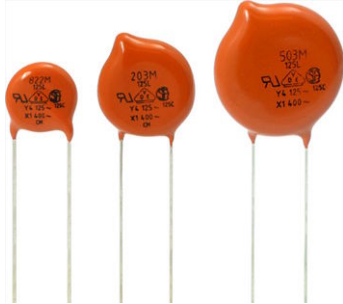


## AC Line Rated Ceramic Disc Capacitors Class X1, 400 V<sub>AC</sub>/Class Y4, 125 V<sub>AC</sub>



QUICK REFERENCE DATA			
DESCRIPTION	VALUE		
Ceramic Class	2		
Ceramic Dielectric	Y5V		
Voltage (V <sub>AC</sub> )	125	250	400
Min. Capacitance (pF)	1000		
Max. Capacitance (pF)	50 000		
Mounting	Through hole		

### INSULATION RESISTANCE

Min. 1000 ΩF

### TOLERANCE ON CAPACITANCE

± 20 %

### DISSIPATION FACTOR

2.0 % max. at 1 kHz; 1 V

### CERAMIC DIELECTRIC

Y5V (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

- Worldwide safety agency recognition  
Underwriters laboratories - UL 1414  
Canadian standards association - CSA 22.2  
European EN132400 to IEC 60384-14 2<sup>nd</sup> edition
- Complete range of capacitance values
- Radial leads
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**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 0.032" (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 60384-14.2: (Y4): 125 V<sub>AC</sub>, 50 Hz

IEC 60384-14.2: (X1): 400 V<sub>AC</sub>, 50 Hz

UL 1414: 250 V<sub>AC</sub>, 60 Hz

CSA 22.2 No.1: 125 V<sub>AC</sub>/250 V<sub>AC</sub>, 60 Hz

### DIELECTRIC STRENGTH BETWEEN LEADS

Component test:

2000 V<sub>AC</sub>, 50 Hz, 2 s

As repeated test admissible only once with:

1800 V<sub>AC</sub>, 50 Hz, 2 s

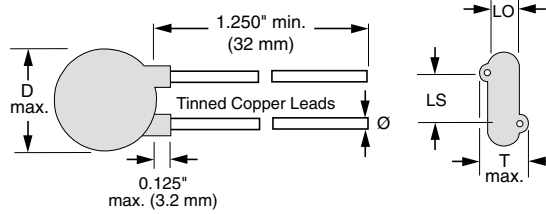
Random sampling test (destructive test):

2000 V<sub>AC</sub>, 50 Hz, 60 s

### DIELECTRIC STRENGTH OF BODY INSULATION

2300 V<sub>AC</sub>, 50 Hz, 60 s (destructive test)

### DIMENSIONS in inches (millimeters)



LO' = 0.132" (3.4 mm) typ.

### ORDERING INFORMATION, CERAMIC X1/Y4 CAPACITORS 125L

C (pF)	TOL. (%)	D <sub>max.</sub> DIAMETER INCH (mm)	T <sub>max.</sub> THICKNESS INCH (mm)	WIRE SIZE		LS LEAD SPACE INCH (mm)	ORDERING CODE	
				AWG	INCH (mm)			
<b>Y5V</b>								
1000	± 20 %	0.330 (8.4)	0.195 (5.0)	20	0.032 (0.81)	0.250 (6.4)	125LD10-R	
1500		0.330 (8.4)	0.195 (5.0)				125LD15-R	
2000		0.330 (8.4)	0.188 (4.8)				125LD20-R	
2200		0.330 (8.4)	0.182 (4.7)				125LD22-R	
3300		0.365 (9.3)	0.195 (5.0)				125LD33-R	
4700		0.400 (10.2)	0.185 (4.7)				125LD47-R	
5000		0.430 (11.0)	0.195 (5.0)			125LD50-R		
6800		0.490 (12.5)	0.198 (5.1)			125LD68-R		
8200		0.530 (13.5)	0.193 (5.0)			125LD82-R		
0.010 μF		0.560 (14.3)	0.195 (5.0)			125LS10-R		
0.015 μF		0.720 (18.3)	0.205 (5.3)			125LS15-R		
0.018 μF		0.790 (20.1)	0.205 (5.3)			125LS18-R		
0.020 μF		0.720 (18.3)	0.250 (6.4)			22	0.025 (0.64)	125LS20-R
0.022 μF		0.790 (20.1)	0.192 (4.9)			20	0.032 (0.81)	125LS22-R
0.030 μF		0.720 (18.3)	0.240 (6.1)			22	0.025 (0.64)	125LS30-R
0.050 μF		0.925 (23.5)	0.275 (7.0)			22	0.025 (0.64)	125LS50-R

