |
| D max. | 16.0 | 17.0 | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | | | | |

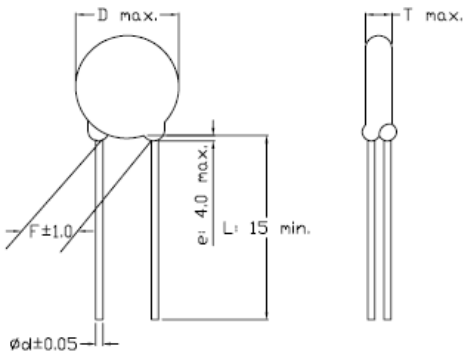
# CCD-W Series

**Ceramic Disc Capacitors (Class 2 high voltage low D.F. ceramic dielectric capacitors)**

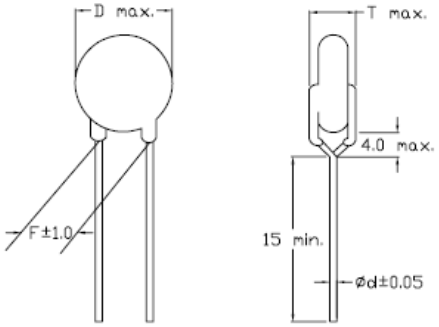
TRIGON COMPONENTS

Capacitor

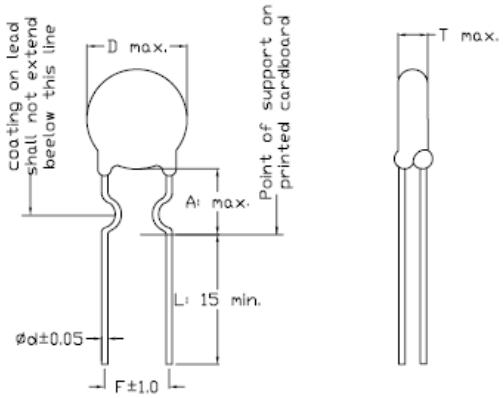
## Configuration:



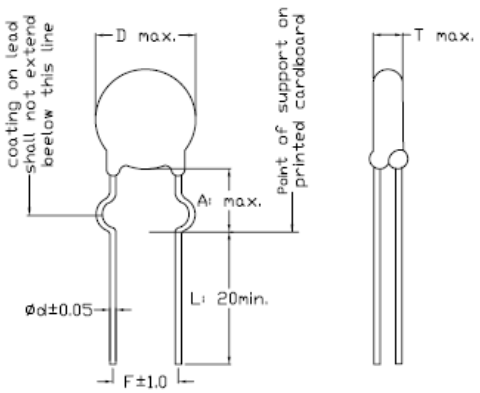

Lead Style "L"



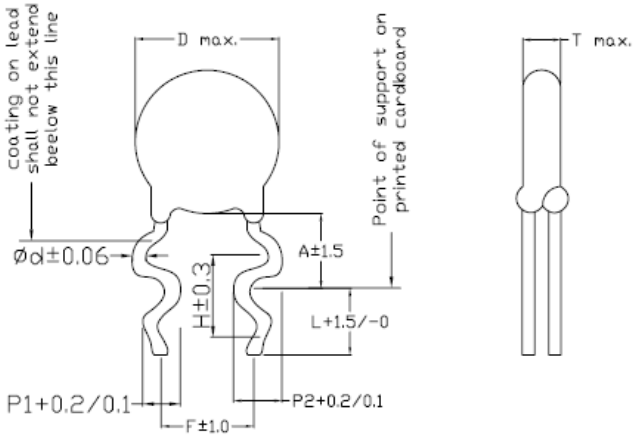

Lead Style "K"




Lead Style "Y"




Lead Style "Z"




Lead Style "D"

US-Eng Emiliano Salinas

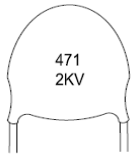
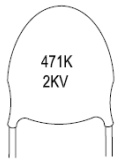
# CCD-W Series

**Ceramic Disc Capacitors (Class 2 high voltage low B.D.F. ceramic dielectric capacitors)**

TRIGON COMPONENTS



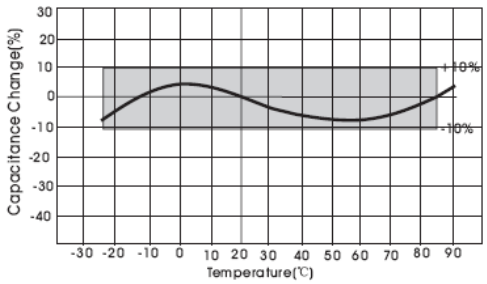
## MARKING:

| BODY DIAMETER(mm) | MARKING ITEM | EXAMPLE |
|---|---|---|
| B(Y5P) | a：Norminal Capacitors<br>b：Rated Voltage |  |
| E(Y5U) | a：Norminal Capacitors<br>b：Capacitance Tolerance：K，M，Z<br>c：Rated Voltage：actual value |  |
| F(Y5V) | a：Norminal Capacitors<br>b：Capacitance Tolerance：K，M ，Z<br>c：Rated Voltage<br>d：Temperature Characteristic：<br>E（Y5U），F（Y5V）<br>e：Manufactuer·s Trade Mark |    |

