

## Lower Voltage Ceramic DC Disc Capacitors 1000 V<sub>DC</sub> Temperature and Voltage Stabilized


**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](http://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  $\pm 10\%$ .

Coating is made of flame retardant epoxy resin in accordance with "UL 94 V-0".

### CAPACITANCE RANGE

10 pF to 10 nF

### RATED VOLTAGE

1000 V<sub>DC</sub>

### DIELECTRIC STRENGTH BETWEEN LEADS

Component test:

2500 V<sub>DC</sub>, 2 s

### CERAMIC DIELECTRIC

C0G, U2J (Class 1)

X5F, X7R (Class 2)

| QUICK REFERENCE DATA       |        |     |      |        |
|----------------------------|--------|-----|------|--------|
| DESCRIPTION                | VALUE  |     |      |        |
| Ceramic Class              | 1      |     | 2    |        |
| Ceramic Dielectric         | C0G    | U2J | X5F  | X7R    |
| Voltage (V <sub>DC</sub> ) | 1000   |     |      |        |
| Min. Capacitance (pF)      | 10     | 27  | 56   | 10 000 |
| Max. Capacitance (pF)      | 10     | 39  | 4700 | 10 000 |
| Mounting                   | Radial |     |      |        |

### INSULATION RESISTANCE

Min. 1000  $\Omega$ F or 50 000 M $\Omega$

### TOLERANCE ON CAPACITANCE

$\pm 10\%$

### DISSIPATION FACTOR

2.0 % max. at 1 kHz; 1 V

### CATEGORY TEMPERATURE RANGE

(-55 to +125) °C C0G, U2J, X7R

(-25 to +85) °C X5F

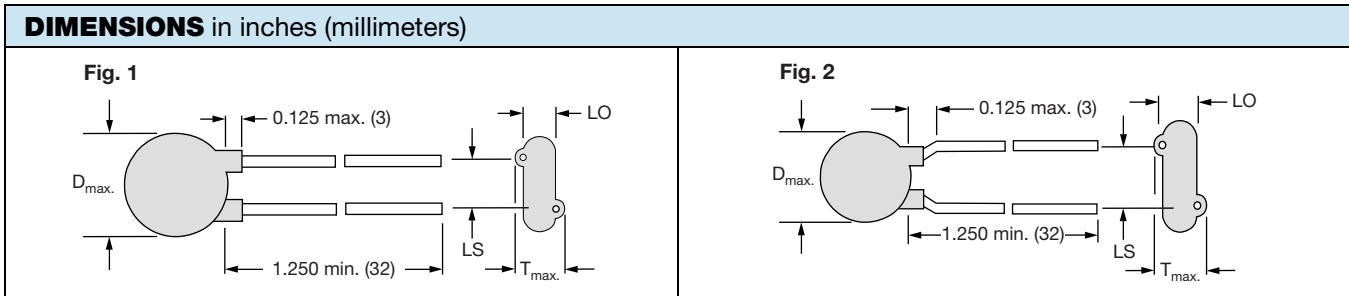
### CLIMATIC CATEGORY ACC. TO EN 60068-1

