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

- 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 5.0 mm. 7.5 mm or 10.0 mm. Encapsulation is made of flammable resistant epoxy resin in accordance with *“UL94V-0”*.

CAPACITANCE RANGE:

10pF to 0.01µF

RATED VOLTAGE U_R:

IEC 60384-14.2:

(X1): 440V (AC), 50Hz

(Y2): 300V (AC), 50Hz

TEST VOLTAGE:

Component Test (100%):

2600V (AC), 50Hz, 2 seconds

(2600V (AC) for LS 7.5 mm and 10 mm)

(2200V (AC) for LS 5.0 mm)

Random sampling test (destructive test):

2600V (AC), 50Hz, 60 seconds

Voltage proof of coating (destructive test):

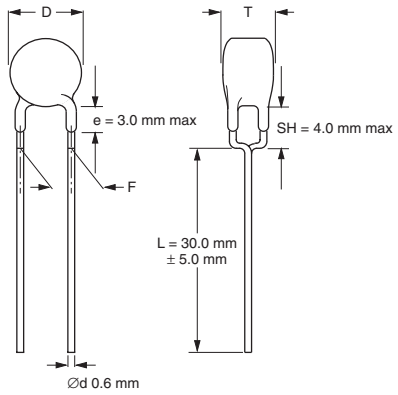
2600V (AC), 50Hz, 60 seconds

INSULATION RESISTANCE:

10000 MΩ minimum

TOLERANCE OF CAPACITANCE:

±20% (Code M); ±10% (Code K)



Capacitors with 5.0 mm, 7.5 mm or 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

Lead (Pb)-free terminals and internal solder joints

APPROVALS:

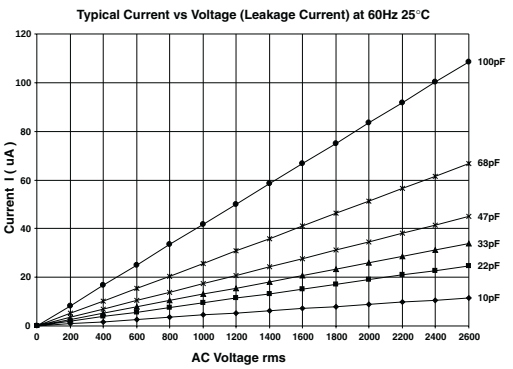
ENEC - VDE DE 1-30691

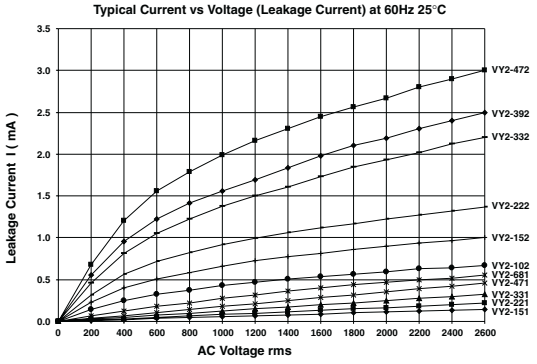
UL 1414 file E183844

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)	COATING EXTENSION e_{max} (4) (mm)	CLEAR TEXT CODE 15th DIGIT*: T = REEL; U = AMMO; 3 = BULK; (2)	CATALOG NUMBER 8th AND 9th DIGIT*: 63 = REEL; 64 = AMMO; 65 = BULK; (3)
VY2 FOR LEADSPACING 5.0 mm							**2200 VAC, 50 Hz, 2 SECONDS**	
10	±10	U2J (N750)	7.5	5.0	5.0	3.0	VY2100K29U2JS6*V5	2252 814 **006
15							VY2150K29U2JS6*V5	2252 814 **106
22							VY2220K29U2JS6*V5	2252 814 **206
33							VY2330K29U2JS6*V5	2252 814 **306
47							VY2470K29U2JS6*V5	2252 814 **406
68		Y5S					VY2680K29Y5SS6*V5	2252 814 **606
100							VY2101K29Y5SS6*V5	2252 814 **016
150							VY2151K29Y5SS6*V5	2252 814 **116
220							VY2221K29Y5SS6*V5	2252 814 **216
330							VY2331K29Y5SS6*V5	2252 814 **316
470							VY2471K29Y5SS6*V5	2252 814 **416
680	±20	Y5U					VY2681M29Y5US6*V5	2252 814 **617
1000							VY2102M29Y5US6*V5	2252 814 **027
1500			8.0				VY2152M31Y5US6*V5	2252 814 **127
2200			9.0				VY2222M35Y5US6*V5	2252 814 **227
3300			10.5				VY2332M41Y5US6*V5	2252 814 **327
3900			11.0				VY2392M43Y5US6*V5	2252 814 **377
4700			12.5				VY2472M49Y5US6*V5	2252 814 **427

