



**THE DATASHEET OF
715C40DKD33**



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



LINKS TO ADDITIONAL RESOURCES



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
- CO₂ lasers
- X-ray equipment
- Welding equipment
- Industrial

| 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 M Ω or 1000 Ω F min. at 25 °C.

Note

- Exemptions: 715C20DKD68 min. 100 000 M Ω
715C10DKS20 min. 50 000 M Ω
715C10DKS10 min. 50 000 M Ω

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

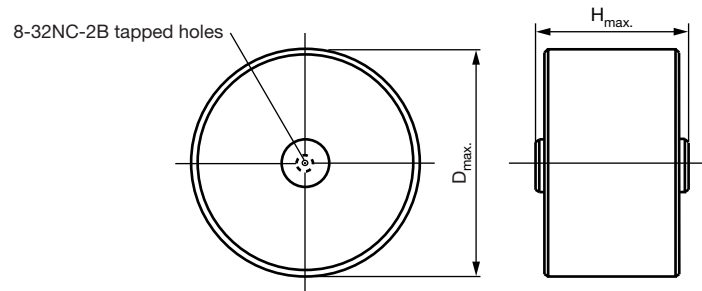
Capacitor elements made from class 2 ceramic in a molded epoxy case. Screw terminals: brass, silver plated.

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.

DIMENSIONS

Notes

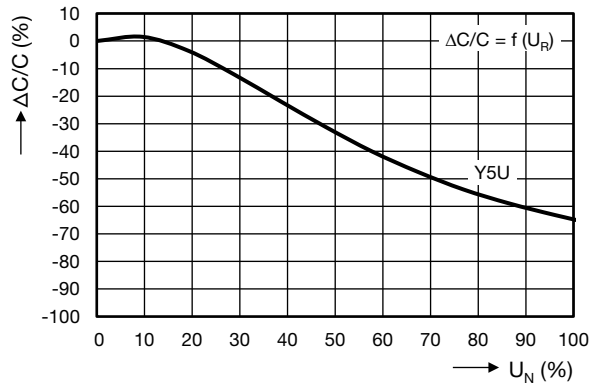
- Screw torque limit must be 12 inch pounds. Use #8-32, 3/16" long screw to prevent bottoming
- M5 metric terminals available on request, consult factory

| 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) | |



CAPACITANCE CHANGE VS. VOLTAGE (typical)



| RELATED DOCUMENTS | |
|---------------------|--|
| General Information | www.vishay.com/doc?223140 |
| 3D Models | www.vishay.com/doc?22174 |



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

 [View 715C40DKD33 on WIN SOURCE](#)

 [Vishay Information](#)

Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management