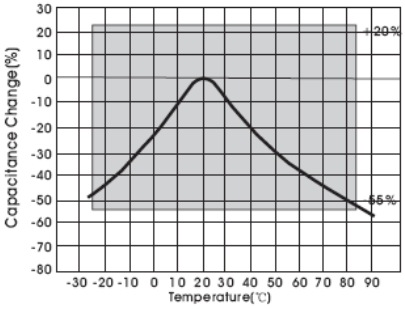
1. Mark Color: Black or Nearly Color
2. Nominal Capacitance: 3 Digital Code
3. Capacitance Tolerance: Marked With Code
4. Rated Voltage: Actual Value
5. Manufacturers Identification :Marked With TCP

## CAPACITANCE VS TEMPERATURE CURVE:

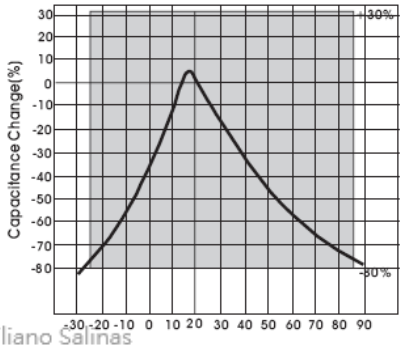
Char：B(Y5P)




Char:E（Y5U）




Char:F（Y5V）



# CCD-W Series

**Ceramic Disc Capacitors (Class 2 high voltage low B.D.F. ceramic dielectric capacitors)**

TRIGON COMPONENTS



## CAPACITANCE, VOLTAGE, DIAMETER & THICKNESS DISTRIBUTION DIAGRAM

| Voltage | 1KVDC | | | 2KVDC | | | 3KVDC | | |
|---|---|---|---|---|---|---|---|---|---|
| Temp. Char. | B（Y5P） | E（Y5U） | F（Y5V） | B（Y5P） | E（Y5U） | F（Y5V） | B（Y5P） | E（Y5U） | F（Y5V） |
| | ±10% | ±20% | +80%~-20% | ±10% | ±20% | +80%~-20% | ±10% | ±20% | +80%~-20% |
| Thickness | 4.0 max | 4.0 max | 4.0 max | 5.0 max | 5.0 max | 5.0 max | 6.0 max | 6.0 max | 6.0 max |
| Cap. pF | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch |
| 100 | 7.0 / 5.0 | NA | NA | 7.0 / 5.0 | NA | NA | 8.0 / 7.5 | NA | NA |
| 120 | 7.0 / 5.0 | NA | NA | 7.0 / 5.0 | NA | NA | 8.0 / 7.5 | NA | NA |
| 150 | 7.0 / 5.0 | NA | NA | 7.0 / 5.0 | NA | NA | 8.0 / 7.5 | NA | NA |
| 180 | 7.0 / 5.0 | NA | NA | 7.0 / 5.0 | NA | NA | 8.0 / 7.5 | NA | NA |
| 220 | 7.0 / 5.0 | NA | NA | 7.0 / 5.0 | NA | NA | 8.0 / 7.5 | NA | NA |
| 270 | 7.0 / 5.0 | NA | NA | 7.0 / 5.0 | NA | NA | 8.0 / 7.5 | NA | NA |
| 330 | 7.0 / 5.0 | NA | NA | 7.0 / 5.0 | NA | NA | 8.0 / 7.5 | NA | NA |
| 390 | 7.0 / 5.0 | NA | NA | 7.0 / 5.0 | NA | NA | 8.0 / 7.5 | NA | NA |
| 470 | 7.0 / 5.0 | NA | NA | 7.0 / 5.0 | NA | NA | 8.0 / 7.5 | NA | NA |
| 560 | 7.0 / 5.0 | NA | NA | 8.0 / 5.0 | NA | NA | 8.0 / 7.5 | NA | NA |
| 680 | 7.0 / 5.0 | NA | NA | 8.0 / 5.0 | NA | NA | 9.0 / 7.5 | NA | NA |
| 820 | 7.0 / 5.0 | NA | NA | 8.0 / 5.0 | NA | NA | 10.0 / 7.5 | NA | NA |
| 1000 | 7.0 / 5.0 | 7.0 / 5.0 | NA | 9.0 / 5.0 | 7.0 / 7.5 | 7.0 / 5.0 | 11.0 / 7.5 | 8.0 / 7.5 | 8.0 / 7.5 |
| 1200 | 7.0 / 5.0 | 7.0 / 5.0 | NA | 9.0 / 5.0 | 7.0 / 5.0 | 7.0 / 5.0 | 11.0 / 7.5 | 9.0 / 7.5 | 8.0 / 7.5 |
| 1500 | 8.0 / 5.0 | 7.0 / 5.0 | NA | 10.0 / 5.0 | 8.0 / 5.0 | 7.0 / 5.0 | 12.0 / 7.5 | 9.0 / 7.5 | 8.0 / 7.5 |
| 1800 | 9.0 / 5.0 | 7.0 / 5.0 | NA | 11.0 / 5.0 | 8.0 / 5.0 | 7.0 / 5.0 | 13.0 / 7.5 | 9.0 / 7.5 | 8.0 / 7.5 |
| 2200 | 9.0 / 5.0 | 7.0 / 5.0 | NA | 11.0 / 5.0 | 8.0 / 5.0 | 7.0 / 5.0 | 14.0 / 7.5 | 10.0 / 7.5 | 8.0 / 7.5 |
| 2700 | 10.0 / 5.0 | 8.0 / 5.0 | NA | 13.0 / 7.5 | 10.0 / 7.5 | 8.0 / 5.0 | 15.0 / 7.5 | 10.0 / 7.5 | 9.0 / 7.5 |
| 3300 | 11.0 / 5.0 | 8.0 / 5.0 | 7.0 / 5.0 | 14.5 / 7.5 | 10.0 / 7.5 | 8.0 / 5.0 | 17.0 / 10.0 | 11.0 / 7.5 | 9.0 / 7.5 |
| 3900 | 12.0 / 7.5 | 9.0 / 5.0 | 8.0 / 5.0 | 15.0 / 7.5 | 11.0 / 7.5 | 9.0 / 5.0 | 18.0 / 10.0 | 12.0 / 7.5 | 11.0 / 7.5 |
| 4700 | 13.0 / 7.5 | 10.0 / 5.0 | 8.0 / 5.0 | 17.0 / 7.5 | 11.0 / 7.5 | 10.0 / 5.0 | 19.0 / 10.0 | 13.0 / 7.5 | 11.0 / 7.5 |
| 5600 | 14.0 / 7.5 | 10.0 / 5.0 | 8.0 / 5.0 | NA | 13.0 / 7.5 | 10.0 / 7.5 | NA | 15.0 / 7.5 | 12.0 / 7.5 |
| 6800 | 15.0 / 7.5 | 11.0 / 5.0 | 9.0 / 5.0 | NA | 13.0 / 7.5 | 11.0 / 7.5 | NA | 16.0 / 10.0 | 12.0 / 10.0 |
| 8200 | 17.0 / 7.5 | 12.0 / 7.5 | 10.0 / 5.0 | NA | 13.0 / 7.5 | 13.0 / 7.5 | NA | 18.0 / 10.0 | 14.0 / 10.0 |
| 10000 | 18.0 / 7.5 | 12.0 / 7.5 | 10.0 / 5.0 | NA | 16.0 / 7.5 | 13.0 / 7.5 | NA | 19.0 / 10.0 | 15.0 / 10.0 |
| 15000 | NA | 15.0 / 7.5 | NA | NA | NA | 15.0 / 7.5 | NA | NA | 18.0 / 10.0 |
| 22000 | NA | 18.0 / 7.5 | 14.0 / 7.5 | NA | NA | 18.0 / 10.0 | NA | NA | 21.0 / 10.0 |
| 33000 | NA | NA | 17.0 / 7.5 | NA | NA | NA | NA | NA | NA |

