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For any questions, you can email us directly:

sales@integrated-circuit.com

AC Line Rated Ceramic Disc Capacitors Class X1, 760 V_{AC}, Class Y1, 500 V_{AC}



QUICK REFERENCE DATA	
DESCRIPTION	VALUE
Ceramic Class	2
Ceramic Dielectric	Y5U
Voltage (V _{AC})	760
Min. Capacitance (pF)	470
Max. Capacitance (pF)	4700
Mounting	Radial

MARKING

Marking indicates series, AC rating, capacitance, tolerance code, and approvals.

OPERATING TEMPERATURE RANGE

-40 °C to +125 °C

TEMPERATURE CHARACTERISTICS

Class 2 Y5U

SECTIONAL SPECIFICATIONS

Climatic category (according to EN 60058-1)

Class 2 40/125/21

APPROVALS

IEC 60384-14.4

UL 60384-14.1

CSA E60384-1:03 2nd edition, CSA E60384-14:09 2nd edition

FEATURES

- Complying with IEC 60384-14 4th edition
- High reliability
- Wide range of different leadstyles
- Small dimensions
- Singlēlayer AC disc safety capacitors
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT

APPLICATIONS

- X1, Y1 according to IEC 60384-14.4
- Across-the-line
- Line-by-pass
- Antenna coupling

DESIGN

The capacitors consist of ceramic disc both sides of which are silver plated. Connection leads are made of tinned copper having diameters of 0.6 mm or 0.8 mm.

The capacitors may be supplied with straight or kinked leads having a lead spacing of 10.0 mm or 12.5 mm.

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

CAPACITANCE RANGE

470 pF to 4.7 nF

TOLERANCE ON CAPACITANCE

± 10 %, ± 20 %

RATED VOLTAGE

- X1: 760 V_{AC}, 50 Hz (IEC 60384-14.4)
760 V_{AC}, 50 Hz / 60 Hz (US/UL/CSA 60384-14)
- Y1: 500 V_{AC}, 50 Hz (IEC 60384-14.4)
500 V_{AC}, 50 Hz / 60 Hz (US/UL/CSA 60384-14)

TEST VOLTAGE

- 4000 V_{AC}, 50 Hz, 2 s Component test (100 %)
- 4000 V_{AC}, 50 Hz, 60 s Random sampling test (destructive)
- 4000 V_{AC}, 50 Hz, 60 s Voltage proof of coating (destructive)

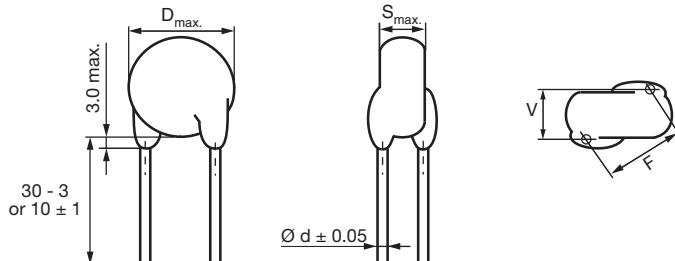
INSULATION RESISTANCE AT 500 V_{DC}

≥ 10 000 MΩ (60 s)

DISSIPATION FACTOR

Class 2: max. 2.5 % (1 kHz)

DIMENSIONS in millimeters



TECHNICAL DATA

CAPACITANCE (2) C (pF)	CAPACITANCE TOLERANCE (%)	BODY DIAMETER D _{MAX.} (mm)	BODY THICKNESS S _{MAX.} (mm)	LEAD SPACING (1) F (mm) ± 1 mm	LEAD DIAMETER (1) d (mm) ± 0.05 mm	WIDTH (1) V (mm) ± 0.5 mm	PART NUMBER
							MISSING DIGITS SEE ORDERING CODE BELOW
Y5U (2E3)							
470	± 10, ± 20	8.0	5.0	12.5	0.6	2.1	VKP471#CQ###KR
680							VKP681#CQ###KR
1000							VKP102#CQ###KR
1500							VKP152#CQ###KR
2200							VKP222#CQ###KR
2700							VKP272#CQ###KR
3300							VKP332#CQ###KR
3900							VKP392#CQ###KR
4700							VKP472#CQ###KR

