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# High Voltage Class 2 Ceramic DC Disc Capacitors, 10 $kV_{DC}$ to 40 $kV_{DC}$ / 3.5 $kV_{AC}$ to 14 $kV_{AC}$, Screw Terminal Mounting




## FEATURES

- Class 2 ceramic (Y5U)
- Low inductance
- High insulation resistance
- Epoxy coating
- Screw terminal mounting
- Ceramic singlelayer capacitor
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

## APPLICATIONS

- High voltage power supplies
- $CO_2$ lasers
- X-ray equipment
- Welding equipment
- Industrial

## DESIGN SUPPORT TOOLS AVAILABLE

3D Models

| QUICK REFERENCE DATA | | | | | |
|---|---|---|---|---|---|
| DESCRIPTION | VALUE | | | | |
| Ceramic Class | 2 | | | | |
| Ceramic Dielectric | Y5U | | | | |
| Type | 715C10DK### | 715C15DK### | 715C20DK### | 715C30DK### | 715C40DK### |
| Voltage ($V_{DC}$) | 10 000 | 15 000 | 20 000 | 30 000 | 40 000 |
| Min. Capacitance (pF) | 10 000 | 1500 | 500 | 500 | 300 |
| Max. Capacitance (pF) | 20 000 | 10 000 | 6800 | 4700 | 3300 |
| Mounting | Screw terminal | | | | |

## DIELECTRIC STRENGTH

150 % of rated voltage, charging current limited to 50 mA.

## DISSIPATION FACTOR tan $\delta$

$\leq 20 \times 10^{-3}$ (1 kHz)

## INSULATION RESISTANCE

Min. 200 000 MΩ or 1000 ΩF min. at 25 °C.

## CORONA LIMIT

< 5 pC at 50 % rated AC voltage.

## OPERATING TEMPERATURE RANGE

-30 °C to +85 °C

## CAPACITANCE RANGE

300 pF to 20 nF

## CAPACITANCE TOLERANCES

-20 % to +80 %

## CERAMIC DIELECTRIC

Y5U (Class 2)

## RATED VOLTAGE (1)

- 10 $kV_{DC}$ (3.5 $kV_{RMS}$)
- 15 $kV_{DC}$ (5.3 $kV_{RMS}$)
- 20 $kV_{DC}$ (7.0 $kV_{RMS}$)
- 30 $kV_{DC}$ (10.6 $kV_{RMS}$)
- 40 $kV_{DC}$ (14.0 $kV_{RMS}$)

**Note**

(1) All $kV_{RMS}$ up to 60 Hz

## MATERIAL

Capacitor elements made from class 2 ceramic in a molded epoxy case. Screw terminals: brass, silver plated.

## MARKING

Type designator, capacitance value, rated DC voltage, ceramic material code, production date code, Cera-mite logo.

## POWER DISSIPATION

Limit to 20 °C rise above ambient, measured on case.



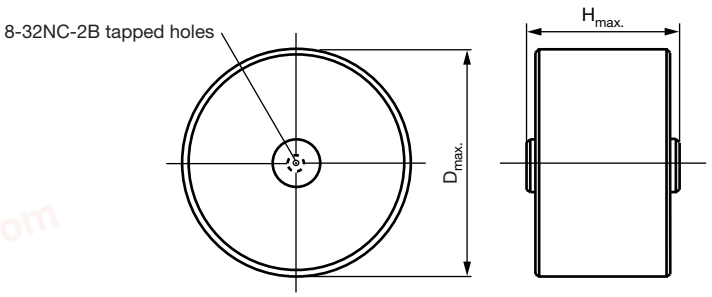
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## DIMENSIONS




**Notes**

- Screw torque limit must be 12 inch pounds. Use #8-32, 3/16" long screw to prevent bottoming
- M5 metric terminals available on request, consult factory

## ORDERING INFORMATION

| 715C15DKD20 | 15 $kV_{DC}$ | 2000 pF | -20 % TO +80 % | Y5U |
|---|---|---|---|---|
| MODEL | RATED VOLTAGE | CAPACITANCE VALUE | TOLERANCE | CERAMIC |

