

## Lower Voltage Ceramic DC Disc Capacitors 1000 V<sub>DC</sub> Precision Capacitors


**RoHS**  
COMPLIANT

**FEATURES**

- Ultra stable over temperature and voltage
- Used when ultimate stability is required
- 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**

- Temperature compensating
- Resonant circuit

**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).

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

QUICK REFERENCE DATA			
DESCRIPTION	VALUE		
Ceramic Class	1		
Ceramic Dielectric	C0K	C0G	U2J
Voltage (V <sub>DC</sub> )	1000		
Min. Capacitance (pF)	1.0	3.0	33
Max. Capacitance (pF)	2.7	270	680
Mounting	Radial		

**INSULATION RESISTANCE**

Min. 1000 ΩF or 50 000 MΩ

**TOLERANCE ON CAPACITANCE**

± 5 %

**DISSIPATION FACTOR**

0.1 % max. at 1 MHz; 1 V

**CATEGORY TEMPERATURE RANGE**

(-55 to +125) °C

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

55/125/21

**OPERATING TEMPERATURE RANGE**

(-55 to +105) °C

**CAPACITANCE RANGE**

1.0 pF to 680 pF

**RATED VOLTAGE**

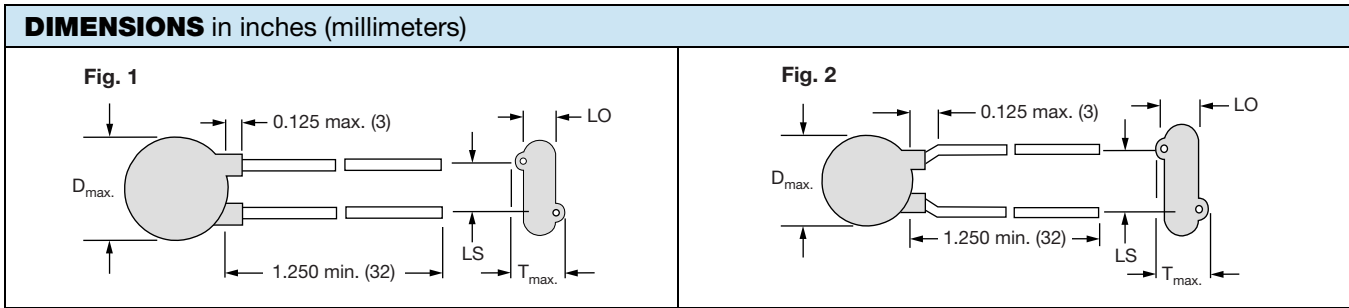
 1000 V<sub>DC</sub>
**DIELECTRIC STRENGTH BETWEEN LEADS**

Component test:

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

**CERAMIC DIELECTRIC**

C0K, C0G, U2J (class 1)



<b>ORDERING INFORMATION, CERAMIC 1000 V<sub>DC</sub> PRECISION CAPACITORS</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	WIRE SIZE		FIG.	ORDERING CODE			
						AWG	INCH (mm)					
<b>C0K (P100)</b>												
1.0	± 0.5 pF	0.250 (6.4)	0.156 (4.0)	0.250 (6.4)	0.098 (2.5)	24	0.020 (0.51)	2	561R10TCCV10			
2.2					0.051 (1.3)				561R10TCCV22			
2.7					0.043 (1.1)				561R10TCCV27			
<b>C0G (NPO)</b>												
3.0	± 0.5 pF	0.250 (6.4)	0.156 (4.0)	0.250 (6.4)	0.063 (1.6)	24	0.020 (0.51)	2	561R10TCCV30			
3.3					0.055 (1.4)				561R10TCCV33			
3.9					0.055 (1.4)				561R10TCCV39			
4.7					0.043 (1.1)				561R10TCCV47			
5.0					0.043 (1.1)				561R10TCCV50			
5.6					0.039 (1.0)				561R10TCCV56			
6.8					0.047 (1.2)				561R10TCCV68			
8.2					0.043 (1.1)				561R10TCCV82			
10					0.051 (1.3)				561R10TCCQ10			
12					0.043 (1.1)				561R10TCCQ12			
15					0.039 (1.0)				561R10TCCQ15			
18					0.043 (1.1)				561R10TCCQ18			
20					0.039 (1.0)				561R10TCCQ20			
22					0.039 (1.0)				561R10TCCQ22			
25					0.035 (0.9)				561R10TCCQ25			
27	0.047 (1.2)	561R10TCCQ27										
30	0.051 (1.3)	561R10TCCQ30										
33	0.047 (1.2)	561R10TCCQ33										
39	0.043 (1.1)	561R10TCCQ39										
47	0.051 (1.3)	561R10TCCQ47										
50	± 5 %	0.440 (11.2)	0.156 (4.0)	0.250 (6.4)	0.047 (1.2)	22	0.025 (0.64)	1	561R10TCCQ50			
56					0.047 (1.2)				561R10TCCQ56			
68					0.490 (12.4)				0.156 (4.0)	0.250 (6.4)	0.047 (1.2)	561R10TCCQ68
82					0.490 (12.4)				0.156 (4.0)	0.375 (9.5)	0.043 (1.1)	561R10TCCQ82
100					0.560 (14.2)				0.156 (4.0)	0.375 (9.5)	0.047 (1.2)	561R10TCCT10
120											0.047 (1.2)	561R10TCCT12
150											0.043 (1.1)	561R10TCCT15
180											0.043 (1.1)	561R10TCCT18
220					0.760 (19.3)				0.156 (4.0)	0.375 (9.5)	0.043 (1.1)	561R10TCCT22
270					0.890 (22.6)				0.156 (4.0)	0.375 (9.5)	0.047 (1.2)	561R10TCCT27
<b>U2J (N750)</b>												
33	± 5 %	0.290 (7.4)	0.156 (4.0)	0.250 (6.4)	0.039 (1.0)	24	0.020 (0.51)	2	561R10TCUQ33			
68		0.370 (9.4)	0.156 (4.0)	0.250 (6.4)	0.039 (1.0)	22	0.025 (0.64)	2	561R10TCUQ68			
560		0.650 (16.5)	0.156 (4.0)	0.375 (9.5)	0.039 (1.0)	22	0.025 (0.64)	1	561R10TCUT56			
680		0.710 (18.0)	0.156 (4.0)	0.375 (9.5)	0.047 (1.2)	22	0.025 (0.64)	1	561R10TCUT68			

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



## 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.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

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.