AC Line Rated Ceramic Disc Capacitors
Class X2, 400 V_{AC}

QUICK REFERENCE DATA		
DESCRIPTION	VALUE	
Ceramic Class	2	
Ceramic Dielectric	Y5V	Z5U
Voltage (V_{AC})	400	400
Min. Capacitance (pF)	9000	10 000
Max. Capacitance (pF)	100 000	10 000
Mounting	Radial	

INSULATION RESISTANCE

Min. 1000 ΩF

TOLERANCE ON CAPACITANCE

± 20 %

DISSIPATION FACTOR

2.0 % max. at 1 kHz; 1 V

CERAMIC DIELECTRIC

Y5V, Z5U (class 2)

CATEGORY TEMPERATURE RANGE

- 25 °C to + 125 °C

CLIMATIC CATEGORY ACC. TO EN60068-1

25/125/21

OPERATING TEMPERATURE RANGE

- 30 °C to + 125 °C

FEATURES

- Complying with IEC 60384-14 3rd edition
- High reliability
- Radial leads
- Singlelayer AC Disc capacitors
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb e3 RoHS COMPLIANT

APPLICATIONS

- X1, Y1 according to IEC 60384-14.3
- Across-the-line
- Line by-pass
- Antenna coupling

DESIGN

The capacitors consist of a ceramic disc of which both sides are silver-plated. Connection leads are made of tinned copper having a diameter of 0.025" (0.64 mm). The capacitors may be supplied with radial kinked or straight leads having a lead spacing of 0.375" (9.5 mm) or 0.250" (6.4 mm). The standard tolerance is ± 20 %. Coating is made of flame retardant epoxy resin in accordance with "UL 94 V-0."

CAPACITANCE RANGE

9 nF to 0.1 µF

RATED VOLTAGE

IEC 60384-14.3:

X2: 400 V_{AC}, 50 Hz

DIELECTRIC STRENGTH BETWEEN LEADS

Component test:

1250 V_{AC}, 50 Hz, 2 s

As repeated test admissible only once with:

1080 V_{AC}, 50 Hz, 2 s

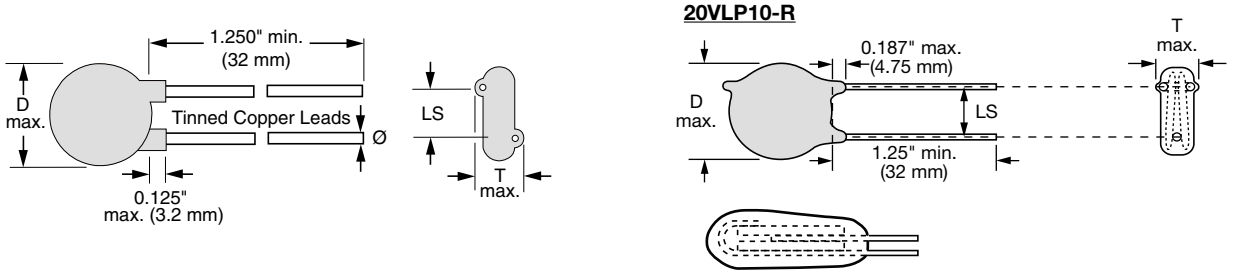
Random sampling test (destructive test):

1250 V_{AC}, 50 Hz, 60 s

DIELECTRIC STRENGTH OF BODY INSULATION

2300 V_{AC}, 50 Hz, 60 s (destructive test)

DIMENSIONS in inches (millimeters)



ORDERING INFORMATION, CERAMIC X2 CAPACITORS 20VL

C (µF)	TOL. (%)	$D_{max.}$ DIAMETER INCH (mm)	$T_{max.}$ THICKNESS INCH (mm)	WIRE SIZE		LS LEAD SPACE INCH (mm)	ORDERING CODE
				AWG	INCH (mm)		
Y5V							
0.009	± 20	0.530 (13.5)	0.150 (3.8)	22	0.025 (0.64)	0.375 (9.5)	20VLD90-R
0.010	± 20	0.620 (15.7)	0.150 (3.8)				20VLS10-R
0.020	± 20	0.720 (18.3)	0.150 (3.8)				20VLS20-R
0.100	± 20	0.950 (24.1)	0.230 (5.8)				20VLP10-R
Z5U							
0.010	± 20	0.530 (13.5)	0.160 (4.1)	22	0.025 (0.64)	0.250 (6.4)	20VLSS10-R

Notes

- Alternate lead spacings of 7.5 mm and 10 mm are available bulk or tape and reel on request.
- Minimum lead clearance according to IEC 60384-14: 0.118" (3 mm)

TAPE AND REEL OPTIONS

Part number codes and specifications for tape and reel packaging are found in the general information document - find web-link below.

APPROVALS

IEC 60384-14.3 - Safety tests
This approval together with CB test certificate substitutes all national approvals.

CB Certificate

X2-capacitor: CB test certificate:	DE 1 - 19450	9 nF to 0.1 µF	400 V_{AC}	

VDE

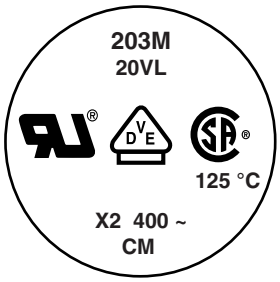
X2-capacitor: VDE marks approval: DIN EN 60384-14 VDE 0565-1-1:2006-04 - Safety tests	40003982	9 nF to 0.1 µF	400 V_{AC}	

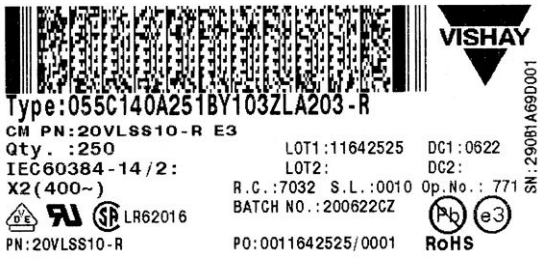
Underwriters Laboratories Inc.

X2-capacitor: UL test certificate: UL 60384-14, CSA E60384-1:03, CSA E60384-14:09 Across-the-line, antenna-coupling and line-by-pass component	E99264	9 nF to 0.1 µF	400 V_{AC}	

MARKING

Sample





RELATED DOCUMENTS

General Information	www.vishay.com/doc?23140
CB Test Certificate	www.vishay.com/doc?22247
VDE Marks Approval	www.vishay.com/doc?22246
UL Test Certificate	www.vishay.com/doc?22245

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