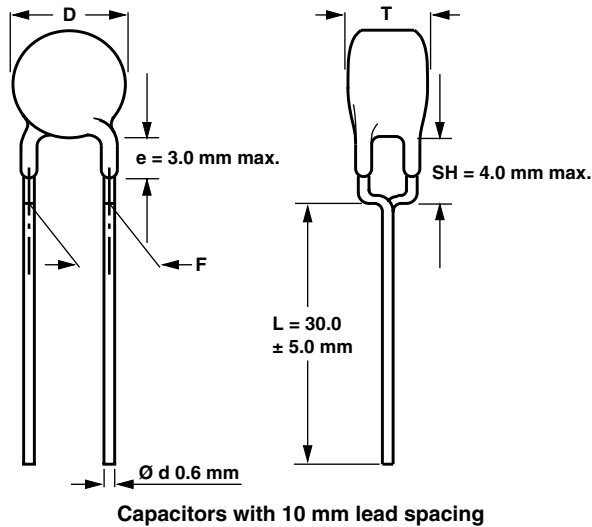


Ceramic Disc Capacitors

Safety Standard Approved Disc AC Capacitors


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".

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

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

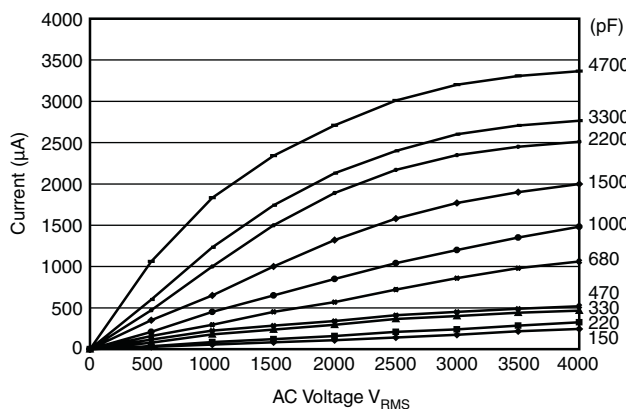
INSULATION RESISTANCE

10 000 MΩ minimum

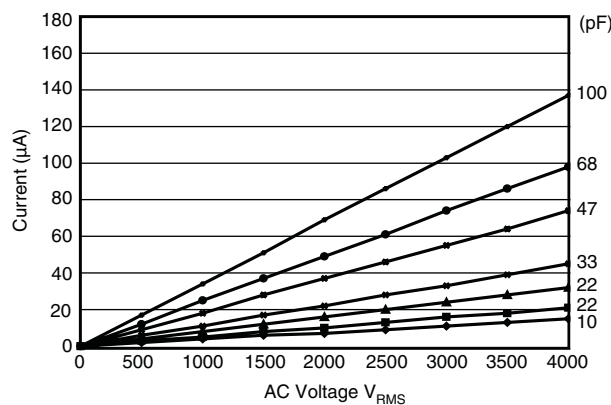
TOLERANCE OF CAPACITANCE

± 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						VY1330K31Y5SQ6*V0	VY1330K31Y5SG6*V0
47						VY1470K31Y5SQ6*V0	VY1470K31Y5SG6*V0
68						VY1680K31Y5SQ6*V0	VY1680K31Y5SG6*V0
100		Y5S (2C3)				VY1101K31Y5SQ6*V0	VY1101K31Y5SG6*V0
150						VY1151K31Y5SQ6*V0	VY1151K31Y5SG6*V0
220						VY1221K31Y5SQ6*V0	VY1221K31Y5SG6*V0
330						VY1331K31Y5SQ6*V0	VY1331K31Y5SG6*V0
470						VY1471M31Y5UQ6*V0	VY1471M31Y5UG6*V0
680	± 20	Y5U (2E3)	9	VY1681M31Y5UQ6*V0	VY1681M31Y5UG6*V0		
1000			10.5	VY1102M35Y5UQ6*V0	VY1102M35Y5UG6*V0		
1500			10.5	VY1152M41Y5UQ6*V0	VY1152M41Y5UG6*V0		
2200			12	VY1222M47Y5UQ6*V0	VY1222M47Y5UG6*V0		
3300			15	VY1332M59Y5UQ6*V0	VY1332M59Y5UG6*V0		
3900			15.5	VY1392M61Y5UQ6*V0	VY1392M61Y5UG6*V0		
4700			16.0	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

