

## Lower Voltage Ceramic DC Disc Capacitors 1000 V<sub>DC</sub> 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](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  $\pm 20\%$ .

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  $\mu$ F

**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, Y5U, Z5U (Class 2)

QUICK REFERENCE DATA						
DESCRIPTION	VALUE					
Ceramic Class	1			2		
Ceramic Dielectric	C0G	U2J	X5F	X7R	Y5U	Z5U
Voltage (V <sub>DC</sub> )	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  $\Omega$ F or 20 000 M $\Omega$  for 10 pF to 0.020  $\mu$ F

Min. 15 000 M $\Omega$  for 0.050  $\mu$ F

Min. 5000 M $\Omega$  for 0.10  $\mu$ 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

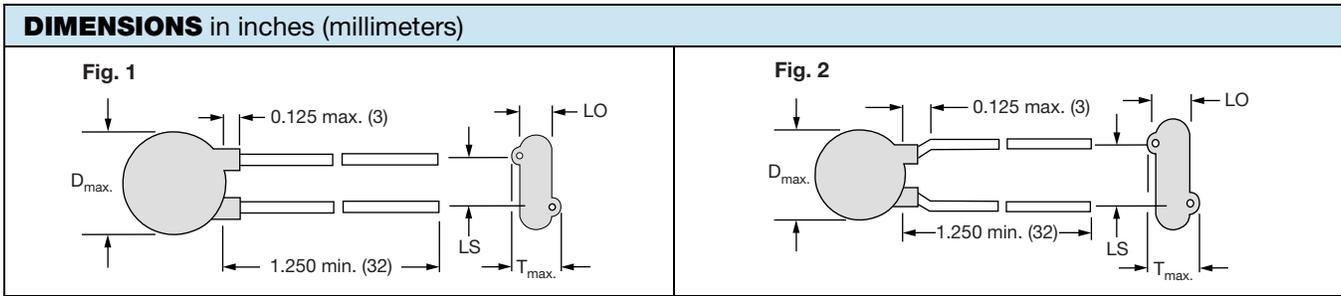
**CLIMATIC CATEGORY ACC. TO EN 60068-1**

55/125/21      C0G, U2J, X7R

25/085/21      X5F, Y5U, Z5U

**OPERATING TEMPERATURE RANGE**

(-55 to +105) °C



<b>ORDERING INFORMATION, CERAMIC 1000 V<sub>DC</sub> GENERAL PURPOSE</b>															
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	FIG.	WIRE SIZE		ORDERING CODE						
							AWG	INCH (mm)							
<b>C0G (NP0)</b>															
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						
<b>U2J (N750)</b>															
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						
<b>X5F</b>															
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						
<b>X7R</b>															
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						
<b>Y5U</b>															
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						
<b>Z5U</b>															
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

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



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