Notes

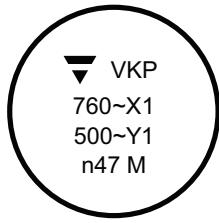
(1) Standard lead configuration, other lead spacing and diameter available on request

(2) When capacitance values less than 470 pF are required, the usage of WKP series is recommended

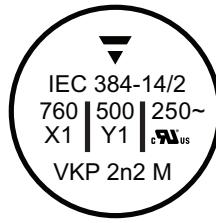
ORDERING CODE

#	7 th digit	Capacitance tolerance	± 10 % = K, ± 20 % = M
###	10 th to 12 th digit	Lead configuration	see "General Information"
Example	VKP	222	M CQ EDO K R
	Series	Capacitance value	Tolerance code Voltage code Lead configuration Internal code RoHS compliant

MARKING



VKP 470 pF to 1.5 nF



VKP 2.2 nF to 4.7 nF





www.vishay.com

VKP Series

Vishay Draloric

APPROVALS

IEC 60384-14.4 - Safety tests

This approval together with CB test certificate substitutes all national approvals.

CB Test Certificate

Y1 Capacitor: CB-test certificate: US-26551-UL
 X1 Capacitor: CB-test certificate: US-26551-UL
 Minimum thickness of insulation: 0.4 mm

500 V_{AC}
 760 V_{AC}



VDE

Y1 Capacitor: VDE marks approval: 136494
 X1 Capacitor: VDE marks approval: 136494

470 pF to 4.7 nF
 470 pF to 4.7 nF

500 V_{AC}
 760 V_{AC}



Underwriters Laboratories Inc. / Canadian Standards Association

Y1 Capacitor: UL-test certificate: E183844
 X1 Capacitor: UL-test certificate: E183844

470 pF to 4.7 nF
 470 pF to 4.7 nF

500 V_{AC}
 760 V_{AC}

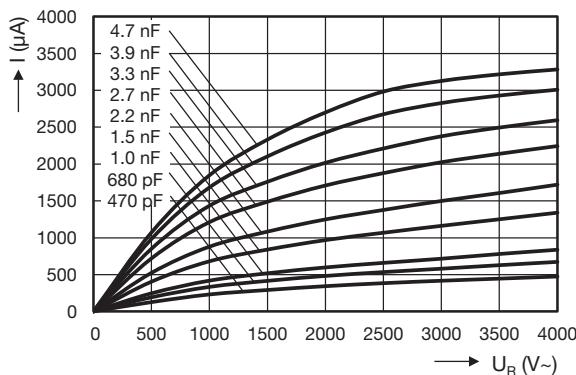
UL 60384-14.1, CSA E60384-1:03 2nd edition, CSA E60384-14:09 2nd edition

Across-the-line, antenna-coupling and line-by-pass component

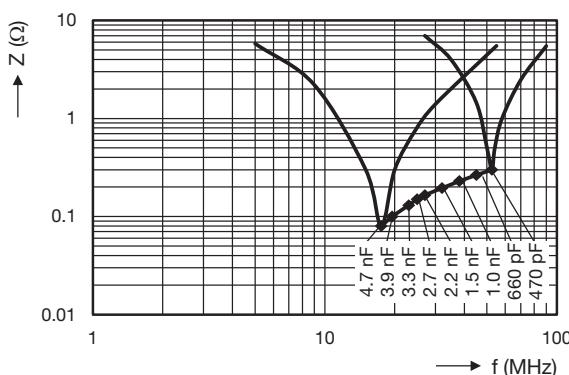
Minimum thickness of insulation: 0.4 mm



LEAKAGE CURRENT VS. VOLTAGE (typical)



IMPEDANCE VS. FREQUENCY (typical)



RELATED DOCUMENTS

General Information	www.vishay.com/doc?22001
CB-Test Certificate	www.vishay.com/doc?22211
VDE Marks Approval	www.vishay.com/doc?22212
UL-Test Certificate	www.vishay.com/doc?22213

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