55/125/21 C0G, U2J, X7R

25/085/21 X5F

### OPERATING TEMPERATURE RANGE

(-55 to +105) °C



| <b>ORDERING INFORMATION, CERAMIC 1000 V<sub>DC</sub> TEMPERATURE AND VOLTAGE STABILIZED</b> |              |  |   |   |  |             |              |             |                  |              |   |             |              |             |             |              |   |             |
|---|--------------|--|---|---|--|-------------|--------------|-------------|------------------|--------------|---|-------------|--------------|-------------|-------------|--------------|---|-------------|
| C<br>(pF)   | TOL.<br>(%)  | D <sub>max.</sub><br>DIAMETER<br>INCH (mm) | T <sub>max.</sub><br>THICKNESS<br>INCH (mm) | LS<br>LEAD SPACE<br>INCH (mm)<br>± 1 mm | LO<br>LEAD OFFSET<br>INCH (mm)<br>± 0.5 mm | WIRE SIZE   |              | FIG.        | ORDERING<br>CODE |              |   |             |              |             |             |              |   |             |
|   |              |  |   |   |  | AWG         | INCH (mm)    |             |                  |              |   |             |              |             |             |              |   |             |
| <b>C0G (NP0)</b>  |              |  |   |   |  |             |              |             |                  |              |   |             |              |             |             |              |   |             |
| 10  | ± 10         | 0.250 (6.4)                                | 0.156 (4.0)                                 | 0.250 (6.4)                             | 0.051 (1.3)                                | 24          | 0.020 (0.51) | 2           | 561R10TSQ10      |              |   |             |              |             |             |              |   |             |
| <b>U2J (N750)</b>   |              |  |   |   |  |             |              |             |                  |              |   |             |              |             |             |              |   |             |
| 27  | ± 10         | 0.290 (7.4)                                | 0.156 (4.0)                                 | 0.250 (6.4)                             | 0.047 (1.2)                                | 24          | 0.020 (0.51) | 2           | 561R10TSQ27      |              |   |             |              |             |             |              |   |             |
| 30  |              |  |   |   | 0.039 (1.0)                                |             |              |             | 561R10TSQ30      |              |   |             |              |             |             |              |   |             |
| 33  |              |  |   |   | 0.039 (1.0)                                |             |              |             | 561R10TSQ33      |              |   |             |              |             |             |              |   |             |
| 39  |              |  |   |   | 0.039 (1.0)                                |             |              |             | 561R10TSQ39      |              |   |             |              |             |             |              |   |             |
| <b>X5F</b>  |              |  |   |   |  |             |              |             |                  |              |   |             |              |             |             |              |   |             |
| 56  | ± 10         | 0.250 (6.4)                                | 0.156 (4.0)                                 | 0.250 (6.4)                             | 0.075 (1.9)                                | 24          | 0.020 (0.51) | 2           | 562R10TSQ56      |              |   |             |              |             |             |              |   |             |
| 68  |              |  |   |   | 0.063 (1.6)                                |             |              |             | 562R10TSQ68      |              |   |             |              |             |             |              |   |             |
| 75  |              |  |   |   | 0.059 (1.5)                                |             |              |             | 562R10TSQ75      |              |   |             |              |             |             |              |   |             |
| 82  |              |  |   |   | 0.055 (1.4)                                |             |              |             | 562R10TSQ82      |              |   |             |              |             |             |              |   |             |
| 100   |              |  |   |   | 0.055 (1.4)                                |             |              |             | 562R10TST10      |              |   |             |              |             |             |              |   |             |
| 120   |              |  |   |   | 0.051 (1.3)                                |             |              |             | 562R10TST12      |              |   |             |              |             |             |              |   |             |
| 150   |              |  |   |   | 0.043 (1.1)                                |             |              |             | 562R10TST15      |              |   |             |              |             |             |              |   |             |
| 180   |              |  |   |   | 0.043 (1.1)                                |             |              |             | 562R10TST18      |              |   |             |              |             |             |              |   |             |
| 200   |              |  |   |   | 0.039 (1.0)                                |             |              |             | 562R10TST20      |              |   |             |              |             |             |              |   |             |
| 220   |              |  |   |   | 0.051 (1.3)                                |             |              |             | 562R10TST22      |              |   |             |              |             |             |              |   |             |
