Ceramic Disc Capacitors
Safety Standard Approved Disc Capacitor

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”*.

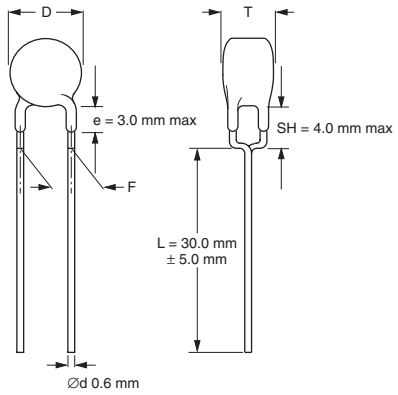
CAPACITANCE RANGE:
10pF to 4700pF

RATED VOLTAGE U_R:
IEC 60384-14.2:
(X1): 760V (AC), 50Hz
(Y1): 500V (AC), 50Hz
250V (AC), 50/60Hz, UL1414 and CSA 22.2

TEST VOLTAGE:
Component Test (100%):
4000V (AC), 50Hz, 2 seconds
Random sampling test (destructive test):
4000V (AC), 50Hz, 60 seconds
Voltage proof of coating (destructive test):
4000V (AC), 50Hz, 60 seconds

INSULATION RESISTANCE:
10000 MΩ minimum

TOLERANCE OF CAPACITANCE:
±20% (Code M); ±10% (Code K)



Capacitors with 10 mm lead spacing.

DISSIPATION FACTOR:
25 x 10^{-3} maximum

CATEGORY TEMPERATURE RANGE:
-40 °C to + 125 °C

TEMPERATURE CHARACTERISTICS:
See Ordering Information Tables

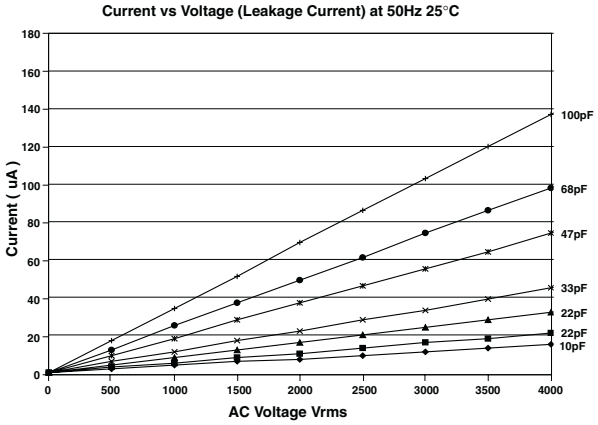
CLIMATIC CATEGORY:
40/125/21 according to EN60068-1

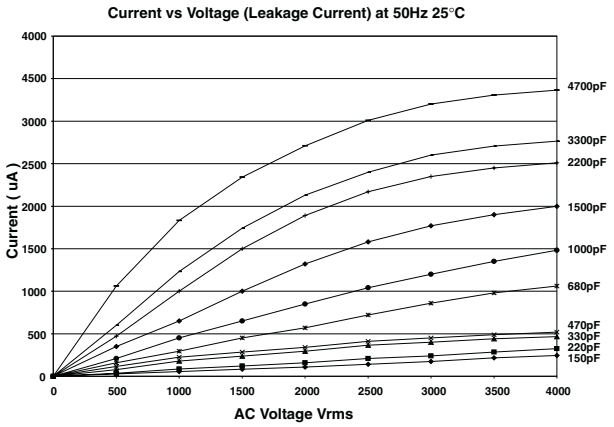
COATING:
according to UL 94V-0
epoxy resin, isolating, flame retardant