- Operating Temperature Range: -25 to +125°C.
  D.F Char. D,E: 2.5% max. Char. F: 5.0% max.

# CCD-W Series

**Ceramic Disc Capacitors (Class 2 high voltage low B.D.F. ceramic dielectric capacitors)**



## CAPACITANCE, VOLTAGE, DIAMETER & THICKNESS DISTRIBUTION DIAGRAM

| Voltage | 4KVDC | | | 5KVDC | | | 6KVDC | | |
|---|---|---|---|---|---|---|---|---|---|
| Temp. Char. | B（Y5P） | E（Y5U） | F（Y5V） | B（Y5P） | E（Y5U） | F（Y5V） | B（Y5P） | E（Y5U） | F（Y5V） |
| | ±10% | ±20% | +80%~-20% | ±10% | ±20% | +80%~-20% | ±10% | +80%~-20% | +80%~-20% |
| Thickness | 6.0 max | 6.0 max | 6.0 max | 7.0 max | 7.0 max | 7.0 max | 8.0 max | 8.0 max | 8.0 max |
| Cap. pF | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch |
| 100 | 8.0 / 10.0 | NA | NA | 8.0 / 10.0 | NA | NA | 8.0 / 10.0 | NA | NA |
| 150 | 8.0 / 10.0 | NA | NA | 8.0 / 10.0 | NA | NA | 8.0 / 10.0 | NA | NA |
| 220 | 8.0 / 10.0 | NA | NA | 8.0 / 10.0 | NA | NA | 9.0 / 10.0 | NA | NA |
| 330 | 8.0 / 10.0 | NA | NA | 8.0 / 10.0 | NA | NA | 9.0 / 10.0 | NA | NA |
| 470 | 9.0 / 10.0 | NA | NA | 9.0 / 10.0 | NA | NA | 9.0 / 10.0 | NA | NA |
| 680 | 10.0 / 10.0 | NA | NA | 10.0 / 10.0 | NA | NA | 11.0 / 10.0 | NA | NA |
| 1000 | 12.0 / 10.0 | 9.0 / 10.0 | 8.0 / 10.0 | 13.0 / 10.0 | 9.0 / 10.0 | 8.0 / 10.0 | 13.0 / 10.0 | 9.0 / 10.0 | 8.0 / 10.0 |
| 1500 | NA | 11.0 / 10.0 | 8.5 / 10.0 | NA | 10.0 / 10.0 | 8.0 / 10.0 | NA | 10.0 / 10.0 | 9.0 / 10.0 |
| 2200 | NA | 12.0 / 10.0 | 9.0 / 10.0 | NA | 11.0 / 10.0 | 9.0 / 10.0 | NA | 12.0 / 10.0 | 10.0 / 10.0 |
| 3300 | NA | 14.0 / 10.0 | 11.0 / 10.0 | NA | 13.0 / 10.0 | 11.0 / 10.0 | NA | 13.0 / 10.0 | 11.0 / 10.0 |
| 4700 | NA | 17.0 / 10.0 | 12.0 / 10.0 | NA | 16.0 / 10.0 | 13.0 / 10.0 | NA | 17.0 / 10.0 | 13.0 / 10.0 |
| 10000 | NA | NA | 17.0 / 10.0 | NA | NA | 18.0 / 10.0 | NA | NA | 20.0 / 10.0 |

