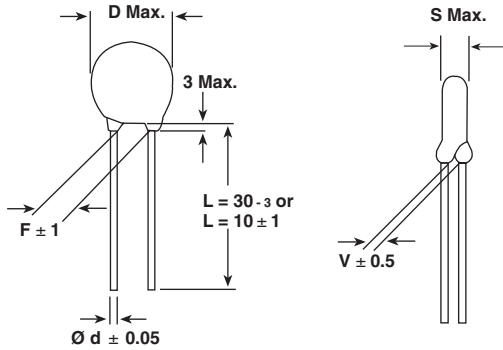


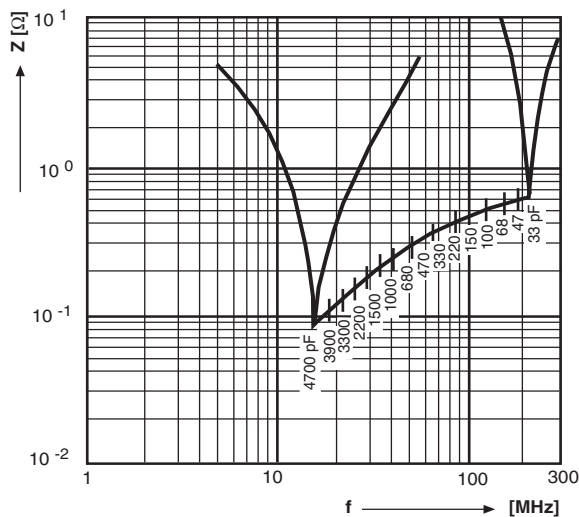
# Ceramic AC Capacitors

## Class X1, 440 V<sub>AC</sub>/Class Y2, 300 V<sub>AC</sub>

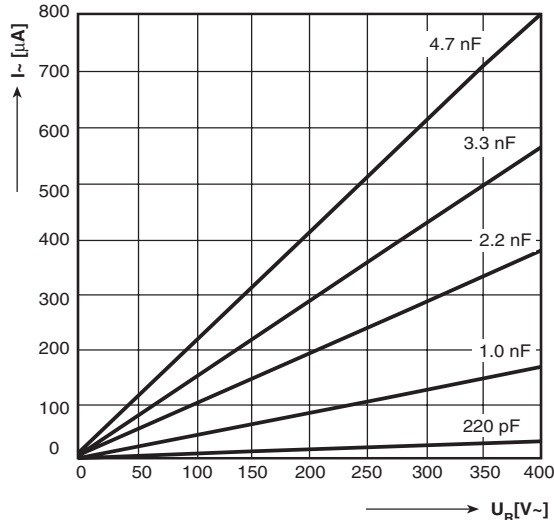


• Dimensions in mm

Impedance (Z) as a function of frequency (f) at Ta = 20 °C (average). Measurement with lead length 50 mm.



I = f (U<sub>R</sub>) (typ.)



**DESIGN:**

Disc capacitors with epoxy coating



RoHS COMPLIANT

**RATED VOLTAGE U<sub>R</sub>:**

- (X1): 440 V<sub>AC</sub>, 50 Hz (IEC 60384-14.2)
- (Y2): 300 V<sub>AC</sub>, 50 Hz (IEC 60384-14.2)
- 250 V<sub>AC</sub>, 60 Hz (UL1414, CSA C22.2)

**DIELECTRIC STRENGTH BETWEEN LEADS:**

- Component test:
- 2600 V<sub>AC</sub>, 50 Hz, 2 s
- As repeated test admissible only once with 2340 V<sub>AC</sub>, 50 Hz, 2 s
- Random sampling test (destructive test):
- 2600 V<sub>AC</sub>, 50 Hz, 60 s

**DIELECTRIC STRENGTH OF BODY INSULATION:**

- 2600 V<sub>AC</sub>, 50 Hz, 60 s (destructive test)

**DISSIPATION FACTOR tan δ:**

≤ 25 • 10<sup>-3</sup>

**INSULATION RESISTANCE R<sub>is</sub>:**

≥ 6 • 10<sup>9</sup> Ω

**CATEGORY TEMPERATURE RANGE θ<sub>A</sub>:**

(- 40 to + 125) °C

**CLIMATIC CATEGORY ACC. TO EN60068-1:**

40/125/21

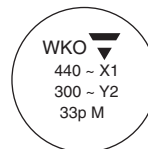
**COATING:**

Epoxy, dipped, insulating, flame retarding acc. to UL 94V-0

**TAPING AND SPECIAL LEAD CONFIGURATIONS:**

On request

**MARKING:**



WKO 33 pF to 1.0 nF

WKO 1.5 nF to 4.7 nF

All approval marks are also shown on the label.