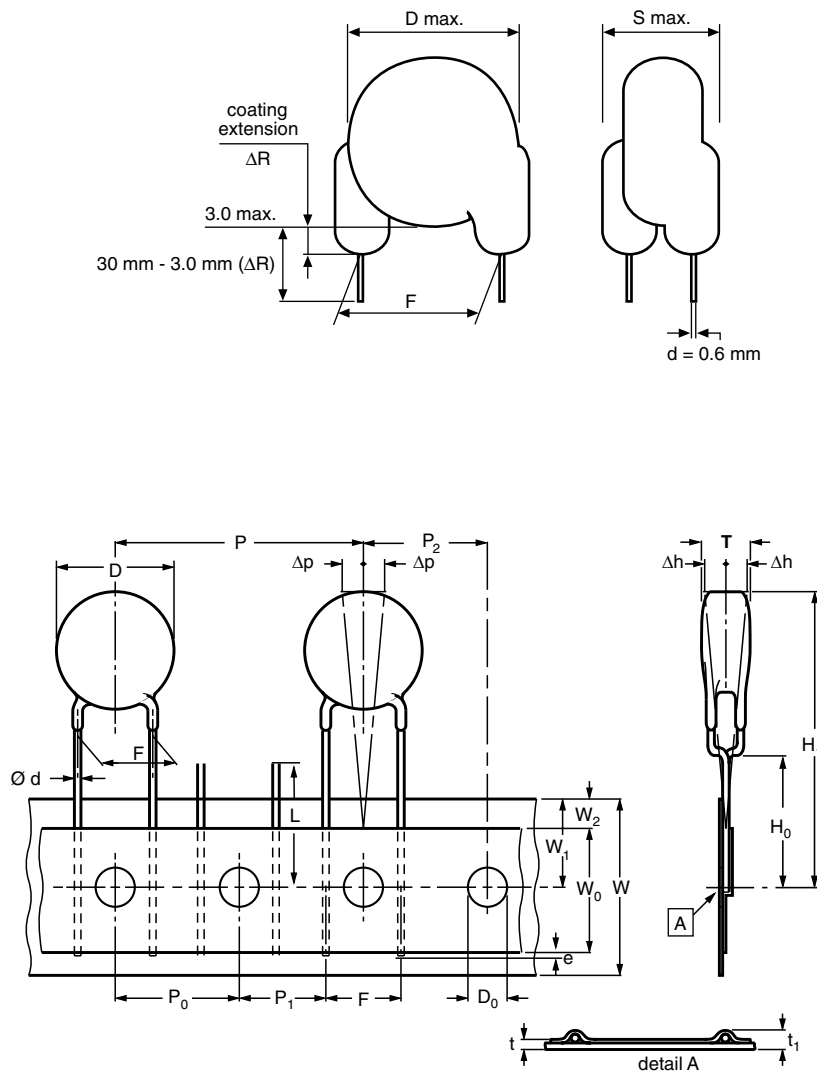
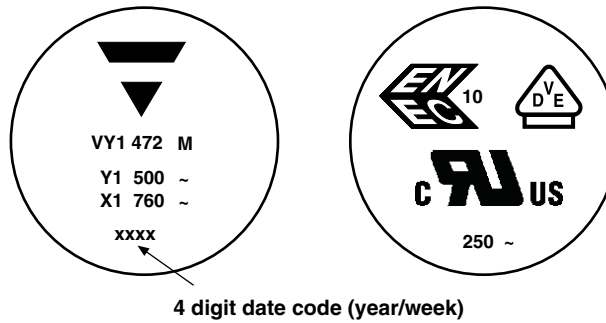
STRAIGHT LEADS