ORDERING INFORMATION

C (pF)	TOL. (%)	TEMP. COEFFICIENT	BODY DIAMETER D_{max} (mm)	BODY THICK T_{max} (mm)	LEAD SPACING F (mm)	COATING EXTENSION e_{max} (4) (mm)	CLEAR TEXT CODE 15th DIGIT*: T = REEL; U = AMMO; 3 = BULK; (2)	CATALOG NUMBER 8th AND 9th DIGIT*: 66 = REEL; 67 = AMMO; 68 = BULK; (3)
VY2 FOR LEADSPACING 7.5 mm							**2600 VAC, 50 Hz, 2 SECONDS**	
10	±10	U2J (N750)	7.5	5.0	7.5	3.0	VY2100K29U2JS6*V7	2252 814 **006
15							VY2150K29U2JS6*V7	2252 814 **106
22							VY2220K29U2JS6*V7	2252 814 **206
33							VY2330K29U2JS6*V7	2252 814 **306
47							VY2470K29U2JS6*V7	2252 814 **406
68		Y5S					VY2680K29Y5SS6*V7	2252 814 **606
100							VY2101K29Y5SS6*V7	2252 814 **016
150							VY2151K29Y5SS6*V7	2252 814 **116
220							VY2221K29Y5SS6*V7	2252 814 **216
330							VY2331K29Y5SS6*V7	2252 814 **316
470							VY2471K29Y5SS6*V7	2252 814 **416
680	±20	Y5U					VY2681M29Y5US6*V7	2252 814 **617
1000							VY2102M29Y5US6*V7	2252 814 **027
1500			8.0				VY2152M31Y5US6*V7	2252 814 **127
2200			9.0				VY2222M35Y5US6*V7	2252 814 **227
3300			10.5				VY2332M41Y5US6*V7	2252 814 **327
3900			11.0				VY2392M43Y5US6*V7	2252 814 **377
4700			12.5				VY2472M49Y5US6*V7	2252 814 **427
6800			14.5				VY2682M59Y5US63V7	2252 814 68627
0.01µF			16.0				VY2103M63Y5US63V7	2252 814 68037

ORDERING INFORMATION								
C (pF)	TOL. (%)	TEMP. COEFFICIENT	BODY DIAMETER D_{max} (mm)	BODY THICK T_{max} (mm)	LEAD SPACING F (mm)	COATING EXTENSION e_{max} (4) (mm)	CLEAR TEXT CODE 15th DIGIT*: T = REEL; U = AMMO; 3 = BULK; (3)	CATALOG NUMBER 8th AND 9th DIGIT*: 70 = REEL; 71 = AMMO; 72 = BULK; (4)
VY2 FOR LEADSPACING 10.0 mm							2600 VAC, 50 Hz, 2 SECONDS	
10	±10	U2J (N750)	7.5	5.0	10.0	3.0	VY2100K29U2JS6*V0	2252 814 **006
15							VY2150K29U2JS6*V0	2252 814 **106
22							VY2220K29U2JS6*V0	2252 814 **206
33							VY2330K29U2JS6*V0	2252 814 **306
47							VY2470K29U2JS6*V0	2252 814 **406
68		Y5S					VY2680K29Y5SS6*V0	2252 814 **606
100							VY2101K29Y5SS6*V0	2252 814 **016
150							VY2151K29Y5SS6*V0	2252 814 **116
220							VY2221K29Y5SS6*V0	2252 814 **216
330							VY2331K29Y5SS6*V0	2252 814 **316
470							VY2471K29Y5SS6*V0	2252 814 **416
680	±20	Y5U					VY2681M29Y5US6*V0	2252 814 **617
1000							VY2102M29Y5US6*V0	2252 814 **027
1500			8.0				VY2152M31Y5US6*V0	2252 814 **127
2200			9.0				VY2222M35Y5US6*V0	2252 814 **227
3300			10.5				VY2332M41Y5US6*V0	2252 814 **327
3900			11.0				VY2392M43Y5US6*V0	2252 814 **377
4700			12.5				VY2472M49Y5US6*V0	2252 814 **427
6800			14.5				VY2682M59Y5US6*V0	2252 814 **627
0.01µF			16.0				VY2103M63Y5US6*V0	2252 814 **037

