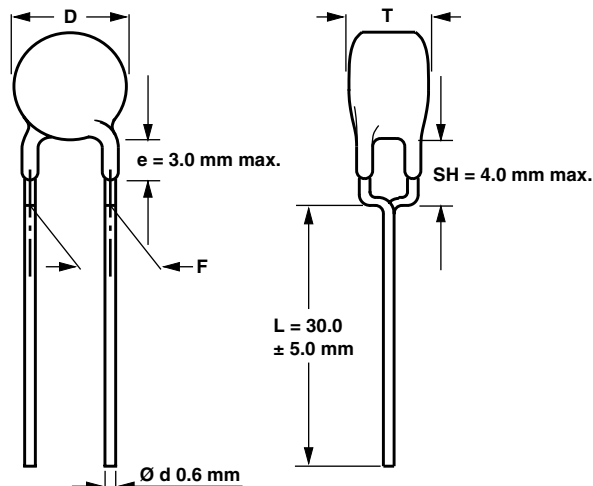


Ceramic Disc Capacitors

Safety Standard Approved Disc AC Capacitors



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 94 V-0

Epoxy resin, isolating, flame retardant

APPROVALS

ENEC VDE (DE1-32019)

UL 1414 file E183844

CSA 22.2

PACKAGING

Bulk; tape and reel; taped ammpack

FEATURES

- Complying with IEC 60384-14, 3rd edition
- High reliability
- Vertical (inline) kinked or straight leads
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



RoHS
COMPLIANT
HALOGEN
FREE
Available

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 "UL 94 V-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 s

Random sampling test (destructive test):

4000 V_{AC}, 50 Hz, 60 s

Voltage proof of coating (destructive test):

4000 V_{AC}, 50 Hz, 60 s

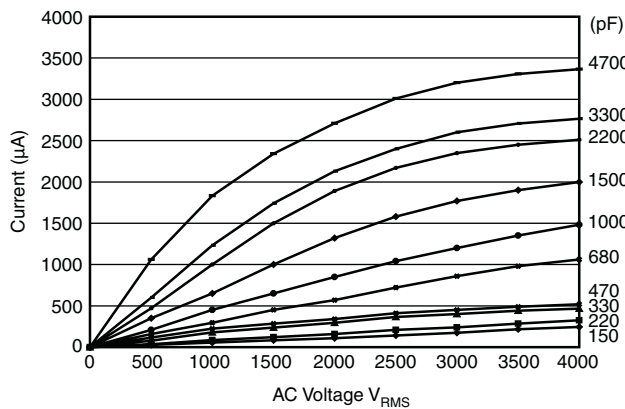
INSULATION RESISTANCE

10 000 MΩ minimum

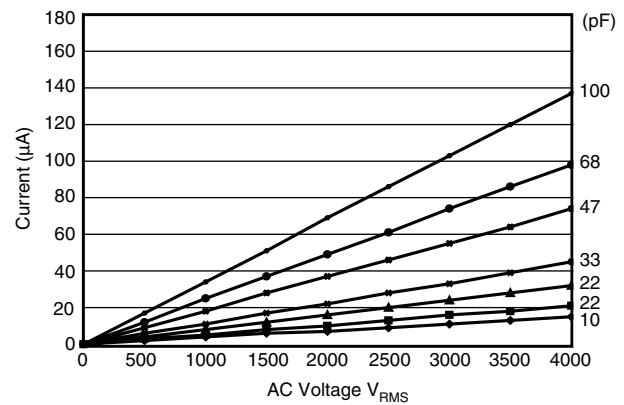
TOLERANCE OF CAPACITANCE

± 20 % (code M); ± 10 % (code K)

Current vs. Voltage (Leakage Current) at 50 Hz 25 °C



Current vs. Voltage (Leakage Current) at 50 Hz 25 °C



The capacitors meet the essential requirements of "EIA 198". Unless stated otherwise all electrical values apply at an ambient temperature of 25 °C ± 3 °C, at normal atmospheric conditions.

