

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



### 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)


**RoHS**  
COMPLIANT

### 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

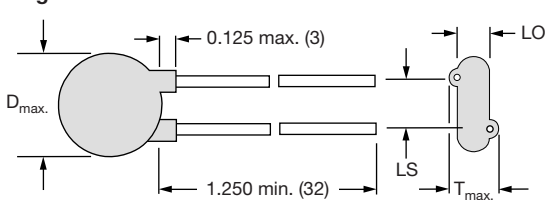
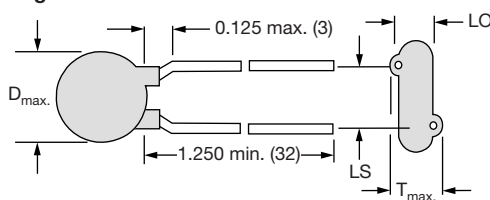
55/125/21 C0G, U2J, X7R

25/085/21 X5F

### OPERATING TEMPERATURE RANGE

(-55 to +105) °C

**DIMENSIONS** in inches (millimeters)

**Fig. 1**

**Fig. 2**

**ORDERING INFORMATION, CERAMIC 1000 V<sub>DC</sub> TEMPERATURE AND VOLTAGE STABILIZED**

C (pF)	TOL. (%)	D <sub>max.</sub> DIAMETER INCH (mm)	T <sub>max.</sub> THICKNESS INCH (mm)	LS LEAD SPACE INCH (mm) ± 1 mm	LO LEAD OFFSET INCH (mm) ± 0.5 mm	WIRE SIZE		FIG.	ORDERING CODE
C0G (NP0)									
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
U2J (N750)									
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
X5F									
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)				562R10TST56
680					0.043 (1.1)				562R10TST68
750					0.039 (1.0)				562R10TST75
820					0.039 (1.0)				562R10TST82
1000					0.035 (0.9)				562R10TSD10
1500	± 10	0.440 (11.2)	0.156 (4.0)	0.250 (6.4)	0.051 (1.3)	22	0.025 (0.64)	1	562R10TSD15
2000					0.051 (1.3)				562R10TSD20
2200					0.047 (1.2)				562R10TSD22
2700					0.051 (1.3)				562R10TSD27
3300					0.047 (1.2)				562R10TSD33
4700					0.051 (1.3)				562R10TSD47
7000	± 10	0.680 (17.3)	0.156 (4.0)	0.375 (9.5)	0.051 (1.3)	22	0.025 (0.64)	1	562R10TSD70
X7R									
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

**RELATED DOCUMENTS**

General Information

[www.vishay.com/doc?23140](http://www.vishay.com/doc?23140)



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