## SAP PART NUMBER, ELECTRICAL, AND DIMENSIONAL DATA in millimeters (inches)

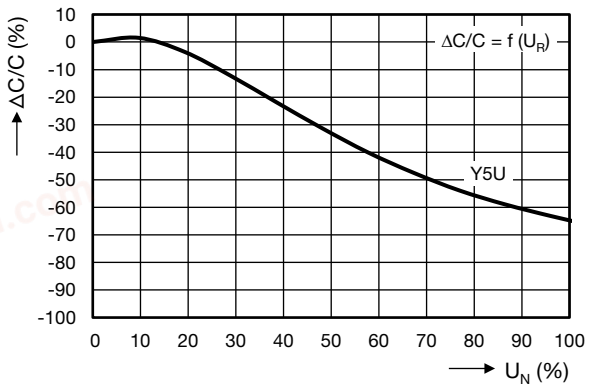
| MODEL | CERAMIC | CAPACITANCE VALUES (pF) | RATED VOLTAGE ($kV_{DC}$) | RATED VOLTAGE ($kV_{RMS}$) | $D_{max.}$ | $H_{max.}$ |
|---|---|---|---|---|---|---|
| **715C10DK###** | | | | | | |
| 715C10DKS10 | Y5U | 10 000 | 10 | 3.5 | 45.7 (1.80) | 22.0 (0.87) |
| 715C10DKS20 | | 20 000 | | | 54.1 (2.13) | 19.8 (0.78) |
| **715C15DK###** | | | | | | |
| 715C15DKD15 | Y5U | 1500 | 15 | 5.3 | 26.7 (1.05) | 22.9 (0.90) |
| 715C15DKD20 | | 2000 | | | 33.0 (1.30) | |
| 715C15DKD33 | | 3300 | | | 39.4 (1.55) | |
| 715C15DKD47 | | 4700 | | | 33.0 (1.30) | |
| 715C15DKS10 | | 10 000 | | | 45.7 (1.80) | |
| **715C20DK###** | | | | | | |
| 715C20DKT50 | Y5U | 500 | 20 | 7.0 | 22.4 (0.88) | 25.4 (1.00) |
| 715C20DKD10 | | 1000 | | | 31.8 (1.25) | |
| 715C20DKD13 | | 1300 | | | 33.0 (1.30) | |
| 715C20DKD25 | | 2500 | | | 39.4 (1.55) | |
| 715C20DKD33 | | 3300 | | | 45.7 (1.80) | |
| 715C20DKD47 | | 4700 | | | 54.1 (2.13) | |
| 715C20DKD68 | | 6800 | | | 61.5 (2.42) | |
| **715C30DK###** | | | | | | |
| 715C30DKT50 | Y5U | 500 | 30 | 10.6 | 26.7 (1.05) | 34.5 (1.36) |
| 715C30DKD10 | | 1000 | | | 33.0 (1.30) | 30.0 (1.18) |
| 715C30DKD25 | | 2500 | | | 45.7 (1.80) | |
| 715C30DKD33 | | 3300 | | | 54.1 (2.13) | |
| 715C30DKD47 | | 4700 | | | 61.5 (2.42) | |
| **715C40DK###** | | | | | | |
| 715C40DKT30 | Y5U | 300 | 40 | 14.0 | 22.4 (0.88) | 34.5 (1.36) |
| 715C40DKT50 | | 500 | | | 26.7 (1.05) | |
| 715C40DKT78 | | 780 | | | 33.0 (1.30) | |
| 715C40DKD10 | | 1000 | | | 39.4 (1.55) | |
| 715C40DKD16 | | 1600 | | | 45.7 (1.80) | |
| 715C40DKD25 | | 2500 | | | 54.1 (2.13) | |
| 715C40DKD33 | | 3300 | | | 58.4 (2.30) | |


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## CAPACITANCE CHANGE VS. VOLTAGE (typical)




| RELATED DOCUMENTS | |
|---|---|
| General Information | www.vishay.com/doc?23140 |
| 3D Models | www.vishay.com/doc?22174 |


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