561R, 562R, 565R Series

Vishay Cera-Mite

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



www.vishay.com

| QUICK REFERENCE DATA | | | | | | |
|---|--------|----|-----|------|------|---------|
| DESCRIPTION | VALUE | | | | | |
| Ceramic Class | 1 | | 2 | | | |
| Ceramic Dielectric COG U2J X5F X7R Y5U Z5 | | | | 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 $M \Omega$

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

- 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 <u>www.vishay.com/doc?99912</u>

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 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)

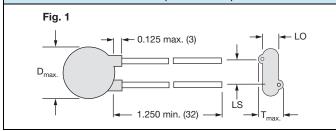


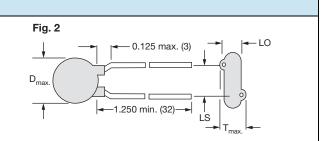
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DIMENSIONS in inches (millimeters)





| ORDER | ORDERING INFORMATION, CERAMIC 1000 VDC GENERAL PURPOSE | | | | | | | | |
|----------|--|-------------------------------|--------------------------------|---------------------|-----------------------|------|-----------|--------------|------------|
| С | TOL. | D _{max.} DIAMETER | T _{max.} THICKNESS | LS LEAD SPACE | LO LEAD OFFSET | FIG. | WIRE SIZE | | ORDERING |
| (pF) | (%) | INCH (mm) | INCH (mm) | INCH (mm) ± 1 mm | INCH (mm) ± 0.5 mm | FIG. | AWG | INCH (mm) | CODE |
| COG (NPO |) | | | | | | | | |
| 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 (N75 | | | | | | | | | |
| 33 | ± 20 | 0.290 (7.4) | 0.156 (4.0) | 0.250 (6.4) | 0.039 (1.0) | 2 | 24 | 0.020 (0.51) | 561R5GAQ3 |
| X5F | | | | | | | | | |
| 100 | | | | | 0.055 (1.4) | | | | 562R5GAT1 |
| 150 | | | | | 0.043 (1.1) | | | | 562R5GAT1 |
| 200 | | | | | 0.039 (1.0) | | | | 562R5GAT2 |
| 220 | ± 20 | 0.250 (6.4) | 0.156 (4.0) | 0.250 (6.4) | 0.051 (1.3) | 2 | 24 | 0.020 (0.51) | 562R5GAT22 |
| 330 | | | | | 0.039 (1.0) | | | | 562R5GAT33 |
| 470 | | | | | 0.039 (1.0) | | | | 562R5GAT4 |
| 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) | 562R5GAD1 |
| 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) | 562R5HKD1 |
| Z5U | | | | | | | | | |
| 1200 | | | | | 0.043 (1.1) | | | | 562R5GAD1 |
| 1500 | | | | | 0.039 (1.0) | | | | 562R5GAD1 |
| 2000 | | | | | 0.047 (1.2) | | | | 562R5GAD2 |
| 2200 | | 0.290 (7.4) | 0.156 (4.0) | 0.250 (6.4) | 0.047 (1.2) | 2 | 24 | 0.020 (0.51) | 562R5GAD2 |
| 2500 | | 0.230 (7.4) | 0.150 (4.0) | 0.230 (0.4) | 0.043 (1.1) | 2 | 24 | 0.020 (0.01) | 562R5GAD2 |
| 2700 | | | | | 0.043 (1.1) | | | | 562R5GAD2 |
| 3000 | ± 20 | | | | 0.039 (1.0) | | | | 562R5GAD3 |
| 3300 | ± 20 | | | | 0.039 (1.0) | | | | 562R5GAD3 |
| 4700 | | 0.370 (9.4) | 0.156 (4.0) | 0.250 (6.4) | 0.047 (1.2) | | | | 562R5GAD4 |
| 5000 | | 0.370 (9.4) | 0.156 (4.0) | 0.250 (6.4) | 0.043 (1.1) | | 22 | 0.025 (0.64) | 562R5GAD5 |
| 6800 | | 0.440 (11.2) | 0.156 (4.0) | 0.250 (6.4) | 0.047 (1.2) | 1 | | | 562R5GAD6 |
| 8200 | | 0.440 (11.2) | 0.156 (4.0) | 0.250 (6.4) | 0.043 (1.1) | | | | 562R5GAD8 |
| 0.010 µF | 1 | 0.490 (12.4) | 0.156 (4.0) | 0.375 (9.5) | 0.047 (1.2) | | | | 562R5GAS1 |
| 0.010 µF | | 0.490 (12.4) | 0.156 (4.0) | 0.250 (6.4) | 0.047 (1.2) | | | | 562R5HKMS1 |
| 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 | | 0.560 (14.2) | 0.156 (4.0) | 0.375 (9.5) | 0.043 (1.1) | | | | 562R5GAS1 |
| 0.020 µF | . 00 | 0.680 (17.3) | 0.156 (4.0) | 0.375 (9.5) | 0.047 (1.2) | | | | 562R5GAS2 |
| 0.050 µF | ± 20 | 0.770 (19.6) | 0.200 (5.1) | 0.375 (9.5) | 0.047 (1.2) | | | | 565R10HKS5 |
| 0.10 µF | 1 | 0.950 (24.1) | 0.200 (5.1) | 0.375 (9.5) | 0.047 (1.2) | | | | 565R10GAP1 |

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 |
| | |

Revision: 02-Mar-15

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Document Number: 23110

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