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 e valid for straight leads only
5. On request available: ± 10 % tolerance for capacitance value 680pF

LEADSPACING 5.0 AND 7.5 mm

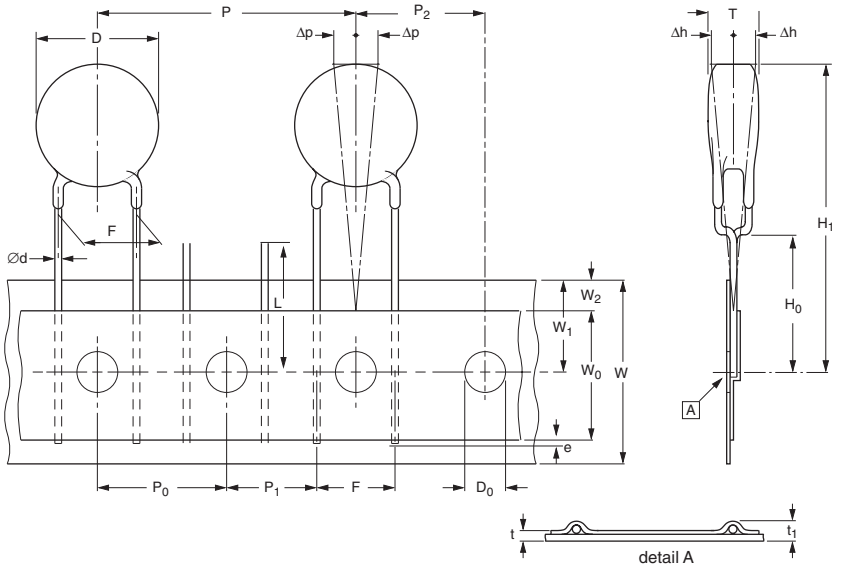
PACKAGING					
CAPACITANCE VALUE	SIZE CODE	BODY DIAMETER D_{max} (mm)	PACKAGING QUANTITIES		
			BULK	REEL	AMMO
10pF to 4700pF	25 ~ 49	12.5	1000	1000	1000
6800pF to 0.01µF	59 ~ 63	16.0	500	-	-

LEADSPACING 10.0 mm

PACKAGING					
CAPACITANCE VALUE	SIZE CODE	BODY DIAMETER D_{max} (mm)	PACKAGING QUANTITIES		
			BULK	REEL	AMMO
10pF to 4700pF	25 ~ 49	12.5	1000	500	750
6800pF to 0.01µF	59 ~ 63	16.0	500	500	750

Note

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



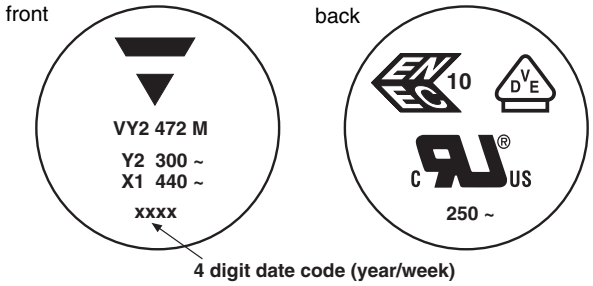
Inline kink (V) leaded capacitors on tape, lead spacing 5.0 mm (0.200”), 7.5 mm (0.300”) and 10 mm (0.400”).

