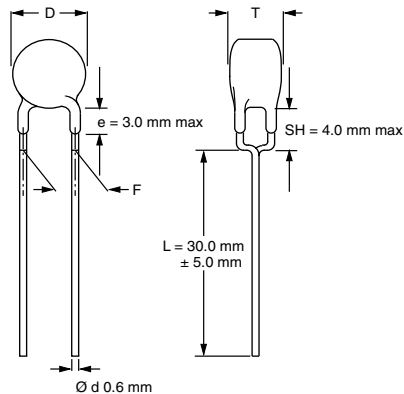


## Ceramic Disc Capacitors

### Safety Standard Approved Disc Capacitor



Capacitors with 10 mm lead spacing

**DISSIPATION FACTOR:**

2.5 % maximum

**CATEGORY TEMPERATURE RANGE:**

- 40 °C to + 125 °C

**TEMPERATURE CHARACTERISTICS:**

See Ordering Information Tables

**CLIMATIC CATEGORY:**

40/125/21 according to EN60068-1

**COATING:**

 according to UL 94V-0  
 epoxy resin, isolating, flame retardant

**WEEE/RoHS:**

Components in accordance with EU Directive 2002/95/EC

**APPROVALS:**

 ENEC VDE (DE1-32019)  
 UL 1414 file E183844  
 CSA 22.2

**PACKAGING:**

Bulk; tape and reel; taped ammpack

**FEATURES**

- Complying with “EN 132 400” and “IEC 60384-14, 2nd edition, including amendment 1.1995”
- High reliability
- Vertical (inline) kinked or straight leads

**APPLICATIONS**

- X1, Y1 according to IEC 60384-14.2
- Across-the-line
- Line by-pass
- Antenna coupling

**DESIGN**

The capacitors consist of a ceramic disc both sides of which are silver-plated. Connection leads are made of tinned copper having a diameter of 0.6 mm.

The capacitors may be supplied with vertical (inline) kinked leads having a lead spacing of 10.0 mm. Encapsulation is made of flammable resistant epoxy resin in accordance with “UL94V-0”.

**CAPACITANCE RANGE:**

10 pF to 4700 pF

**RATED VOLTAGE  $U_R$ :**

IEC 60384-14.2:

(X1): 760 V (AC), 50 Hz

(Y1): 500 V (AC), 50 Hz

250 V (AC), 50/60 Hz, UL1414 and CSA 22.2

**TEST VOLTAGE:**

Component Test (100 %):

4000 V (AC), 50 Hz, 2 seconds

Random sampling test (destructive test):

4000 V (AC), 50 Hz, 60 seconds

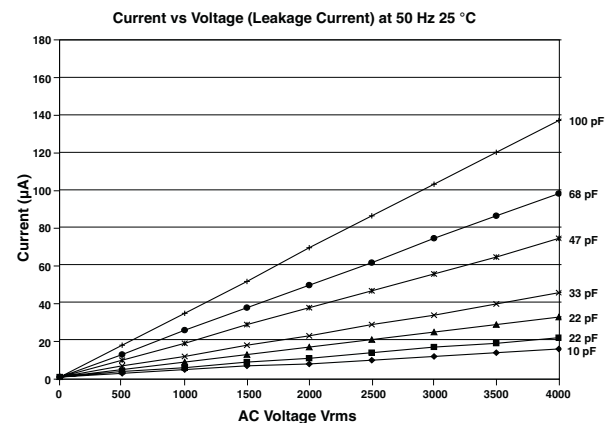
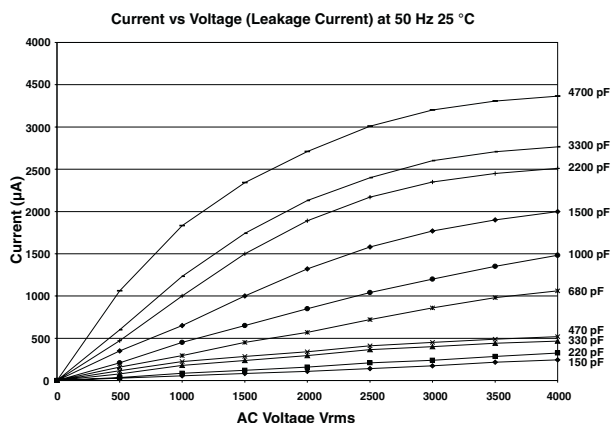
Voltage proof of coating (destructive test):

4000 V (AC), 50 Hz, 60 seconds

**INSULATION RESISTANCE:**

 10 000 M $\Omega$  minimum

**TOLERANCE OF CAPACITANCE:**
 $\pm 20 \%$  (Code M);  $\pm 10 \%$  (Code K)

**RoHS**  
 COMPLIANT


The capacitors meet the essential requirements of “EIA 198”. Unless stated otherwise all electrical values apply at an ambient temperature of  $25 \pm 3 \text{ °C}$ , at normal atmospheric conditions

