

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



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


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 $\pm 20\%$.

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 μ F

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)

QUICK REFERENCE DATA

DESCRIPTION	VALUE					
Ceramic Class	1			2		
Ceramic Dielectric	C0G	U2J	X5F	X7R	Y5U	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 Ω F or 20 000 M Ω

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

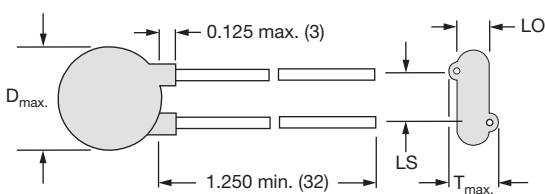
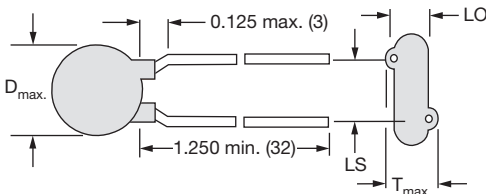
55/125/21 C0G, U2J, X7R

25/085/21 X5F, Y5U, Z5U

OPERATING TEMPERATURE RANGE

(-55 to +105) °C

DIMENSIONS in inches (millimeters)

Fig. 1

Fig. 2

ORDERING INFORMATION, CERAMIC 1000 V_{DC} GENERAL PURPOSE

C (pF)	TOL. (%)	D _{max} . DIAMETER INCH (mm)	T _{max} . 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)												
C0G (NP0)												
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 (N750)												
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			
X5F												
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			
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)	562R5GAD10			
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)	562R5HKD10			
Z5U												
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					0.047 (1.2)				562R5GAD47			
5000					0.043 (1.1)				562R5GAD50			
6800	+ 100 / - 0	0.440 (11.2)	0.156 (4.0)	0.250 (6.4)	0.047 (1.2)	1	22	0.025 (0.64)	562R5GAD68			
8200					0.043 (1.1)				562R5GAD82			
0.010 μF					0.0490 (12.4)				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					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)	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

RELATED DOCUMENTS

General Information

www.vishay.com/doc?23140



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.