**Ceramic AC Capacitors**  
**Class X1, 440 V<sub>AC</sub>/Class Y2, 300 V<sub>AC</sub>**

Vishay Draloric

<b>ORDERING INFORMATION, CERAMIC X1 / Y2 CAPACITORS WKO</b>							
CAPACITANCE** (pF)	TOL. (%)	D x s (mm)	F ± 1* (mm)	d ± 0.05* (mm)	V ± 0.5* (mm)	ORDERING CODE	
<b>CLASS 1 N750</b>							
33	± 10 %, ± 20 %	8.0 x 5.0	7.5	0.6	1.6	WKO330□CP□□□KR	
47		8.0 x 5.0				WKO470□CP□□□KR	
<b>CLASS 2 K1200</b>							
68	± 10 %, ± 20 %	8.0 x 5.0	7.5	0.6	1.9	WKO680□CP□□□KR	
<b>CLASS 2 K1500</b>							
100	± 10 %, ± 20 %	8.0 x 5.0	7.5	0.6	1.9	WKO101□CP□□□KR	
<b>CLASS 2 K2000</b>							
150	± 10 %, ± 20 %	8.0 x 5.0	7.5	0.6	1.9	WKO151□CP□□□KR	
220		8.0 x 5.0				WKO221□CP□□□KR	
330		8.0 x 5.0				WKO331□CP□□□KR	
<b>CLASS 2 K4000</b>							
470	± 10 %, ± 20 %	8.0 x 5.0	7.5	0.6	2.0	WKO471□CP□□□KR	
680		9.0 x 5.0				WKO681□CP□□□KR	
1000		10.0 x 5.0				WKO102□CP□□□KR	
1500		12.0 x 5.0				WKO152□CP□□□KR	
2200		13.0 x 5.0		WKO222□CP□□□KR	0.8	1.6	WKO332□CP□□□KR
3300		15.0 x 5.0		WKO332□CP□□□KR			
3900		16.0 x 5.0		WKO392□CP□□□KR			
4700		18.0 x 5.0		12.5			WKO472□CP□□□KR

\* Standard lead configuration, other lead spacing and diameter available on request.

\*\* Capacitance values from 1000 pF to 4700 pF: The alternative usage of smaller WKO series is recommended for new application.

<b>ORDERING CODE</b>			
□	7th digit	Capacitance Tolerance:	± 10 % = K ± 20 % = M
□□□	10th to 12th digit	Lead Configuration (see General Information)	
R	14th digit	RoHS Compliant Component	

<b>APPROVALS</b>						
<b>IEC 60384 - 14 / 2<sup>nd</sup> Issue (1993) incl. Am. 1 (1995) - Safety Tests</b>						
<b>EN 132 400 (1994) - Safety Tests</b>						
That approval together with the CB Test Certificate substitutes the national approval of the following nations:						
Belgium	France	Italy	Austria	China	Japan	Spain
Denmark	Greece	Luxembourg	Portugal	Singapore	Poland	United Kingdom
Germany	Ireland	Netherlands	Sweden	Slovenia	Hungaria	Czech Republic
Finland	Iceland	Norway	Switzerland	Korea	Israel	
Y2 - Capacitor: CB-Test Certificate: X1 - Capacitor: CB-Test Certificate: Minimum thickness of insulation: 0.4 mm				DE-1-11134-A1	33 pF ... 4.7 nF	300 Vac
				DE-1-11134-A1	33 pF ... 4.7 nF	440 Vac
Underwriters Laboratories Inc.						
UL 1414	Line-by-pass component. Agency Files / Licences			E 183 844 V1 S3	33 pF ... 4.7 nF	250 Vac
Canadian Standards Association						
CSA C22.2	Line-by-pass component. Agency Files / Licences			E 183 844 V1 S3	33 pF ... 4.7 nF	250 Vac
No 1-98						

<b>ORDERING INFORMATION</b>						
<b>WKO</b>	<b>392</b>	<b>K</b>	<b>CP</b>	<b>CJ0</b>	<b>K</b>	<b>R</b>
SERIES	CAP. VALUE	TOLERANCE	RATED VOLTAGE	LEAD CONFIGURATION	INTERNAL CODE	RoHS COMPLIANT



## Disclaimer

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.