#### Notes

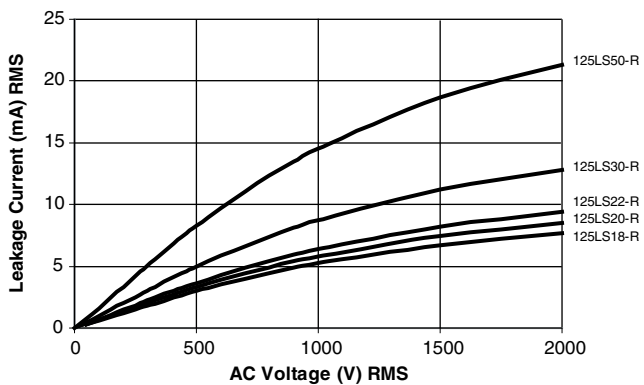
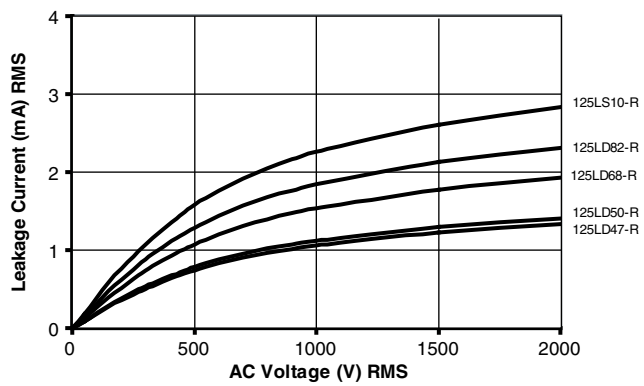
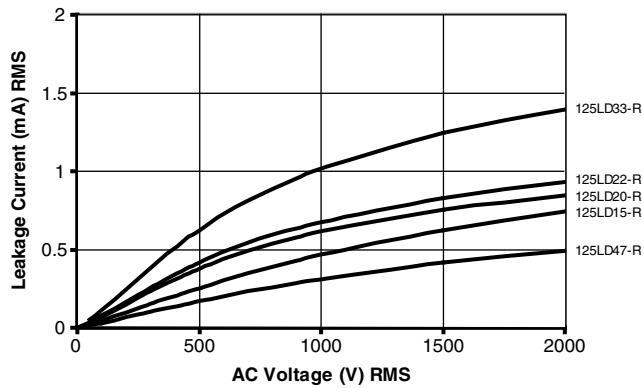
- Alternate lead spacings of 7.5 mm and 10 mm are available bulk or tape and reel on request.
- European required minimum lead clearance (prevents use of inside crimp) 0.118" (3 mm)

#### TAPE AND REEL OPTIONS

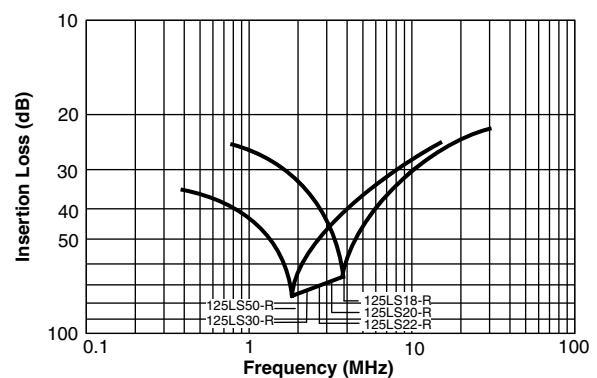
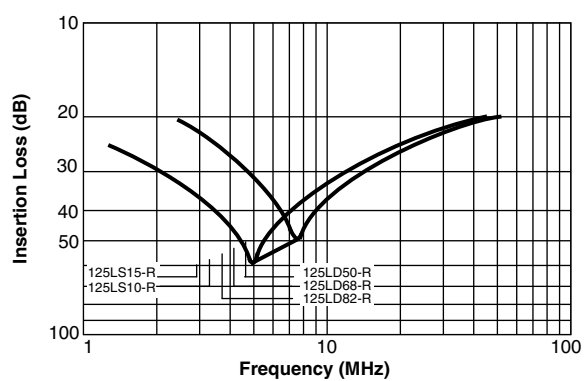
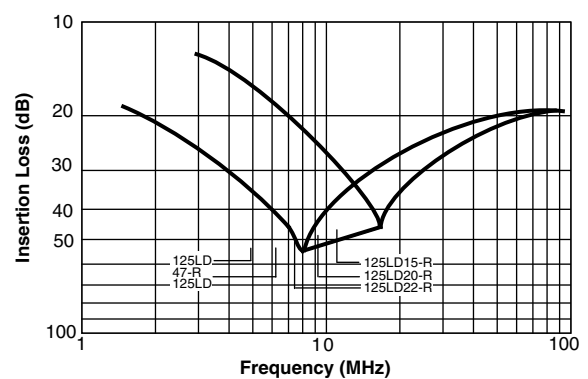
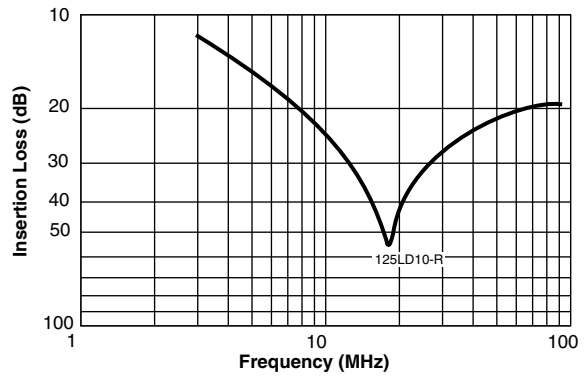
To specify tape and reel, add two letter suffix to the ordering code (for details of the packaging code see general section of the catalog)



