

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


RoHS
COMPLIANT

FEATURES

- 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 $\pm 20\%$.

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 μ F

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)

| 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 Ω F or 20 000 M Ω for 10 pF to 0.020 μ F

Min. 15 000 M Ω for 0.050 μ F

Min. 5000 M Ω for 0.10 μ F

TOLERANCE ON CAPACITANCE

$\pm 20\%$

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

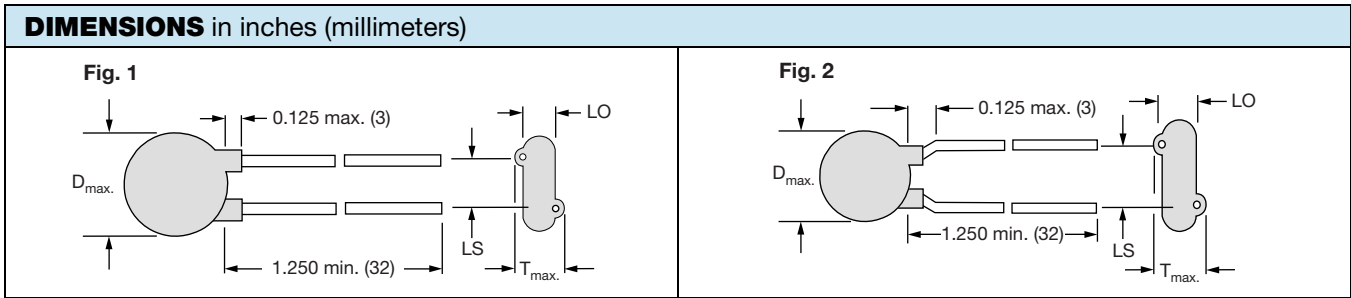
CLIMATIC CATEGORY ACC. TO EN 60068-1

55/125/21 C0G, U2J, X7R

25/085/21 X5F, Y5U, Z5U

OPERATING TEMPERATURE RANGE

(-55 to +105) °C



| ORDERING INFORMATION, CERAMIC 1000 V_{DC} GENERAL PURPOSE | | | | | | | | | | | | | | | |
|--|-------------|--|---|---|--|-------------|-----------|--------------|------------------|-------------|-------------|---|----|--------------|-------------|
| C (pF) | TOL. (%) | D _{max.} DIAMETER INCH (mm) | T _{max.} THICKNESS INCH (mm) | LS LEAD SPACE INCH (mm) ± 1 mm | LO LEAD OFFSET INCH (mm) ± 0.5 mm | FIG. | WIRE SIZE | | ORDERING CODE | | | | | | |
| | | | | | | | AWG | INCH (mm) | | | | | | | |
| C0G (NP0) | | | | | | | | | | | | | | | |
| 10 | ± 20 | 0.250 (6.4) | 0.156 (4.0) | 0.250 (6.4) | 0.051 (1.3) | 2 | 24 | 0.020 (0.51) | 561R5GAQ10 | | | | | | |
| U2J (N750) | | | | | | | | | | | | | | | |
| 33 | ± 20 | 0.290 (7.4) | 0.156 (4.0) | 0.250 (6.4) | 0.039 (1.0) | 2 | 24 | 0.020 (0.51) | 561R5GAQ33 | | | | | | |
| X5F | | | | | | | | | | | | | | | |
| 100 | ± 20 | 0.250 (6.4) | 0.156 (4.0) | 0.250 (6.4) | 0.055 (1.4) | 2 | 24 | 0.020 (0.51) | 562R5GAT10 | | | | | | |
| 150 | | | | | 0.043 (1.1) | | | | 562R5GAT15 | | | | | | |
| 200 | | | | | 0.039 (1.0) | | | | 562R5GAT20 | | | | | | |
| 220 | | | | | 0.051 (1.3) | | | | 562R5GAT22 | | | | | | |
| 330 | | | | | 0.039 (1.0) | | | | 562R5GAT33 | | | | | | |
| 470 | | | | | 0.039 (1.0) | | | | 562R5GAT47 | | | | | | |
| 500 | | | | | 0.039 (1.0) | | | | 562R5GAT50 | | | | | | |
| X7R | | | | | | | | | | | | | | | |