| Voltage | 8KVDC | | |
|---|---|---|---|
| Temp. Char. | B（Y5V） | E（Y5U） | F（Y5V） |
| | ±10% | +80%~-20% | +80%~-20% |
| Thickness | 8.0 max | 8.0 max | 8.0 max |
| Cap. pF | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch |
| 100 | 9.0 / 10.0 | NA | NA |
| 150 | 9.0 / 10.0 | NA | NA |
| 220 | 9.0 / 10.0 | NA | NA |
| 330 | 10.0 / 10.0 | NA | NA |
| 470 | 11.0 / 10.0 | NA | NA |
| 680 | 13.0 / 10.0 | NA | NA |
| 1000 | 15.0 / 10.0 | 11.0 / 10.0 | 9.0 / 10.0 |
| 1500 | NA | 13.0 / 10.0 | 10.0 / 10.0 |
| 2200 | NA | 15.0 / 10.0 | 12.0 / 10.0 |
| 3300 | NA | 18.0 / 10.0 | 14.0 / 10.0 |
| 4700 | NA | 22.0 / 10.0 | 16.0 / 10.0 |
| 10000 | NA | NA | 23.0 / 10.0 |

- Operating Temperature Range: -25 to +125°C.
  D.F Char. D,E: 2.5% max. Char. F: 5.0% max.

## CAPACITANCE, VOLTAGE, DIAMETER & THICKNESS DISTRIBUTION DIAGRAM

| Voltage | 1KVDC | 2KVDC | 3KVDC |
|---|---|---|---|
| Temp. Char. | X/(X7R) ±10% | X/(X7R) ±10% | X/(X7R ±10% |
| Thickness | 4.0 max | 4.0 max | 6.0 max |
| Cap. pF | DIA (max) Pin Pitch | DIA (max) Pin Pitch | DIA (max) Pin Pitch |
| 100 | 7.0 / 5.0 | 7.0 / 5.0 | 8.0 / 7.5 |
| 120 | 7.0 / 5.0 | 7.0 / 5.0 | 8.0 / 7.5 |
| 150 | 7.0 / 5.0 | 7.0 / 5.0 | 8.0 / 7.5 |
| 180 | 7.0 / 5.0 | 7.0 / 5.0 | 8.0 / 7.5 |
| 220 | 7.0 / 5.0 | 7.0 / 5.0 | 8.0 / 7.5 |
| 270 | 7.0 / 5.0 | 7.0 / 5.0 | 8.0 / 7.5 |
| 330 | 7.0 / 5.0 | 7.0 / 5.0 | 8.0 / 7.5 |
| 390 | 7.0 / 5.0 | 7.0 / 5.0 | 8.0 / 7.5 |
| 470 | 7.0 / 5.0 | 7.0 / 5.0 | 8.0 / 7.5 |
| 560 | 7.0 / 5.0 | 8.0 / 5.0 | 9.0 / 7.5 |
| 680 | 7.0 / 5.0 | 8.0 / 5.0 | 9.0 / 7.5 |
| 820 | 7.0 / 5.0 | 8.0 / 5.0 | 10.0 / 7.5 |
| 1000 | 7.0 / 5.0 | 9.0 / 5.0 | 11.0 / 7.5 |
| 1200 | 7.0 / 5.0 | 9.0 / 5.0 | 11.0 / 7.5 |
| 1500 | 8.0 / 5.0 | 10.0 / 5.0 | 12.0 / 7.5 |
| 1800 | 9.0 / 5.0 | 11.0 / 5.0 | 13.0 / 7.5 |
| 2200 | 9.0 / 5.0 | 11.0 / 5.0 | 14.0 / 7.5 |
| 2700 | 10.0 / 5.0 | 13.0 / 7.5 | 15.0 / 7.5 |
| 3300 | 11.0 / 5.0 | 13.0 / 7.5 | 17.0 / 10.0 |
| 3900 | 12.0 / 7.5 | 15.0 / 7.5 | 18.0 / 10.0 |
| 4700 | 13.0 / 7.5 | 17.0 / 7.5 | 19.0 / 10.0 |
| 5600 | 14.0 / 7.5 | NA | NA |
| 6800 | 15.0 / 7.5 | NA | NA |
| 8200 | 17.0 / 7.5 | NA | NA |
| 10000 | 18.0 / 7.5 | NA | NA |

Trigon Components reserves the rights for revising the content of this catalog without further notification.

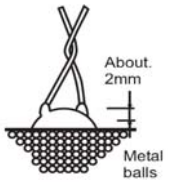
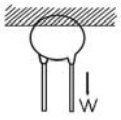
## SPECIFICATION AND TEST METHOD

### Test condition

Test and measurement shall be made at the standard condition, (Temperature 15 to 35℃, relative humidity 45 to 75% and atmospheric pressure 860-1060 hpa), unless otherwise specified herein

If doubt occurred on the value of measurement, and remeasurement was requested by customer capacitors shall be measured at the reference condition(Temperature 20±2° relative humidity 60 to 70% and atmospheric pressure 860-1060 hpa), unless otherwise specified herein

