AC Line Rated Ceramic Disc Capacitors
Class X1, 400 V_{AC} / Class Y4, 125 V_{AC}

QUICK REFERENCE DATA		
DESCRIPTION	VALUE	
Ceramic Class	2	
Ceramic Dielectric	Y5V	
Voltage (V_{AC})	125	400
Min. Capacitance (pF)	1000	
Max. Capacitance (pF)	50 000	
Mounting	Radial	

INSULATION RESISTANCE

Min. 1000 ΩF

TOLERANCE ON CAPACITANCE

± 20 %

DISSIPATION FACTOR

2.0 % max. at 1 kHz; 1 V

CERAMIC DIELECTRIC

Y5V (Class 2)

CLIMATIC CATEGORY ACC. TO EN 60068-1

25/125/21

OPERATING TEMPERATURE RANGE

-30 °C to +125 °C

FEATURES

- Complying with IEC 60384-14 3rd edition
- High reliability
- Complete range of capacitance values
- Radial leads
- Singlelayer AC disc safety capacitors
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

APPLICATIONS

- X1, Y4 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 0.032" (0.81 mm) or 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

1.0 nF to 0.050 µF

RATED VOLTAGE

IEC 60384-14.3:

- X1: 400 V_{AC}, 50 Hz
- Y4: 125 V_{AC}, 50 Hz

DIELECTRIC STRENGTH BETWEEN LEADS

Component test:
2000 V_{AC}, 50 Hz, 2 s

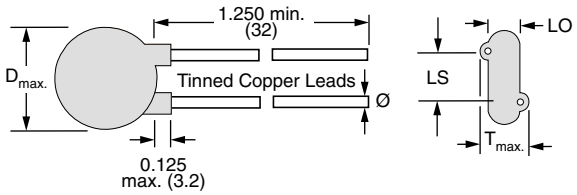
As repeated test admissible only once with:
1800 V_{AC}, 50 Hz, 2 s

Random sampling test (destructive test):
2000 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 X1 / Y4 CAPACITORS 125L

C (pF)	TOL. (%)	$D_{max.}$ DIAMETER INCH (mm)	$T_{max.}$ THICKNESS INCH (mm)	WIRE SIZE		LS LEAD SPACE INCH (mm) ± 1 mm	LO LEAD OFFSET INCH (mm) ± 0.5 mm	ORDERING CODE
				AWG	INCH (mm)			
1000	± 20	0.330 (8.4)	0.195 (5.0)	20	0.032 (0.81)	0.250 (6.4)	0.094 (2.4)	125LD10-R
1500		0.330 (8.4)	0.195 (5.0)				0.098 (2.5)	125LD15-R
2000		0.330 (8.4)	0.188 (4.8)				0.091 (2.3)	125LD20-R
2200		0.330 (8.4)	0.182 (4.7)				0.083 (2.1)	125LD22-R
3300		0.365 (9.3)	0.195 (5.0)				0.094 (2.4)	125LD33-R
4700		0.400 (10.2)	0.185 (4.7)				0.087 (2.2)	125LD47-R
5000		0.430 (11.0)	0.195 (5.0)			0.375 (9.5)	0.094 (2.4)	125LD50-R
6800		0.490 (12.5)	0.198 (5.1)				0.098 (2.5)	125LD68-R
8200		0.530 (13.5)	0.193 (5.0)				0.094 (2.4)	125LD82-R
0.010 µF		0.560 (14.3)	0.195 (5.0)				0.098 (2.5)	125LS10-R
0.015 µF		0.720 (18.3)	0.205 (5.3)				0.102 (2.6)	125LS15-R
0.018 µF		0.790 (20.1)	0.205 (5.3)				0.106 (2.7)	125LS18-R
0.020 µF		0.720 (18.3)	0.250 (6.4)	22	0.025 (0.64)		0.087 (2.2)	125LS20-R
0.022 µF		0.790 (20.1)	0.192 (4.9)	20	0.032 (0.81)		0.094 (2.4)	125LS22-R
0.030 µF		0.720 (18.3)	0.240 (6.1)	22	0.025 (0.64)		0.087 (2.2)	125LS30-R
0.050 µF		0.925 (23.5)	0.275 (7.0)	22	0.025 (0.64)		0.087 (2.2)	125LS50-R