STANDARD RECOGNITION

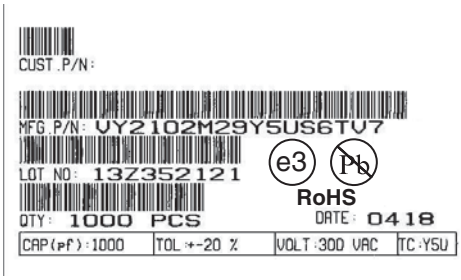
IEC 60384 - 14/2nd Issue (1993) incl. Am.1 (1995) - Safety Tests
EN 132 400 (1994) - Safety Tests

UL 1414 - Across-the-line, antenna-coupling and line-by-pass component
CCC - Chinese Safety Standard is available on request

MARKING: 2 SIDES (EXAMPLE)



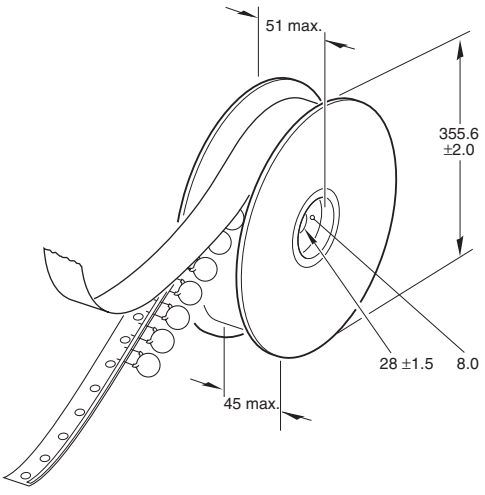
LABEL (EXAMPLE)



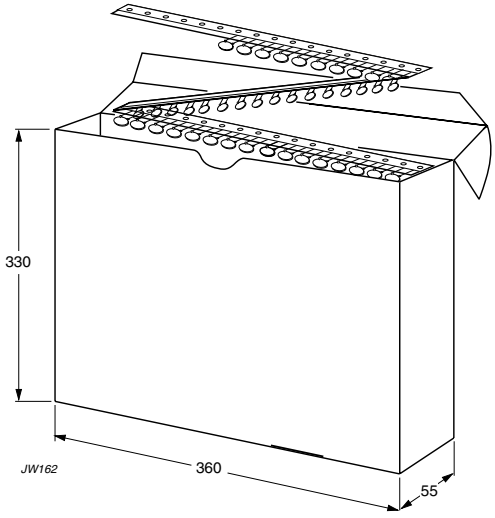
DIMENSIONS OF TAPE				
SYMBOL	PARAMETER	DIMENSIONS (mm)		
		Fig.1 5mm	Fig.1 7.5mm	Fig.2 10mm
D 1)	body diameter	12.5 max.	14.0 max.	22.0 max.
d	lead diameter	0.6 ± 0.05	0.6 ± 0.05	0.6 ± 0.05
P	pitch of component	12.7 ± 1	15.0 ± 1	25.4 ± 1
P_0 2)	pitch of sprocket hole	12.7 ± 0.3	12.7 ± 0.4	12.7 ± 0.3
P_1 3)	distance, hole centre to lead	3.85 ± 0.7	3.75 ± 0.7	7.7 ± 1.0
P_2 3)	distance, hole to centre of component	6.35 ± 1.3	7.5 ± 1.3	12.7 ± 1.5
F	lead spacing	5.0 (+0.6/-0.4)	7.5 (± 1.0)	10 (± 1.0)
Δh	average deviation across tape	± 1.0 max.	± 1.0 max.	± 1.0 max.
ΔP	avaerage deviation in direction of reeling	± 1.0 max.	± 1.0 max.	± 1.0 max.
W	carrier tape width	18.0 ± 1 - 0.5	18.0 ± 1 - 0.5	18.0 ± 1 - 0.5
W_0	hold-down tape width	5.0 min.	5.0 min.	5.0 min.
W_1	position of sprocket hole	9.0 + 0.75 - 0.5	9.0 + 0.75 - 0.5	9.0 + 0.75 - 0.5
W_2	distance of hold-down tape	3.0 max.	3.0 max.	3.0 max.
H_1	maximum component height	32.0	40.1	40.0
H_0	height to seating plane	16.0 ± 0.5	16.0 ± 0.5	16.0 ± 0.5
H_0	height to seating plane straight leads	20.0 ± 0.5	20.0 ± 0.5	20.0 ± 0.5
L	length of cut leads	11.0 max.	11.0 max.	11.0 max.
I	length of lead protrusion	1.0 max.	1.0 max.	1.0 max.
D_0	diameter of sprocket hole	4.0 ± 0.2	4.0 ± 0.2	4.0 ± 0.2
t	total tape thickness	0.9 max.	0.9 max.	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.

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