### Performance

| No | Item | | Specification | Testing Method |
|---|---|---|---|---|
| 1 | Operating Temperature Range | | -25 to +125°C | ------ |
| 2 | Appearance and Dimensions | | No marked defect on appearance from and dimensions are within specified range. | The capacitor shall be inspected by naked eyes for Visible evidence of defect. Dimensions shall be measured with slide calipers. |
| 3 | Marking | | To be easily legible. | The capacitor shall be inspected by naked eyes. |
| 4 | Dielectric Strength | Between Lead Wires | No failure. | The capacitor shall not be damage when DC voltage of 150% the rated voltage is applied between the lead wires for 1 to 5 s. (Charge/Discharge current ≤50mA.) |
| | | Body Insulation | No failure. | The capacitor is placed in the container with metal balls of diameter 1mm so that each lead wire, short circuited, is kept about 2mm off the balls as shown in the figure, and DC Voltage of 1.3kV is applied for 1 to 5 s between capacitor lead wires and small metals. (Charge/Discharge current ≤50mA.)   |
| 5 | Insulation Resistance (I.R.) | Between Lead Wires | C*1≤ 0.02uF：10000MΩ Min<br>C*1〉0.02uF：7500.MΩ Min | The insulation resistance shall be measured with DC500±50V within 60±5 s of charging |
| 6 | Capacitance | | Within specified tolerance. | The capacitance shall be measured at 20 ±2□ with 1±0.2KHz and AC1±0.1V(r.m.s) |
| 7 | Dissipation Factor (D.F.) | | Char. D,E: 2.5% max.<br>Char. F: 5.0% max. | The dissipation factor shall be measured at 20±2□with 1±0.2KHz and AC 1±0.1V(r.m.s) |
| 8 | Temperature Characteristic | | Char. B: within ±10%<br>Char. E: within +20/-50%<br>Char. F : within +30/-80% | The capacitance measurement shall be made at each step specified in Table<br>Pre-treatment: Capacitor shall be stored at 85±2℃ for 1h then placed at*room condition for 24±2h before measurements. |
| 9 | Strength of Lead | Pull | Lead wire shall not cut off. Capacitor shall not be broken. | As a figure, fix the body of capacitor, apply a tensile Weight gradually to each lead wire in the radial direction of capacitor up to10N(5N for lead diameter ¢0.5mm),and keep it for 10±1S   |
| | | Bending | | Each lead wire shall be subjected to 5N(2.5N for lead diameter ¢0.5mm) weight and then a 90 deg bend, at the point of egress, in one direction, return to original position, and then a 90 deg bend in the opposite direction at the rate of one bend in 2 to 3S. |

| Step | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Temp. (℃) | 20±2 | -25±3 | 20±2 | 85±2 | 20±2 |