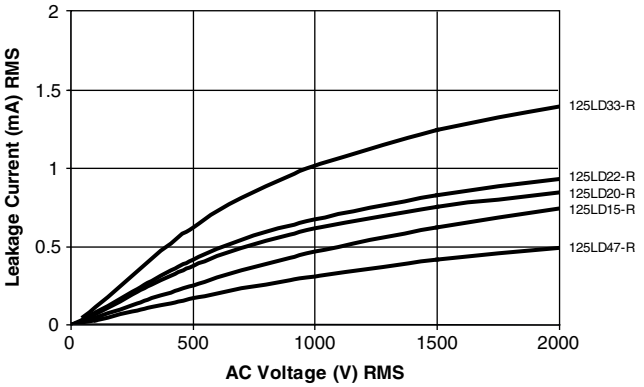
Notes

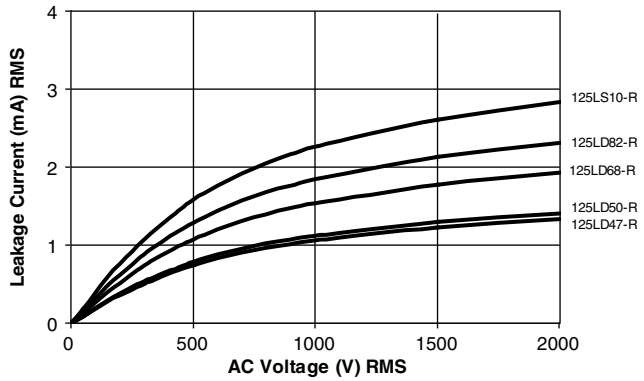
- Alternate lead spacings of 7.5 mm and 10 mm are available bulk or tape and reel on request.
- Minimum lead clearance according to IEC 60384-14: 0.118" (3 mm)

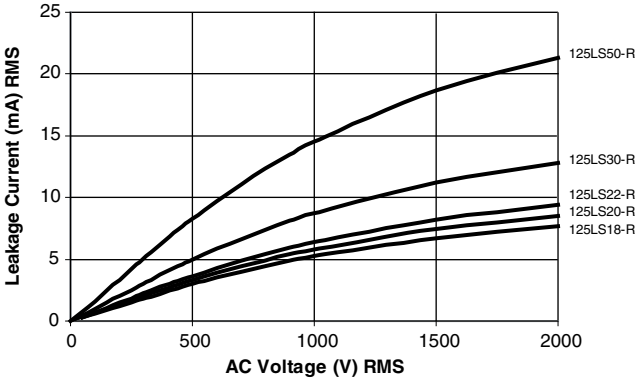
TAPE AND REEL OPTIONS

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

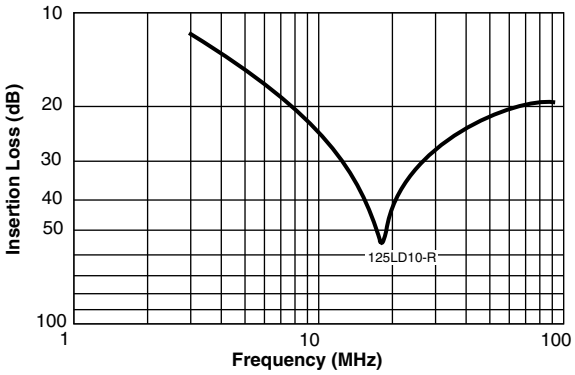
LEAKAGE CURRENT VS. VOLTAGE (Typical)

