# Lower Voltage Ceramic DC Disc Capacitors
# 1000 $V_{DC}$ General Purpose

| QUICK REFERENCE DATA | | | | | | |
|---|---|---|---|---|---|---|
| DESCRIPTION | VALUE | | | | | |
| Ceramic Class | 1 | | 2 | | | |
| Ceramic Dielectric | C0G | U2J | X5F | X7R | Y5U | Z5U |
| Voltage ($V_{DC}$) | 1000 | | | | | |
| Min. Capacitance (pF) | 10 | 33 | 100 | 1000 | 1000 | 1200 |
| Max. Capacitance (pF) | 10 | 33 | 500 | 1000 | 1000 | 100 000 |
| Mounting | Radial | | | | | |

## INSULATION RESISTANCE

Min. 1000 ΩF or 20 000 MΩ

## TOLERANCE ON CAPACITANCE

± 20 %

## DISSIPATION FACTOR

2.5 % max. at 1 kHz; 1 V

## CATEGORY TEMPERATURE RANGE

(- 55 to + 125) °C C0G, U2J, X7R

(- 25 to + 85) °C X5F, Y5U, Z5U

## CLIMATIC CATEGORY ACC. TO EN 60068-1

55/125/21 C0G, U2J, X7R

25/085/21 X5F, Y5U, Z5U

## OPERATING TEMPERATURE RANGE

(- 55 to + 105) °C

## FEATURES

RoHS COMPLIANT

- Low losses
- High stability
- High capacitance in small size
- Complete range of capacitance values
- Radial leads
- Ceramic singlelayer capacitor
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

## APPLICATIONS

- Bypassing
- Resonant circuit
- Coupling

## DESIGN

The capacitors consist of a ceramic disc of which both sides are silver-plated. Connection leads are made of tinned copper or tinned copper clad steel having diameters of 0.020" (0.51 mm) or 0.025" (0.64 mm).

The capacitors may be supplied with radial kinked or straight leads having lead spacing of 0.250" (6.35 mm) or 0.375" (9.5 mm).

The standard tolerance is ± 20 %.

Coating is made of resin coating or flammable resistant epoxy resin in accordance with “UL 94 V-0”.

## CAPACITANCE RANGE

10 pF to 0.1 µF

## RATED VOLTAGE

1000 $V_{DC}$

## DIELECTRIC STRENGTH BETWEEN LEADS

Component test:

2500 $V_{DC}$, 2 s

## CERAMIC DIELECTRIC

C0G, U2J (Class 1)
X5F, X7R, Y5U, Z5U (Class 2)



For technical questions, contact: ceramitesupport@vishay.com

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## DIMENSIONS in inches (millimeters)

**Fig. 1**

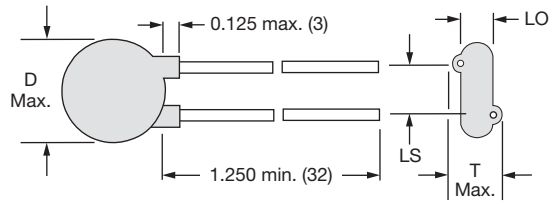
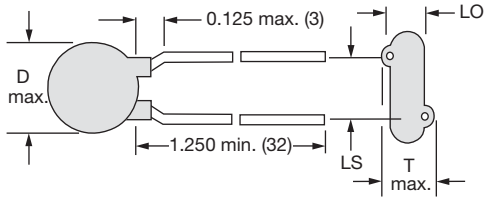