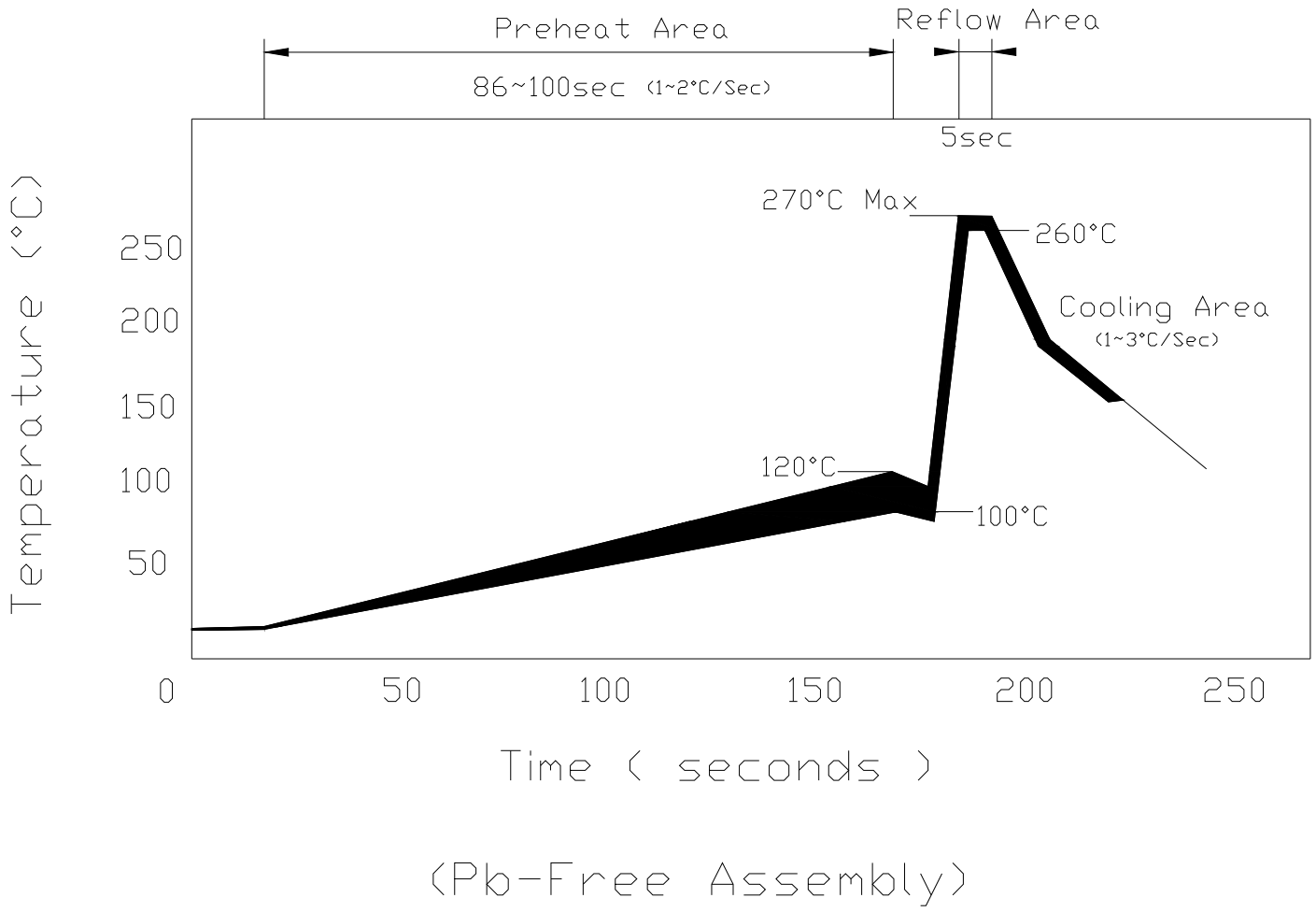
Capacitor

| | | | | |
|---|---|---|---|---|
| 10 | Vibration Resistance | Appearance | No marked defect. | The capacitor shall firmly be soldered to the supporting lead wire and vibration which is 10 to 55Hz in the vibration frequency range, 1.5mm in total amplitude, and about 1min. In the rate of vibration change from 10Hz to 55Hz and back to 10Hz is applied for a total of 6 h; 2 h each in 3 mutually perpendicular directions. |
| | | Capacitance | Within specified tolerance. | |
| | | D.F. | Char. B, E: 2.5% max<br>Char. F: 5.0% max | |
| 11 | Solderability of Leads | | Lead wire shall be soldered with uniformly coated on the axial direction over 3/4 of the circumferential direction. | The lead wire of a capacitor shall be dipped into a ethanol solution of 25 wt% rosin and then into molten solder of 235±5℃ for 2±0.5s In both cases the depth of dipping is up to about 1.5 to 2mm from the root of lead wires. |
| 12 | Soldering Effect | Appearance | No marked defect | The lead wire shall be immersed into the melted solder of 350±10℃ or 260±5℃ up to about 1.5 to 2.0mm from the main body for 3.5±0.5s (10±1s for 260±5℃)<br>Pre-treatment : Capacitor shall be stored at 85±2℃ for 1h then placed at room condition for 24±2h before initial measurements.<br>Post-treatment : Capacitor shall be stored for 4to24h at room condition. |
| | | Capacitance Change | Char. B : within ±5%<br>Char. E : within ±15%<br>Char. F : within ±20% | |
| | | Dielectric Strength (Between Lead Wires) | Per item 4. | |
| 13 | Humidity (Under Steady State) | Appearance | No marked defect. | Set the capacitor for 500+24/-0h at 40±2℃ in 90to 95% relative Humidity<br>Pre-treatment : Capacitor shall be stored at 8±2℃ for 1h then placed At room condition for 24±2h before initial measurements.<br>Post-treatment : Capacitor shall be stored for 1to 2h at room condition. |
| | | Capacitance change | Char. B : within ±10%<br>Char. E : within ±20%<br>Char. F : within ±30% | |
| | | D.F. | Char. B, E: 5% max<br>Char. F: 7.5% max | |
| | | I.R. | 1000MΩ min | |
| 14 | Humidity Loading | Appearance | No marked defect. | Apply the rated voltage for 500 +24/-0 at 40±2℃ in 90 to 95% relative Humidity(Charge/Discharge current ≤50mA)<br>Pre-treatment : Capacitor shall be stored at 85±2℃ for 1h then placed At room condition for 24±2h before initial measurements.<br>Post-treatment : Capacitor shall be stored at 85±2℃ for 1h,then placed at*room condition for 24±2h. |
| | | Capacitance change | Char. B : within ±10%<br>Char. E : within ±20%<br>Char. F : within ±30% | |
| | | D.F. | Char. B, E: 5% max<br>Char. F: 7.5% max | |
| | | I.R. | 500MΩ min | |
| 15 | Life | Appearance | No marked defect. | Apply a DC voltage 150% of the rated voltage for1000 +48/-0h at 85± 2 ℃ and relative humidity of 50% max.. (Charge/Discharge current 500mA)<br>Pre-treatment : Capacitor shall be stored at 85±2℃ for 1h then placed At room condition for 24±2h before initial measurements.<br>Post-treatment : Capacitor shall be stored at 85±2℃for 1h then placed At room condition for 24±2h. |
| | | Capacitance change | Char. E : within ±10%<br>Char. E : within ±20%<br>Char. F : within ±30% | |
| | | D.F. | Char. B, E: 4.5% max<br>Char. F: 7.5% max | |
| | | I.R. | 2000MΩ min | |
| 16 | Temperature D.F. and Immersion Cycle | Appearance | No marked defect. | The capacitor shall be subjected to 5 temperature cycles. The consecutively to 2 immersion cycles。<br><Temperature cycle><br>Step / Temperature(℃) / Time<br>1 / -25℃±3 / 30 Min<br>2 / Room Temp / 3 Min<br>3 / +85℃±3 / 30 Min<br>4 / Room Temp / 3 Min<br>Cycle time: 5 cycle<br><Temperature cycle><br>Step / Temperature(℃) / Time / Immersion Water<br>1 / +65℃+5/-0 / 15 Min / Clean Water<br>2 / 0±3 / 15 Min / Salt Water<br>Cycle time: 5 cycle<br>Pre-treatment : Capacitor shall be stored at 105±2℃ for 1h then placed At room condition for 24±2h before initial measurements.<br>Post-treatment : Capacitor shall be stored for 4 to24h at room condition. |
| | | Capacitance change | Char. B : within ±20%<br>Char. E : within ±20%<br>Char. F : within ±30% | |
| | | D.F. | Char. B, E: 4.0% max<br>Char. F: 7.5% max | |
| | | I.R. | 2000MΩ min | |
| | | Dielectric Strength (Between Lead Wires) | Per item 4. | |