### LEAKAGE CURRENT VS. VOLTAGE (TYPICAL)



### INSERTION LOSS VS. FREQUENCY (TYPICAL)



<b>APPROVALS</b>						
<b>IEC 60384 - 14/2<sup>nd</sup> Issue (1993) incl. Am.1 (1995) - Safety Tests</b>						
<b>EN132400 (1994) - Safety Tests</b>						
<b>That approval together with CB Test Certificate substitutes the national approval of the following nations:</b>						
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	
X1 Capacitor: CB-Test Certificate:		DE 1-19447	1000 pF to 0.05 $\mu$ F	400 V <sub>AC</sub>		
Y4 Capacitor: CB-Test Certificate:		DE 1-19447	1000 pF to 0.05 $\mu$ F	125 V <sub>AC</sub>		
<b>UNDERWRITERS LABORATORIES INC.</b>						
<b>UL 1414</b>	Line-by-pass component Agency File/License	E99264	1000 pF to 0.05 $\mu$ F	250 V <sub>AC</sub>		
<b>CANADIAN STANDARDS ASSOCIATION</b>						
<b>CSA C22.2 No. 1</b>	Isolation component Agency File/License	LR 62016	1000 pF to 0.05 $\mu$ F	250 V <sub>AC</sub>		

**Notes**

UL1414 Across-The-Line, Antenna Coupling, and Line-By-Pass Capacitors:

- Across-The-Line - a capacitor connected either across a supply circuit or between one side of a supply circuit and a conductive part that may be connected to earth ground.
- Antenna-Coupling - a capacitor connected from an antenna terminal to circuits within an appliance.
- Line-By-Pass - a capacitor connected between one side of a supply circuit and an accessible conductive part.

IEC 60384-14 Subclass Y Capacitors:

- A capacitor of a type suitable for use in situations where failure of the capacitor could lead to danger of electric shock.
- Class Y capacitors are divided into subclasses based on type of insulation bridged and voltage ranges.
- For definitions of basic, supplementary, double and reinforced insulation, see IEC publication 536.
- Subclass Y capacitors may be used in applications which require a subclass X rating.

IEC 60384-14 Subclass X Capacitors:

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

<b>MARKING</b>	
<p>Sample</p> <div style="text-align: center;"> </div>	<div style="text-align: right;"> </div> <div style="text-align: center;"> </div> <p>Type: 040C085B251AY202MLA010 - R</p> <p>CM PN: 125LD20 - R E3      Qty. : 250      LOT1: 11642584      DC1: 0622</p> <p>IEC60384 - 14 / 2:      LOT2:      DC2:      Op.No.: 771</p> <p>Y4 ( 125~ ), X1 ( 400~ )      R.C.: 7032      S.L.: 0010      BATCH NO.: 200622CZ</p> <p>   LR62016      PN: 125LD20 - R      PO: 0011642584 / 0001       </p> <p style="text-align: right; font-size: small;">SH: 290R1A6D8012</p>



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## Material Category Policy

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**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.**



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- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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