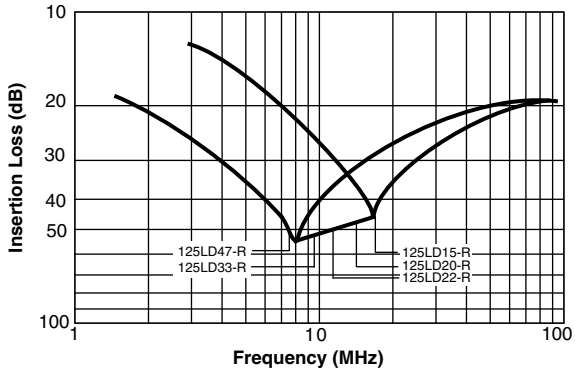


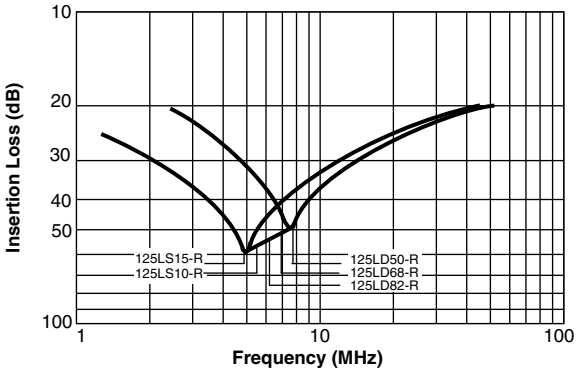


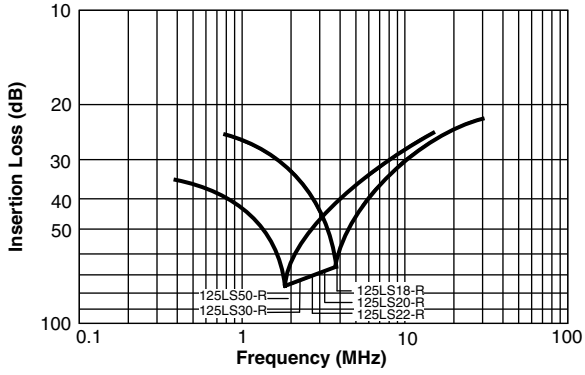


INSERTION LOSS VS. FREQUENCY (Typical)









APPROVALS

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

CB Certificate

Y4-capacitor: CB test certificate:	CA/13650/CSA	1 nF to 50 nF	125 V_{AC}
X1-capacitor: CB test certificate:	CA/13650/CSA	1 nF to 50 nF	400 V_{AC}

VDE

Y4-capacitor: VDE marks approval:	40003976	1 nF to 50 nF	125 V_{AC}
X1-capacitor: VDE marks approval:	40003976	1 nF to 50 nF	400 V_{AC}

DIN EN 60384-14 VDE 0565-1-1:2006-04 - Safety tests

Underwriters Laboratories Inc.

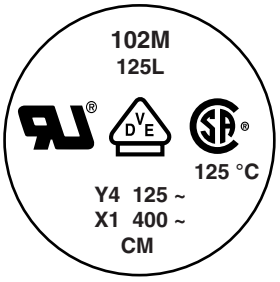
Y4-capacitor: UL test certificate:	E99264	1 nF to 50 nF	125 V_{AC}
X1-capacitor: UL test certificate:	E99264	1 nF to 50 nF	400 V_{AC}

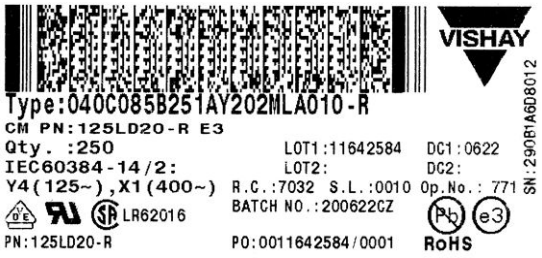
UL 60384-14, CSA E60384-1:03, CSA E60384-14:09

Fixed capacitors for electromagnetic interference suppression and connection to the supply mains.

MARKING

Sample





RELATED DOCUMENTS

General Information	www.vishay.com/doc?23140
CB Test Certificate	www.vishay.com/doc?22234
VDE Marks Approval	www.vishay.com/doc?22235
UL Test Certificate	www.vishay.com/doc?22236

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