

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



FEATURES

- Worldwide safety agency recognition
Underwriters Laboratories UL 1283
Canadian Standards Association - CSA 22.2
European EN132400 to IEC 60384-14 second edition
- Complete range of capacitance values
- Radial leads
- Compliant to RoHS Directive 2002/95/EC


RoHS
COMPLIANT

APPLICATIONS

- Required in AC power supply and filter applications
- Specific industry requirements

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 $\pm 20\%$. Coating is made of flame retardant epoxy resin in accordance with "UL 94 V-0."

QUICK REFERENCE DATA		
DESCRIPTION	VALUE	
Ceramic Class	2	
Ceramic Dielectric	Y5V	Z5U
Voltage (V _{AC})	250, 400	250, 400
Min. Capacitance (pF)	9000	10 000
Max. Capacitance (pF)	100 000	10 000
Mounting	Through hole	

INSULATION RESISTANCE

Min. 1000 Ω F

TOLERANCE ON CAPACITANCE

 $\pm 20\%$

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

CAPACITANCE RANGE

9 nF to 0.1 μ F

RATED VOLTAGE

IEC 60384-14.12: (X2): 400 V_{AC}, 50 Hz

UL 1238: 250 V_{AC}, 60 Hz

CSA 22.2 No.8: 250 V_{AC}, 60 Hz

DIELECTRIC STRENGTH BETWEEN LEADS

Component test:

1250 V_{AC}, 50 Hz, 2 s

As repeated test admissible only once with:

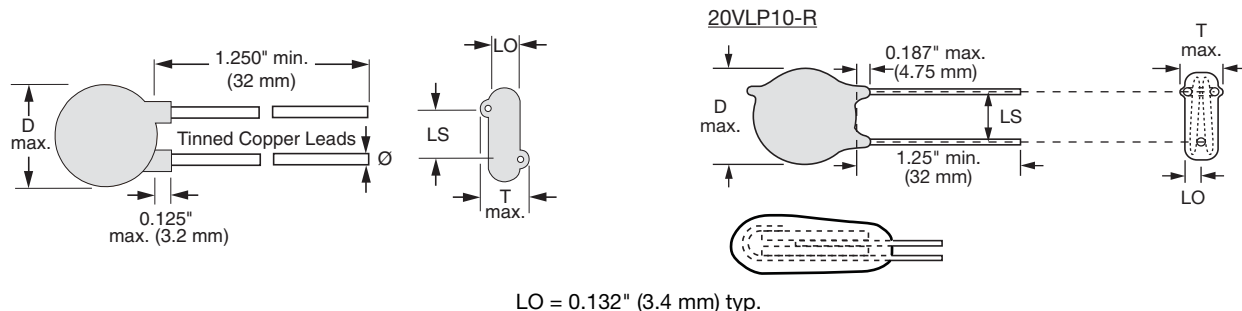
1080 V_{AC}, 50 Hz, 2 s

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 DIAMETER INCH (mm)	T THICKNESS INCH (mm)	WIRE SIZE		LS LEAD SPACE INCH (mm)	ORDERING CODE
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	0.940 (23.9)	0.240 (6.1)				20VLP10-R ⁽¹⁾
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.
- European required minimum lead clearance (prevents use of inside crimp) 0.118" (3 mm)
- (1) 20VLP10-R not available with CSA 22.2 no. 8 recognition

TAPE AND REEL OPTIONS

- To specify tape and reel, add two letter suffix to the ordering code (details of the packaging code see general section of the catalog).

APPROVALS

IEC 60384 - 14/2nd Issue (1993) incl. Am.1 (1995) - Safety Tests

EN132400 (1994) - Safety Tests

That approval together with 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	

X2 Capacitor: CB-Test Certificate:

DE 1-19450

9000 pF to 0.1 μ F

400 V_{AC}

UNDERWRITERS LABORATORIES INC.
UL 1238

EMI filters
Agency File/
License

E128046 V1S1

9000 pF to 0.1 μ F

250 V_{AC}

CANADIAN STANDARDS ASSOCIATION
CSA C22.8

EMI filters
Agency File/
License

LR 62016-3

9000 pF to 0.020 μ F

250 V_{AC}

Note

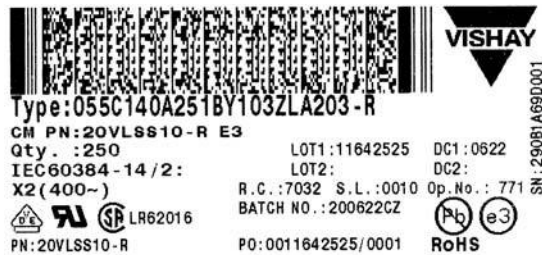
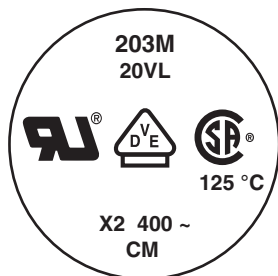
IEC 60384-14 subclass X capacitors:

- A capacitor of a type suitable for use in situations where failure of the capacitor would not lead to danger of electric shock.
- Class X capacitors are divided into sub-classes according to the peak impulse test voltage superimposed on the main voltage.



MARKING

Sample





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