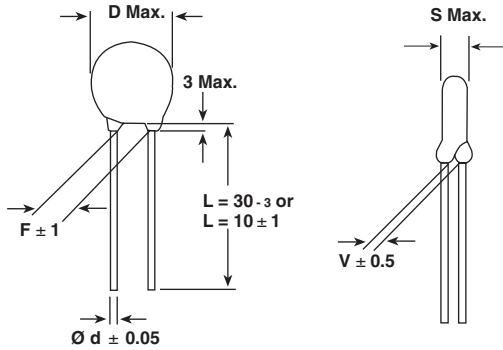


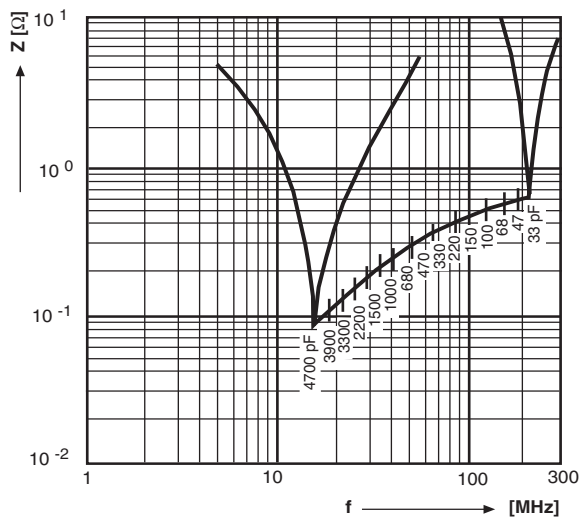
# Ceramic AC Capacitors

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

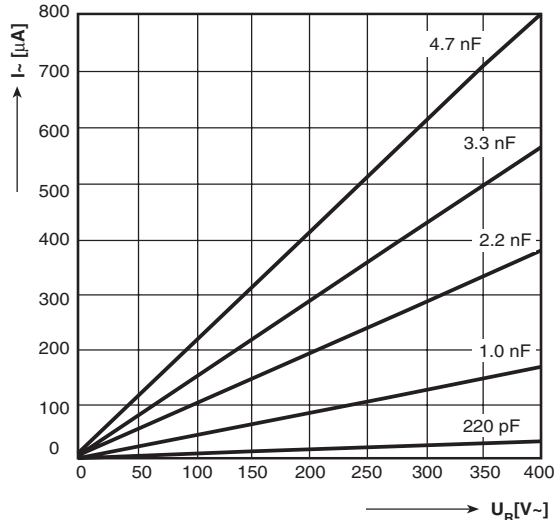


• Dimensions in mm

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

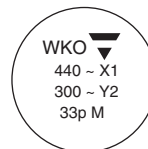
**COATING:**

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>

<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		0.8	1.6	WKO152□CP□□□KR
2200		13.0 x 5.0				WKO222□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:				DE-1-11134-A1	33 pF ... 4.7 nF	300 Vac
X1 - Capacitor: CB-Test Certificate:				DE-1-11134-A1	33 pF ... 4.7 nF	440 Vac
Minimum thickness of insulation: 0.4 mm						
Underwriters Laboratories Inc.						
UL 1414	Line-by-pass component.			33 pF ... 4.7 nF	250 Vac	
	Agency Files / Licences			E 183 844 V1 S3		
Canadian Standards Association						
CSA C22.2	Line-by-pass component.			33 pF ... 4.7 nF	250 Vac	
No 1-98	Agency Files / Licences			E 183 844 V1 S3		

<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



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