ORDERING INFORMATION

C (pF)	TOL. (%)	TEMP. COEFFICIENT	BODY DIAMETER D max. (mm)	BODY THICK T max. (mm)	LEAD SPACING F (mm)	CLEAR TEXT CODE (15 th DIGIT *: T = REEL; U = AMMO; 3 = BULK ⁽¹⁾)	
						RoHS COMPLIANT	RoHS AND HALOGEN-FREE
10	± 10	U2J (N750)	8	5.0	10.0	VY1100K31U2JQ6*V0	VY1100K31U2JG6*V0
15						VY1150K31U2JQ6*V0	VY1150K31U2JG6*V0
22						VY1220K31U2JQ6*V0	VY1220K31U2JG6*V0
33		Y5S (2C3)				VY1330K31Y5SQ6*V0	VY1330K31Y5SG6*V0
47						VY1470K31Y5SQ6*V0	VY1470K31Y5SG6*V0
68						VY1680K31Y5SQ6*V0	VY1680K31Y5SG6*V0
100						VY1101K31Y5SQ6*V0	VY1101K31Y5SG6*V0
150						VY1151K31Y5SQ6*V0	VY1151K31Y5SG6*V0
220						VY1221K31Y5SQ6*V0	VY1221K31Y5SG6*V0
330						VY1331K31Y5SQ6*V0	VY1331K31Y5SG6*V0
470	± 20	Y5U (2E3)	VY1471M31Y5UQ6*V0			VY1471M31Y5UG6*V0	
680			VY1681M31Y5UQ6*V0			VY1681M31Y5UG6*V0	
1000			VY1102M35Y5UQ6*V0			VY1102M35Y5UG6*V0	
1500			VY1152M41Y5UQ6*V0			VY1152M41Y5UG6*V0	
2200			VY1222M47Y5UQ6*V0			VY1222M47Y5UG6*V0	
3300			VY1332M59Y5UQ6*V0			VY1332M59Y5UG6*V0	
3900			VY1392M61Y5UQ6*V0			VY1392M61Y5UG6*V0	
4700			VY1472M63Y5UQ6*V0			VY1472M63Y5UG6*V0	

Notes

⁽¹⁾ 15th digit of the clear text code number to be completed with the packaging code

- Straight leads are available on request
- Coating extension ΔR valid for straight leads only
- On request available: ± 10 % tolerance
- On request available: Leadspacing 12.5 mm

LEADSPACING 10.0 mm

PACKAGING					
CAPACITANCE VALUE	SIZE CODE	BODY DIAMETER D max. (mm)	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