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 ammopack





The capacitors meet the essential requirements of “EIA 198”. Unless stated otherwise all electrical values apply at an ambient temperature of 25 ± 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 15th DIGIT*: T = REEL; U = AMMO; 3 = BULK; (2)	CATALOG NUMBER 8th AND 9th DIGIT*: 70 = REEL; 71 = AMMO; 72 = BULK; (3)
10	±10	U2J (N750)	8	5.0 max.	10.0	VY1100K31U2JQ6*V0	2252 816 **006
15						VY1150K31U2JQ6*V0	2252 816 **106
22						VY1220K31U2JQ6*V0	2252 816 **206
33		Y5S (2C3)				VY1330K31Y5SQ6*V0	2252 816 **306
47						VY1470K31Y5SQ6*V0	2252 816 **406
68						VY1680K31Y5SQ6*V0	2252 816 **606
100						VY1101K31Y5SQ6*V0	2252 816 **016
150						VY1151K31Y5SQ6*V0	2252 816 **116
220						VY1221K31Y5SQ6*V0	2252 816 **216
330						VY1331K31Y5SQ6*V0	2252 816 **316
470	±20	Y5U (2E3)				VY1471M31Y5UQ6*V0	2252 816 **417
680						VY1681M31Y5UQ6*V0	2252 816 **617
1000			9			VY1102M35Y5UQ6*V0	2252 816 **027
1500			10.5			VY1152M41Y5UQ6*V0	2252 816 **127
2200			12			VY1222M47Y5UQ6*V0	2252 816 **227
2700			13			VY1272M51Y5UQ6*V0	2252 816 **277
3300			15			VY1332M59Y5UQ6*V0	2252 816 **327
3900			15.5			VY1392M61Y5UQ6*V0	2252 816 **377
4700			16.0			VY1472M63Y5UQ6*V0	2252 816 **427

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. 8th and 9th digit of the catalog number to be completed with the packaging code.
4. Coating extension DR valid for straight leads only
5. On request available: ± 10 % tolerance
6. On request available: leadspacing 12.5mm

LEADSPACING 10.0 mm

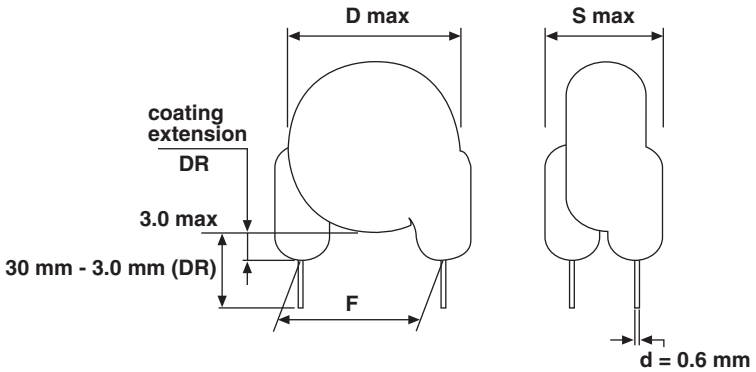
PACKAGING

CAPACITANCE VALUE	SIZE CODE	BODY DIAMETER D_{max}	PACKAGING QUANTITIES		
			BULK	REEL	AMMO
10pF to 2200pF	31 ~ 47	12.0	1000	500	750
3300pF to 4700pF	51 ~ 63	16.0	500	500	750

Note

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

STRAIGHT LEADS



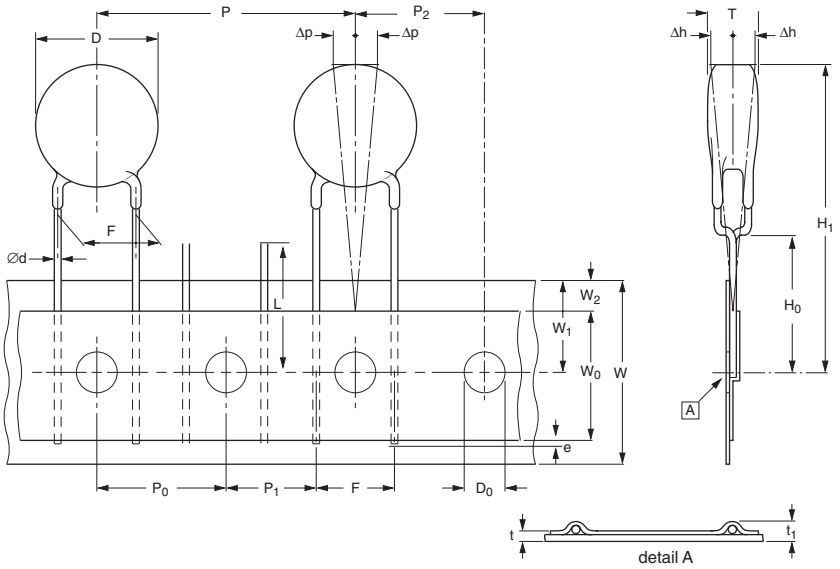


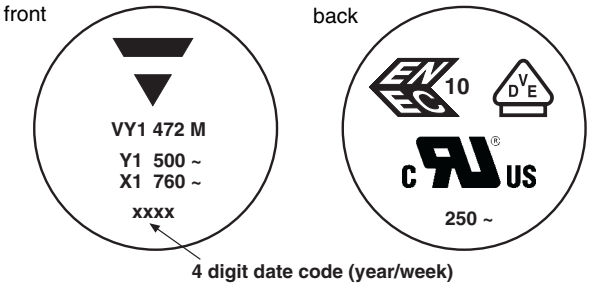
Fig.2 lead spacing 10 mm, Sprocket hole pitch 25.4 mm for lead spacing 10.0 mm