| 1000 | ± 20 | 0.290 (7.4) | 0.156 (4.0) | 0.250 (6.4) | 0.047 (1.2) | 2 | 24 | 0.020 (0.51) | 562R5GAD10 | | | | | | |
| Y5U | | | | | | | | | | | | | | | |
| 1000 | + 100 / - 0 | 0.290 (7.4) | 0.156 (4.0) | 0.250 (6.4) | 0.039 (1.0) | 2 | 24 | 0.020 (0.51) | 562R5HKD10 | | | | | | |
| Z5U | | | | | | | | | | | | | | | |
| 1200 | ± 20 | 0.290 (7.4) | 0.156 (4.0) | 0.250 (6.4) | 0.043 (1.1) | 2 | 24 | 0.020 (0.51) | 562R5GAD12 | | | | | | |
| 1500 | | | | | 0.039 (1.0) | | | | 562R5GAD15 | | | | | | |
| 2000 | | | | | 0.047 (1.2) | | | | 562R5GAD20 | | | | | | |
| 2200 | | | | | 0.047 (1.2) | | | | 562R5GAD22 | | | | | | |
| 2500 | | | | | 0.043 (1.1) | | | | 562R5GAD25 | | | | | | |
| 2700 | | | | | 0.043 (1.1) | | | | 562R5GAD27 | | | | | | |
| 3000 | | | | | 0.039 (1.0) | | | | 562R5GAD30 | | | | | | |
| 3300 | | | | | 0.039 (1.0) | | | | 562R5GAD33 | | | | | | |
| 4700 | | | | | 0.370 (9.4) | | | | 0.156 (4.0) | 0.250 (6.4) | 0.047 (1.2) | 1 | 22 | 0.025 (0.64) | 562R5GAD47 |
| 5000 | | | | | 0.370 (9.4) | | | | 0.156 (4.0) | 0.250 (6.4) | 0.043 (1.1) | | | | 562R5GAD50 |
| 6800 | | | | | 0.440 (11.2) | | | | 0.156 (4.0) | 0.250 (6.4) | 0.047 (1.2) | | | | 562R5GAD68 |
| 8200 | | | | | 0.440 (11.2) | | | | 0.156 (4.0) | 0.250 (6.4) | 0.043 (1.1) | | | | 562R5GAD82 |
| 0.010 μF | | | | | 0.490 (12.4) | | | | 0.156 (4.0) | 0.375 (9.5) | 0.047 (1.2) | | | | 562R5GAS10 |
| 0.010 μF | | | | | 0.490 (12.4) | | | | 0.156 (4.0) | 0.250 (6.4) | 0.047 (1.2) | | | | 562R5HKMS10 |
| 0.010 μF | + 100 / - 0 | 0.490 (12.4) | 0.156 (4.0) | 0.375 (9.5) | 0.043 (1.1) | 562R5HKS10 | | | | | | | | | |
| 0.015 μF | ± 20 | 0.560 (14.2) | 0.156 (4.0) | 0.375 (9.5) | 0.043 (1.1) | 562R5GAS15 | | | | | | | | | |
| 0.020 μF | | 0.680 (17.3) | 0.156 (4.0) | 0.375 (9.5) | 0.047 (1.2) | 562R5GAS20 | | | | | | | | | |
| 0.050 μF | | 0.770 (19.6) | 0.200 (5.1) | 0.375 (9.5) | 0.047 (1.2) | 565R10HKS50 | | | | | | | | | |
| 0.10 μF | | 0.950 (24.1) | 0.200 (5.1) | 0.375 (9.5) | 0.047 (1.2) | 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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