ORDERING INFORMATION						
C (pF)	TOL. (%)	TEMP. COEFFICIENT	BODY DIAMETER D <sub>max</sub> (mm)	BODY THICK T <sub>max</sub> (mm)	LEAD SPACING F (mm)	CLEAR TEXT CODE
						15 <sup>th</sup> DIGIT*: T = REEL; U = AMMO; 3 = BULK;(2)
10	± 10	U2J (N750)	8	5.0 max.	10.0	VY1100K31U2JQ6*V0
15						VY1150K31U2JQ6*V0
22						VY1220K31U2JQ6*V0
33						VY1330K31Y5SQ6*V0
47						VY1470K31Y5SQ6*V0
68		Y5S (2C3)				VY1680K31Y5SQ6*V0
100						VY1101K31Y5SQ6*V0
150						VY1151K31Y5SQ6*V0
220						VY1221K31Y5SQ6*V0
330						VY1331K31Y5SQ6*V0
470	± 20	Y5U (2E3)	9	5.0 max.	10.0	VY1471M31Y5UQ6*V0
680						VY1681M31Y5UQ6*V0
1000						VY1102M35Y5UQ6*V0
1500						VY1152M41Y5UQ6*V0
2200						VY1222M47Y5UQ6*V0
2700						VY1272M51Y5UQ6*V0
3300						VY1332M59Y5UQ6*V0
3900						VY1392M61Y5UQ6*V0
4700						VY1472M63Y5UQ6*V0
4700						

**Notes**

1. Straight leads are available on request.
2. 15th digit of the clear text code number to be completed with the packaging code.
3. Coating extension DR valid for straight leads only.
4. On request available: ± 10 % tolerance.
5. On request available: leadspacing 12.5 mm.

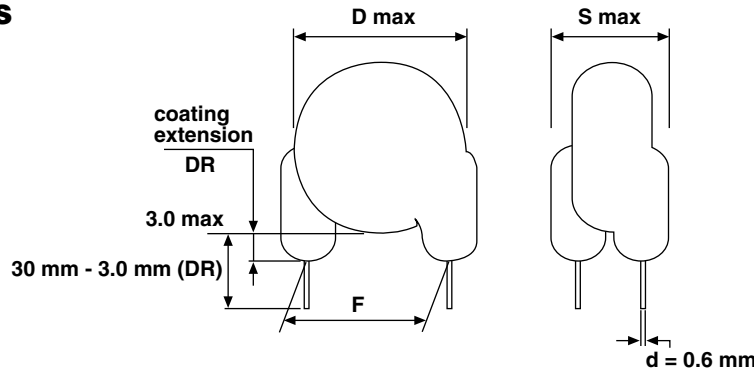
**LEADSPACING 10.0 mm**

PACKAGING					
CAPACITANCE VALUE	SIZE CODE	BODY DIAMETER D <sub>max</sub>	PACKAGING QUANTITIES		
			BULK	REEL	AMMO
10 pF to 2200 pF	31 ~ 47	12.0	1000	500	750
3300 pF to 4700 pF	51 ~ 63	16.0	500	500	750

**Note**

1. The capacitors are supplied in bulk packaging (cardboard boxes), in tape on reel or in ammpack.

**STRAIGHT LEADS**



Ceramic Disc Capacitors  
Safety Standard Approved Disc Capacitor

Vishay BCcomponents

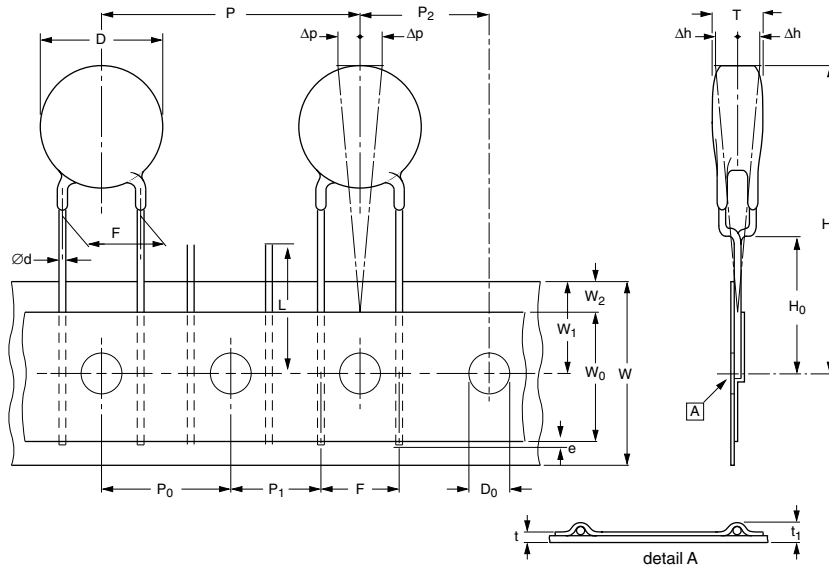


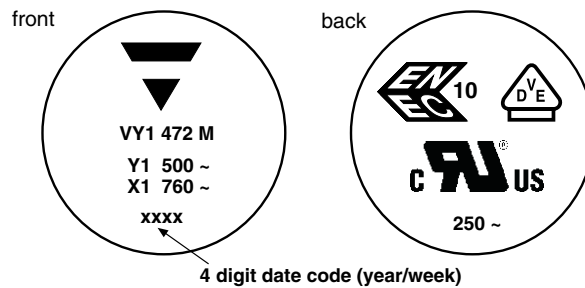
Fig.2 lead spacing 10 mm, Sprocket hole pitch 25.4 mm for lead spacing 10.0 mm

