

## 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

| DIMENSIONS in inches (millimeters) |                 |
|------------------------------------|-----------------|
|                                    |                 |
| <b>LEAD OFFSET "LO" (nominal)</b>  |                 |
| 1000 V <sub>DC</sub>               | 0.050" (1.3 mm) |

| ORDERING INFORMATION, CERAMIC 1000 V <sub>DC</sub> TEMPERATURE AND VOLTAGE STABILIZED |              |                      |                       |                         |              |                     |             |               |              |   |             |
|---------------------------------------------------------------------------------------|--------------|----------------------|-----------------------|-------------------------|--------------|---------------------|-------------|---------------|--------------|---|-------------|
| C (pF)                                                                                | TOL. (%)     | D DIAMETER INCH (mm) | T THICKNESS INCH (mm) | LS LEAD SPACE INCH (mm) | AWG          | WIRE SIZE INCH (mm) | FIG.        | ORDERING CODE |              |   |             |
| <b>C0G (NP0)</b>                                                                      |              |                      |                       |                         |              |                     |             |               |              |   |             |
| 10                                                                                    | ± 10         | 0.250 (6.4)          | 0.156 (4.0)           | 0.250 (6.4)             | 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)             | 24           | 0.020 (0.51)        | 2           | 561R10TSQ27   |              |   |             |
| 30                                                                                    |              |                      |                       |                         |              |                     |             | 561R10TSQ30   |              |   |             |
| 33                                                                                    |              |                      | 561R10TSQ33           |                         |              |                     |             |               |              |   |             |
| 39                                                                                    |              |                      | 561R10TSQ39           |                         |              |                     |             |               |              |   |             |
| <b>X5F</b>                                                                            |              |                      |                       |                         |              |                     |             |               |              |   |             |
| 56                                                                                    | ± 10         | 0.250 (6.4)          | 0.156 (4.0)           | 0.250 (6.4)             | 24           | 0.020 (0.51)        | 2           | 562R10TSQ56   |              |   |             |
| 68                                                                                    |              |                      |                       |                         |              |                     |             | 562R10TSQ68   |              |   |             |
| 75                                                                                    |              |                      |                       |                         |              |                     |             | 562R10TSQ75   |              |   |             |
| 82                                                                                    |              |                      |                       |                         |              |                     |             | 562R10TSQ82   |              |   |             |
| 100                                                                                   |              |                      |                       |                         |              |                     |             | 562R10TST10   |              |   |             |
| 120                                                                                   |              |                      |                       |                         |              |                     |             | 562R10TST12   |              |   |             |
| 150                                                                                   |              |                      |                       |                         |              |                     |             | 562R10TST15   |              |   |             |
| 180                                                                                   |              |                      |                       |                         |              |                     |             | 562R10TST18   |              |   |             |
| 200                                                                                   |              |                      |                       |                         |              |                     |             | 562R10TST20   |              |   |             |
| 220                                                                                   |              |                      |                       |                         |              |                     |             | 562R10TST22   |              |   |             |
| 250                                                                                   |              | 562R10TST25          |                       |                         |              |                     |             |               |              |   |             |
| 270                                                                                   |              | 562R10TST27          |                       |                         |              |                     |             |               |              |   |             |
| 300                                                                                   |              | 562R10TST30          |                       |                         |              |                     |             |               |              |   |             |
| 330                                                                                   |              | 562R10TST33          |                       |                         |              |                     |             |               |              |   |             |
| 390                                                                                   |              | 562R10TST39          |                       |                         |              |                     |             |               |              |   |             |
| 470                                                                                   |              | 562R10TST47          |                       |                         |              |                     |             |               |              |   |             |
| 500                                                                                   |              | 562R10TST50          |                       |                         |              |                     |             |               |              |   |             |
| 560                                                                                   |              | 562R10TST56          |                       |                         |              |                     |             |               |              |   |             |
| 680                                                                                   |              | 562R10TST68          |                       |                         |              |                     |             |               |              |   |             |
| 750                                                                                   |              | 562R10TST75          |                       |                         |              |                     |             |               |              |   |             |
| 820                                                                                   | 562R10TST82  |                      |                       |                         |              |                     |             |               |              |   |             |
| 1000                                                                                  | 562R10TSD10  |                      |                       |                         |              |                     |             |               |              |   |             |
| 1500                                                                                  | 0.440 (11.2) | 0.156 (4.0)          | 0.250 (6.4)           | 22                      | 0.025 (0.64) | 1                   | 562R10TSD15 |               |              |   |             |
| 2000                                                                                  | 0.490 (12.4) | 0.156 (4.0)          | 0.375 (9.5)           |                         |              |                     | 562R10TSD20 |               |              |   |             |
| 2200                                                                                  | 0.490 (12.4) | 0.156 (4.0)          | 0.375 (9.5)           |                         |              |                     | 562R10TSD22 |               |              |   |             |
| 2700                                                                                  | 0.560 (14.2) | 0.156 (4.0)          | 0.375 (9.5)           |                         |              |                     | 562R10TSD27 |               |              |   |             |
| 3300                                                                                  | 0.560 (14.2) | 0.156 (4.0)          | 0.375 (9.5)           |                         |              |                     | 562R10TSD33 |               |              |   |             |
| 4700                                                                                  | 0.680 (17.3) | 0.156 (4.0)          | 0.375 (9.5)           |                         |              |                     | 562R10TSD47 |               |              |   |             |
| <b>X7R</b>                                                                            |              |                      |                       |                         |              |                     |             |               |              |   |             |
| 0.010 μF                                                                              | ± 10         | 0.680 (17.3)         | 0.156 (4.0)           |                         |              |                     | 0.375 (9.5) | 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

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



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