**Fig. 2**




| LEAD OFFSET "LO" (nominal) | |
|---|---|
| 1000 $V_{DC}$ | 0.050" (1.3 mm) |

## ORDERING INFORMATION, CERAMIC 1000 $V_{DC}$ GENERAL PURPOSE

| C (pF) | TOL. (%) | D DIAMETER INCH (mm) | T THICKNESS INCH (mm) | LS LEAD SPACE INCH (mm) | FIG. | WIRE SIZE AWG | WIRE SIZE INCH (mm) | ORDERING CODE |
|---|---|---|---|---|---|---|---|---|
| **C0G (NP0)** | | | | | | | | |
| 10 | ± 20 | 0.250 (6.4) | 0.156 (4.0) | 0.250 (6.4) | 2 | 24 | 0.020 (0.51) | 561R5GAQ10 |
| **U2J (N750)** | | | | | | | | |
| 33 | ± 20 | 0.290 (7.4) | 0.156 (4.0) | 0.250 (6.4) | 2 | 24 | 0.020 (0.51) | 561R5GAQ33 |
| **X5F** | | | | | | | | |
| 100 | ± 20 | 0.250 (6.4) | 0.156 (4.0) | 0.250 (6.4) | 2 | 24 | 0.020 (0.51) | 562R5GAT10 |
| 150 | | | | | | | | 562R5GAT15 |
| 200 | | | | | | | | 562R5GAT20 |
| 220 | | | | | | | | 562R5GAT22 |
| 330 | | | | | | | | 562R5GAT33 |
| 470 | | | | | | | | 562R5GAT47 |
| 500 | | | | | | | | 562R5GAT50 |
| **X7R** | | | | | | | | |
| 1000 | ± 20 | 0.290 (7.4) | 0.156 (4.0) | 0.250 (6.4) | 2 | 24 | 0.020 (0.51) | 562R5GAD10 |
| **Y5U** | | | | | | | | |
| 1000 | + 100 - 0 | 0.290 (7.4) | 0.156 (4.0) | 0.250 (6.4) | 2 | 24 | 0.020 (0.51) | 562R5HKD10 |
| **Z5U** | | | | | | | | |
| 1200 | ± 20 | 0.290 (7.4) | 0.156 (4.0) | 0.250 (6.4) | 2 | 24 | 0.020 (0.51) | 562R5GAD12 |
| 1500 | | | | | | | | 562R5GAD15 |
| 2000 | | | | | | | | 562R5GAD20 |
| 2200 | | | | | | | | 562R5GAD22 |
| 2500 | | | | | | | | 562R5GAD25 |
| 2700 | | | | | | | | 562R5GAD27 |
| 3000 | | | | | | | | 562R5GAD30 |
| 3300 | | | | | | | | 562R5GAD33 |
| 4700 | | 0.370 (9.4) | 0.156 (4.0) | 0.250 (6.4) | 1 | 22 | 0.025 (0.64) | 562R5GAD47 |
| 5000 | | 0.370 (9.4) | 0.156 (4.0) | 0.250 (6.4) | | | | 562R5GAD50 |
| 6800 | | 0.440 (11.2) | 0.156 (4.0) | 0.250 (6.4) | | | | 562R5GAD68 |
| 8200 | | 0.440 (11.2) | 0.156 (4.0) | 0.250 (6.4) | | | | 562R5GAD82 |
| 0.010 µF | | 0.490 (12.4) | 0.156 (4.0) | 0.375 (9.5) | | | | 562R5GAS10 |
| 0.010 µF | | 0.490 (12.4) | 0.156 (4.0) | 0.250 (6.4) | | | | 562R5HKMS10 |
| 0.010 µF | + 100 - 0 | 0.490 (12.4) | 0.156 (4.0) | 0.375 (9.5) | | | | 562R5HKS10 |
| 0.015 µF | ± 20 | 0.560 (14.2) | 0.156 (4.0) | 0.375 (9.5) | | | | 562R5GAS15 |
| 0.020 µF | | 0.680 (17.3) | 0.156 (4.0) | 0.375 (9.5) | | | | 562R5GAS20 |
| 0.050 µF | | 0.770 (19.6) | 0.200 (5.1) | 0.375 (9.5) | | | | 565R10HKS50 |
| 0.10 µF | | 0.950 (24.1) | 0.200 (5.1) | 0.375 (9.5) | | | | 565R10GAP10 |

## TAPE AND REEL OPTIONS

- Tape and reel available on diameter sizes 0.250" to 0.680"
- Part number codes and specifications for tape and reel packaging are found in the general information document - find web-link below

## RELATED DOCUMENTS

| | |
|---|---|
| General Information | www.vishay.com/doc?23140 |



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