# SOLDERING PROFILE

**Ceramic Disc Capacitors (Class 2 high voltage Low D.F. ceramic dielectric capacitors)**

TRIGON
COMPONENTS




(Pb-Free Assembly)

US-Eng Emiliano Salinas

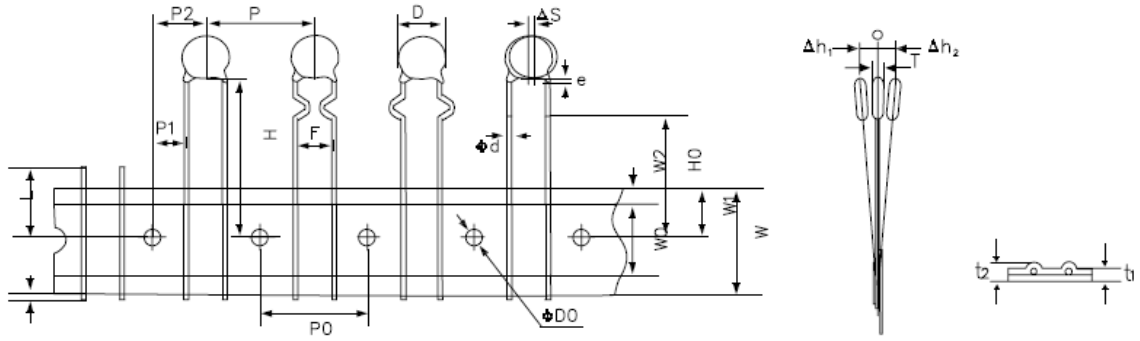
# CCD-W Series

**Ceramic Disc Capacitors (Class 2 high voltage low B.D.F. ceramic dielectric capacitors)**

TRIGON
COMPONENTS

## TAPING SPECIFICATION

- 12.7mm pitch/lead spacing 5.0/7.5mm taping
- 30mm pitch/lead spacing 7.5/10.0mm taping




| Item | Code | Dimension |
|---|---|---|
| Pitch of component | P | 12.7/25.4 |
| Pitch of sprocket hole | P0 | 12.7±0.3 |
| Lead spacing | F | 5.0±1.0/7.5±1.0/10.0±1.0 |
| Length from hole center to component center | P2 | 6.35±1.3/12.7±1.3 |
| Length from hole center to lead | P1 | 3.85±0.7/2.6±0.7/8.95±1.0/7.7±1.0 |
| Body diameter | D | See the individual product specification |
| Deviation along tape, left or right | △S | 0±2.0 |
| Carrier tape width | W | 18.0±0.5 |
| Position of sprocket hole | W1 | 9.0±0.5 |
| Lead distance between reference and bottom planes | H | 20.0±1.5 |
| Diameter of sprocket hole | ∮ D0 | 4.0±0.2 |
| Total thickness, tape and lead wire | ∮ d | 0.55±0.3 |
| Lead diameter | t1 | 0.55±0.3 |
| Total tape thickness | t2 | 2.0 max. |
| Body thickness | T | See the individual product specification |
| Portion to cut in case of defect | L | 11.0 max. |
| Hold down tape width | W0 | 10±2 |
| Hold down tape position | W2 | 1.5±1.5 |
| Coating extension on lead | e | Up to the end of crimp |
| Deviation across tape | △h1 | 2.0 max. |
| | △h2 | |