| 250   |              |  |   |   | 0.047 (1.2)                                |             |              |             | 562R10TST25      |              |   |             |              |             |             |              |   |             |
| 270   |              |  |   |   | 0.043 (1.1)                                |             |              |             | 562R10TST27      |              |   |             |              |             |             |              |   |             |
| 300   |              |  |   |   | 0.039 (1.0)                                |             |              |             | 562R10TST30      |              |   |             |              |             |             |              |   |             |
| 330   |              |  |   |   | 0.039 (1.0)                                |             |              |             | 562R10TST33      |              |   |             |              |             |             |              |   |             |
| 390   |              | 0.043 (1.1)                                | 562R10TST39                                 |   |  |             |              |             |                  |              |   |             |              |             |             |              |   |             |
| 470   |              | 0.039 (1.0)                                | 562R10TST47                                 |   |  |             |              |             |                  |              |   |             |              |             |             |              |   |             |
| 500   |              | 0.039 (1.0)                                | 562R10TST50                                 |   |  |             |              |             |                  |              |   |             |              |             |             |              |   |             |
| 560   |              | 0.290 (7.4)                                | 0.156 (4.0)                                 | 0.250 (6.4)                             | 0.047 (1.2)                                |             |              |             | 24               | 0.025 (0.64) | 1 | 562R10TSD10 |              |             |             |              |   |             |
| 680   |              |  |   |   | 0.043 (1.1)                                |             |              |             |                  |              |   | 562R10TSD15 |              |             |             |              |   |             |
| 750   |              |  |   |   | 0.039 (1.0)                                |             |              |             |                  |              |   | 562R10TSD20 |              |             |             |              |   |             |
| 820   |              |  |   |   | 0.039 (1.0)                                |             |              |             |                  |              |   | 562R10TSD27 |              |             |             |              |   |             |
| 1000  |              |  |   |   | 0.035 (0.9)                                |             |              |             |                  |              |   | 562R10TSD33 |              |             |             |              |   |             |
| 1500  |              |  |   |   | 0.440 (11.2)                               |             |              |             |                  |              |   | 0.156 (4.0) | 0.250 (6.4)  | 0.051 (1.3) | 22          | 0.025 (0.64) | 1 | 562R10TSD47 |
| 2000  |              |  |   |   | 0.490 (12.4)                               |             |              |             |                  |              |   | 0.156 (4.0) | 0.375 (9.5)  | 0.051 (1.3) |             |              |   | 562R10TSD15 |
| 2200  |              |  |   |   | 0.490 (12.4)                               |             |              |             |                  |              |   | 0.156 (4.0) | 0.375 (9.5)  | 0.047 (1.2) |             |              |   | 562R10TSD20 |
| 2700  |              |  |   |   | 0.560 (14.2)                               |             |              |             |                  |              |   | 0.156 (4.0) | 0.375 (9.5)  | 0.051 (1.3) |             |              |   | 562R10TSD22 |
| 3300  |              |  |   |   | 0.560 (14.2)                               |             |              |             |                  |              |   | 0.156 (4.0) | 0.375 (9.5)  | 0.047 (1.2) |             |              |   | 562R10TSD27 |
| 3300  |              |  |   |   | 0.560 (14.2)                               |             |              |             |                  |              |   | 0.156 (4.0) | 0.375 (9.5)  | 0.047 (1.2) |             |              |   | 562R10TSD33 |
| 4700  | 0.680 (17.3) |  |   |   | 0.156 (4.0)                                | 0.375 (9.5) | 0.051 (1.3)  | 562R10TSD47 |                  |              |   |             |              |             |             |              |   |             |
| <b>X7R</b>  |              |  |   |   |  |             |              |             |                  |              |   |             |              |             |             |              |   |             |
| 0.010 μF  | ± 10         |  |   |   | 0.680 (17.3)                               | 0.156 (4.0) | 0.375 (9.5)  | 0.047 (1.2) |                  |              |   | 22          | 0.025 (0.64) | 1           | 562R10TSS10 |              |   |             |

**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

| <b>RELATED DOCUMENTS</b> |  |
|--------------------------|--|
| General Information      | <a href="http://www.vishay.com/doc?23140">www.vishay.com/doc?23140</a> |



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