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

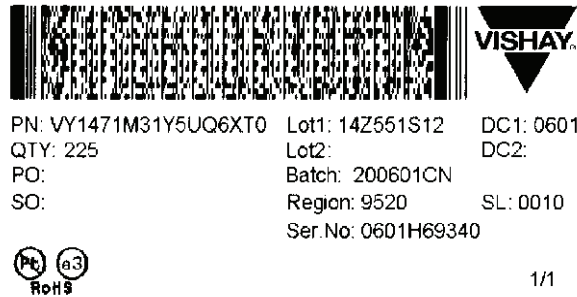
STANDARD RECOGNITION

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)

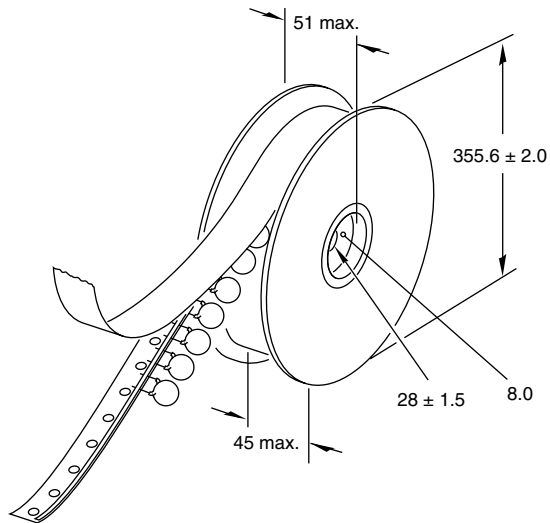


DIMENSIONS OF TAPE		
SYMBOL	PARAMETER	DIMENSIONS (mm)
		Fig. 2
D ⁽¹⁾	body diameter	16.0 max.
d	lead diameter	0.6 ± 0.05
P	pitch of component	25.4 ± 1
P ₀ ⁽²⁾	pitch of sprocket hole	12.7 ± 0.3
P ₁ ⁽³⁾	distance, hole centre to lead	7.7 ± 1.0
P ₂ ⁽³⁾	distance, hole to centre of component	12.7 ± 1.5
F	lead 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.

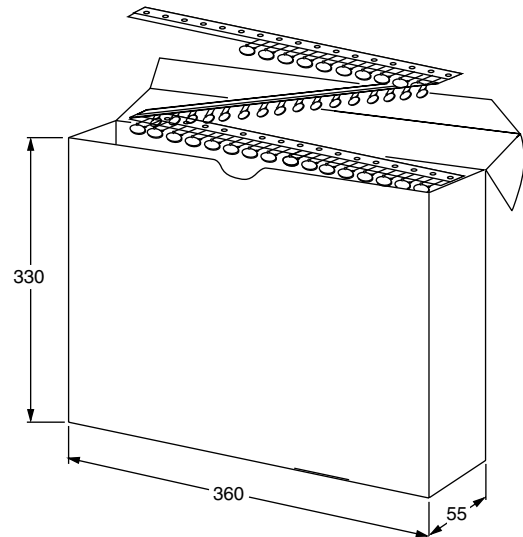
DIMENSIONS OF TAPE		
SYMBOL	PARAMETER	DIMENSIONS (mm)
		Fig. 2
W_1	position of sprocket hole	$9.0 + 0.75 - 0.5$
W_2	distance of hold-down tape	3.0 max.
H_1	maximum component height	40.0
H_0	height to seating plane (for kinked leads)	16.0 ± 0.5
H_0	height to seating plane (for straight leads)	20.0 ± 0.5
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



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