Capacitor

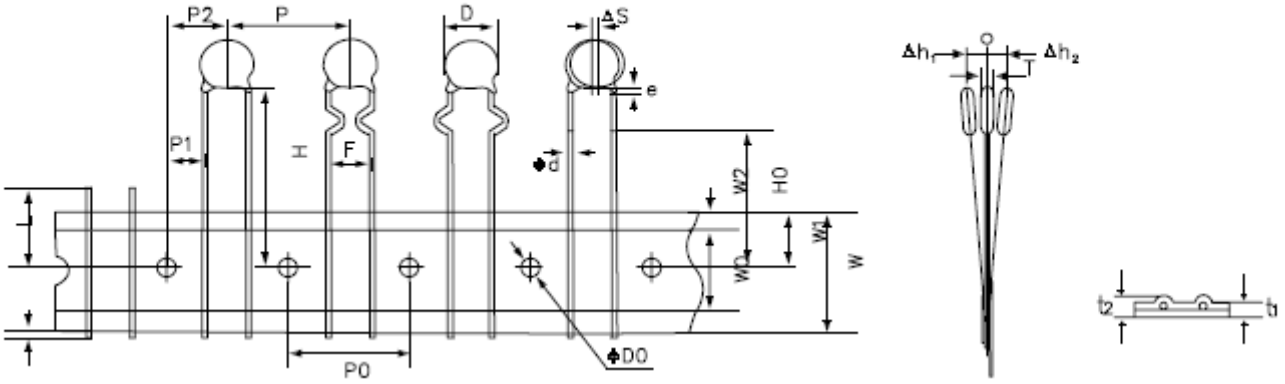
# CCD-W Series

**Ceramic Disc Capacitors (Class 2 high voltage low B.D.F. ceramic dielectric capacitors)**

TRIGON COMPONENTS



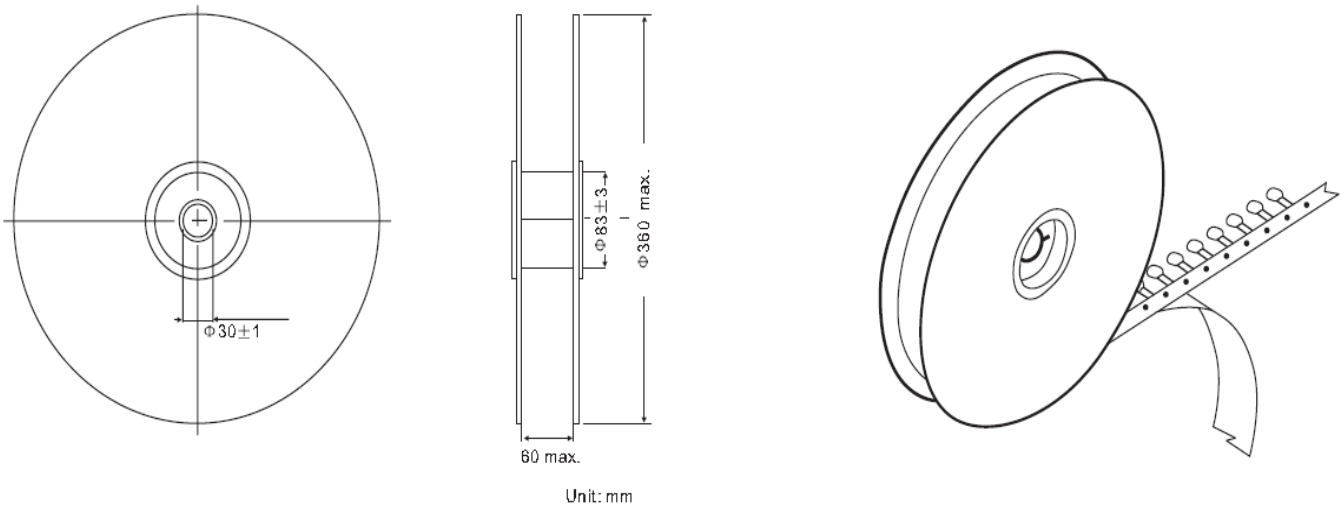
- 15.0mm pitch/lead spacing 5.0/7.5mm taping
- 30mm pitch/lead spacing 7.5/10.0mm taping



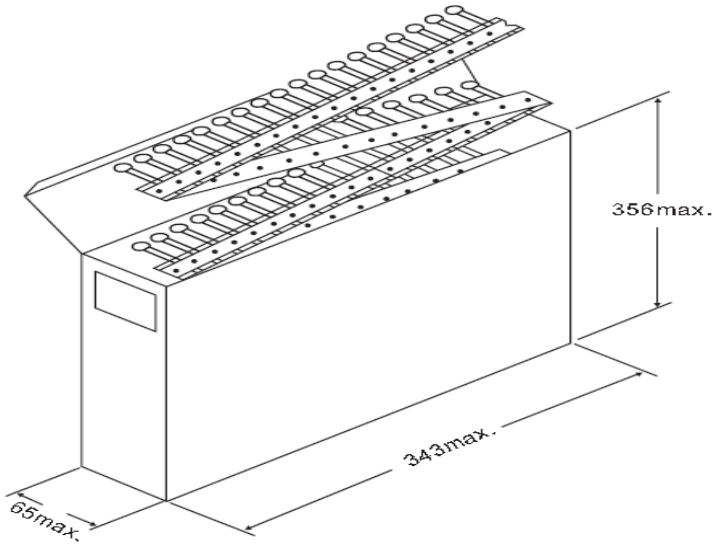

| Item | Code | Dimension |
|---|---|---|
| Pitch of component | P | 15.0/30.0 |
| Pitch of sprocket hole | P0 | 15.0±0.3 |
| Lead spacing | F | 5.0±1.0/7.5±1.0/10.0±1.0 |
| Length from hole center to component center | P2 | 7.35±1.3/15.0±1.3 |
| Length from hole center to lead | P1 | 5.0±0.7/3.75±0.7/11.25±0.7/10.0±1.0 |
| Body diameter | D | See the individual product specification |
| Deviation along tape, left or right | △S | 0±2.0 |
| Carrier tape width | W | 18.0±0.5 |
| Position of sprocket hole | W1 | 9.0±0.5 |
| Lead distance between reference and bottom planes | H | 20.0±1.5 |
| Diameter of sprocket hole | ϕ D0 | 4.0±0.2 |
| Total thickness, tape and lead wire | ϕ d | 0.55±0.05 |
| Lead diameter | t1 | 0.6±0.3 |
| Total tape thickness | t2 | 2.0 max. |
| Body thickness | T | See the individual product specification |
| Portion to cut in case of defect | L | 11.0 max. |
| Hold down tape width | W0 | 10.0±2 |
| Hold down tape position | W2 | 1.5±1.5 |
| Coating extension on lead | e | Up to the end of crimp |
| Deviation across tape | △h1 | 2.0 max. |
| | △h2 | |

## PACKAGING STYLES

### Taping：Reel Packaging




### Taping：Ammo Box




### Bulk： Polyethylene Bag

## PACKAGING QUANTITY

Bulk（at standards specification）

Body Diameter 4.5 to 9.0 mm : 1000 pcs
Body Diameter 10 mm over : 500 pcs

Taping

Pitch : 12.7/25.4 mm
Body Diameter 4.5 to 8.0 mm : 1500 pcs./Box
Body Diameter 9.0 mm over : 1000 pcs./Box

## LABEL AND TRANSPORTB

Capacitors shall be packaged prior to shipment so as to prevent damage during transportation and storage.
Shipping carton contains the following information on the label