**STANDARD RECOGNITION**

IEC 60384 - 14/2nd Issue (1993) incl. Am.1 (1995) - Safety Tests  
EN 132 400 (1994) - Safety Tests

UL 1414 - Across-the-line, antenna-coupling and line-by-pass component  
CSA C22.2 - Across-the-line, line to ground and antenna isolation capacitor  
CCC - Chinese Safety Standard is available on request

**MARKING: 2 SIDES  
(EXAMPLE)**



**LABEL  
(EXAMPLE)**



PN: VY1471M31Y5UQ6XT0 Lot1: 14Z551S12 DC1: 0601  
QTY: 225 Lot2: DC2:  
PO: Batch: 200601CN  
SO: Region: 9520 SL: 0010  
Ser.No: 0601H69340

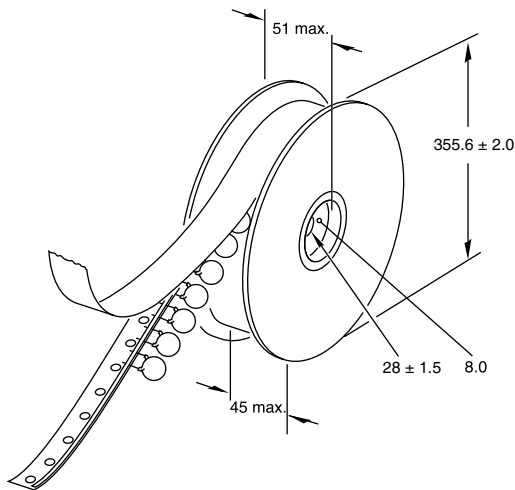


DIMENSIONS OF TAPE		
SYMBOL	PARAMETER	DIMENSIONS (mm)
		Fig.2
D <sup>1)</sup>	body diameter	16.0 max.
d	lead diameter	0.6 ± 0.05
P	pitch of component	25.4 ± 1
P <sub>0</sub> <sup>2)</sup>	pitch of sprocket hole	12.7 ± 0.3
P <sub>1</sub> <sup>3)</sup>	distance, hole centre to lead	7.7 ± 1.0
P <sub>2</sub> <sup>3)</sup>	distance, hole to centre of component	12.7 ± 1.5
F	lead spacing	10.0 + 0.6/- 0.4
Δh	average deviation across tape	± 1.0 max.
ΔP	average deviation in direction of reeling	± 1.0 max.
W	carrier tape width	18.0 + 1 - 0.5
W <sub>0</sub>	hold-down tape width	5.0 min.
W <sub>1</sub>	position of sprocket hole	9.0 + 0.75 - 0.5
W <sub>2</sub>	distance of hold-down tape	3.0 max.
H <sub>1</sub>	maximum component height	40.0
H <sub>0</sub>	Height to seating plane (for kinked leads)	16.0 ± 0.5
H <sub>0</sub>	Height to seating plane (for straight leads)	20.0 ± 0.5
L	length of cut leads	11.0 max.
l	length of lead protrusion	1.0 max.
D <sub>0</sub>	diameter of sprocket hole	4.0 ± 0.2
t	total tape thickness	0.9 max.

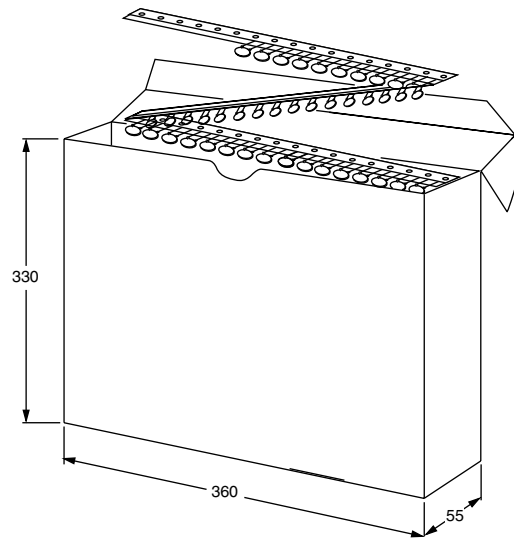
**Notes**

1. See ordering information table.
2. Cumulative pitch error: ± 1 mm/20 pitches.
3. Obliquity maximum 3°.

**REEL AND TAPE DATA** in millimeters



Reel with capacitors on tape



Ampmopack with capacitors on tape



## Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.