STANDARD RECOGNITION

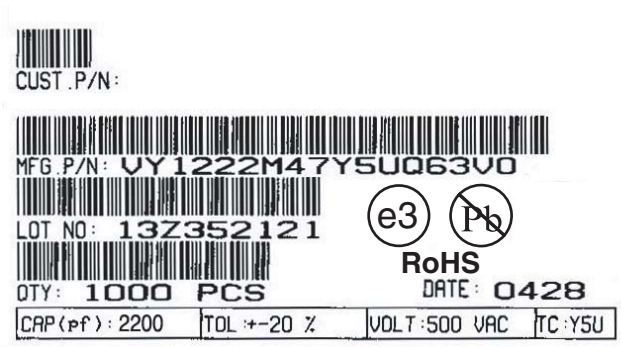
IEC 60384 - 14/2nd Issue (1993) incl. Am.1 (1995) - Safety Tests
EN 132 400 (1994) - Safety Tests

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)

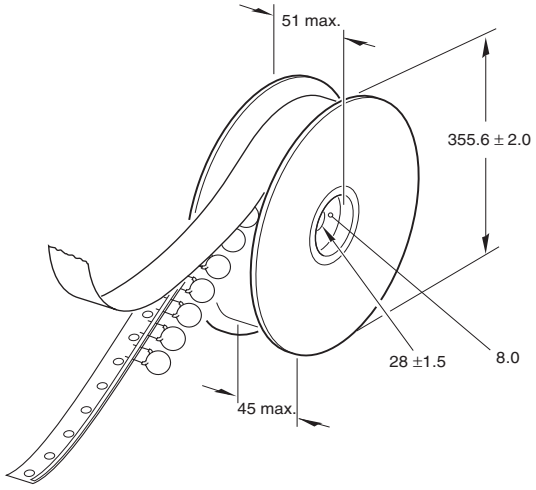


DIMENSIONS OF TAPE		
SYMBOL	PARAMETER	DIMENSIONS (mm)
		Fig.2
D 1)	body diameter	22.0 max.
d	lead diameter	0.6 ± 0.05
P	pitch of component	25.4 ± 1
P_0 2)	pitch of sprocket hole	12.7 ± 0.3
P_1 3)	distance, hole centre to lead	7.7 ± 1.0
P_2 3)	distance, hole to centre of component	12.7 ± 1.5
F	lead spacing	10 (± 1.0)
Δh	average deviation across tape	± 1.0 max.
ΔP	avaerage 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.
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	16.0 ± 0.5
H_0	height to seating plane straight leads	20.0 ± 0.5
L	length of cut leads	11.0 max.
I	length of lead protrusion	1.0 max.
D_0	diameter of sprocket hole	4.0 ± 0.2
t	total tape thickness	0.9 max.

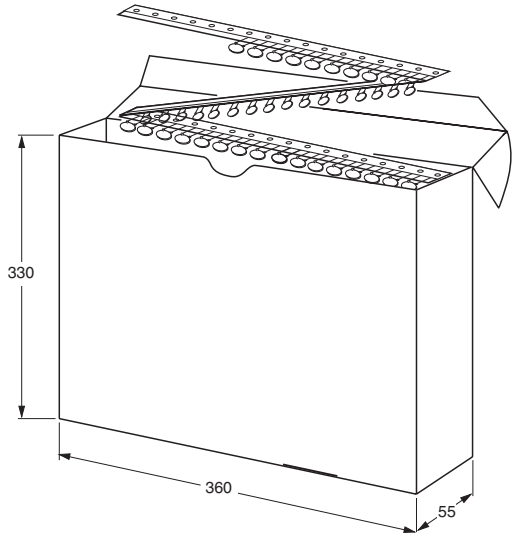
Notes

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.



Ammopack with capacitors on tape.