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

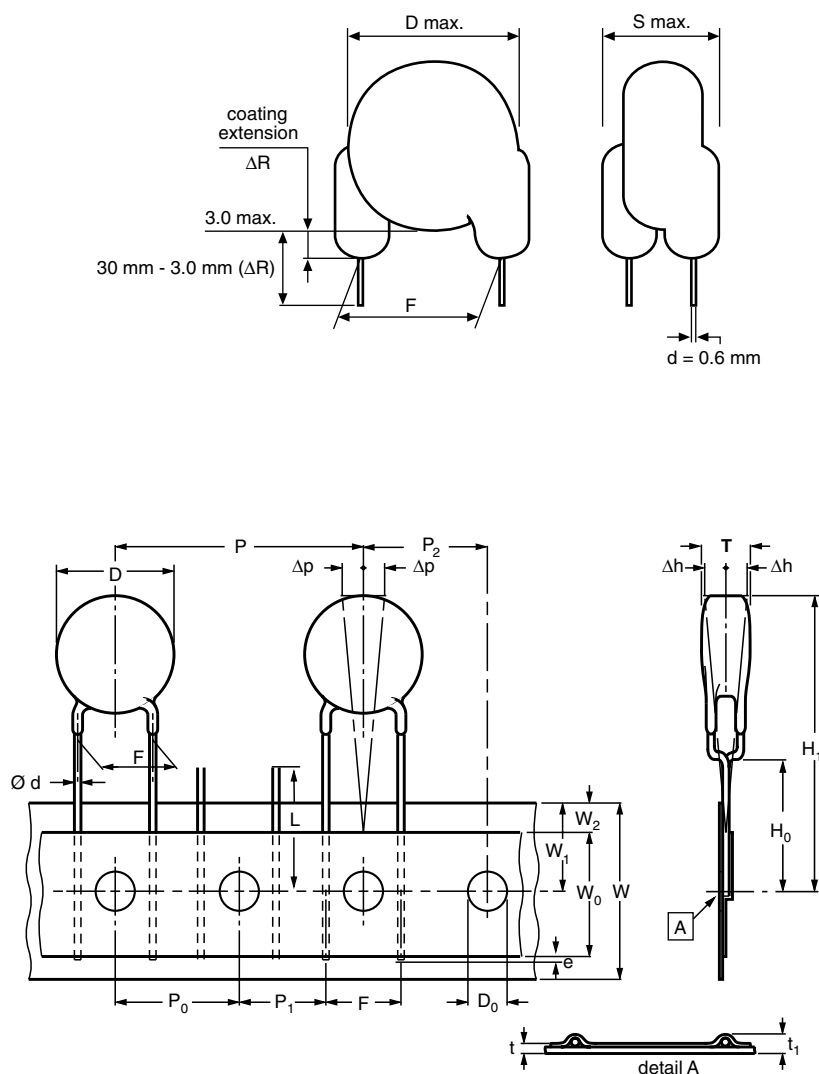
STRAIGHT LEADS


Fig. 2 Lead spacing 10 mm, sprocket hole pitch 25.04 mm for lead spacing

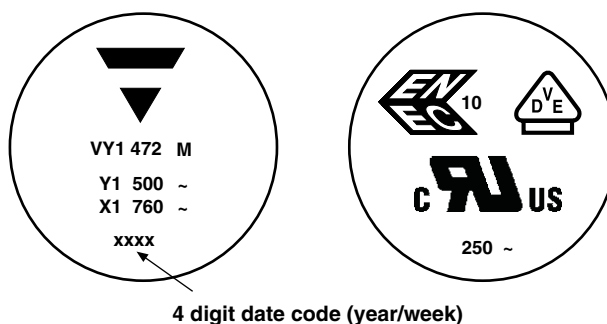
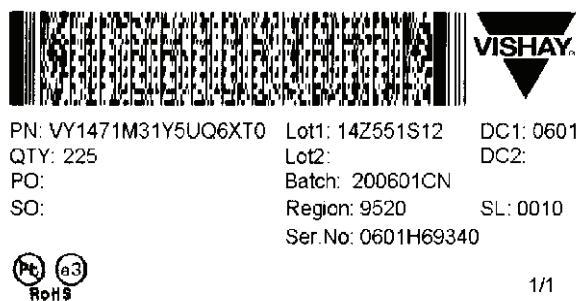
STANDARD RECOGNITION

IEC 60384 - 14/3rd issue (2005) - 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

CQC - China Quality Certification Centre-Safety Tests

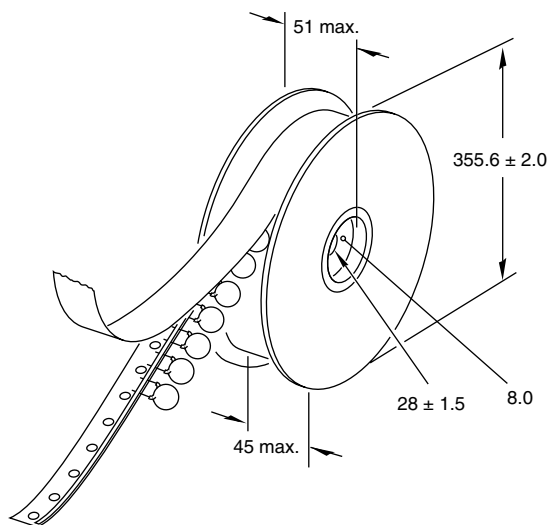
MARKING: 2 SIDES (EXAMPLE)**LABEL (EXAMPLE)**

DIMENSIONS OF TAPE		
SYMBOL	PARAMETER	DIMENSIONS (mm)
		Fig. 2
D ⁽¹⁾	body diameter	16.0 max.
d	lead diameter	0.6 ± 0.05
P	pitch of component	25.4 ± 1
P ₀ ⁽²⁾	pitch of sprocket hole	12.7 ± 0.3
P ₁ ⁽³⁾	distance, hole centre to lead	7.7 ± 1.0
P ₂ ⁽³⁾	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 ₀	hold-down tape width	5.0 min.

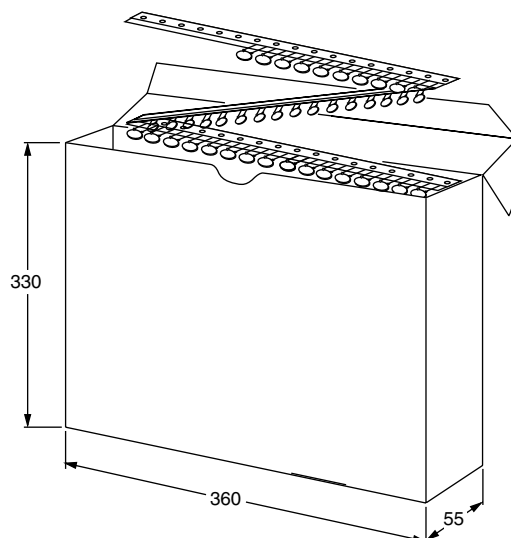
DIMENSIONS OF TAPE		
SYMBOL	PARAMETER	DIMENSIONS (mm)
		Fig. 2
W_1	position of sprocket hole	$9.0 + 0.75 - 0.5$
W_2	distance of hold-down tape	3.0 max.
H_1	maximum component height	40.0
H_0	height to seating plane (for kinked leads)	16.0 ± 0.5
H_0	height to seating plane (for straight leads)	20.0 ± 0.5
L	length of cut leads	11.0 max.
l	length of lead protrusion	1.0 max.
D_0	diameter of sprocket hole	4.0 ± 0.2
t	total tape thickness	0.9 max.

Notes

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

REEL AND TAPE DATA in millimeters


Reel with capacitors on tape



Ammopack with capacitors on tape



Disclaimer

All product specifications and data are subject to change without notice.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.