

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):

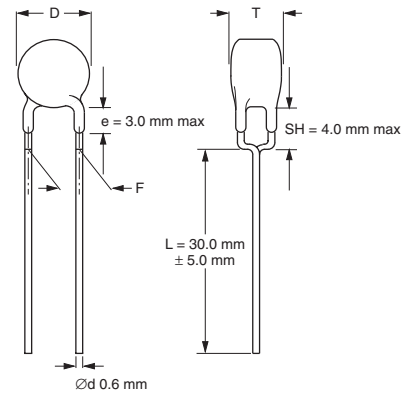
2600V (AC), 50Hz, 60 seconds

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:

25×10^{-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:

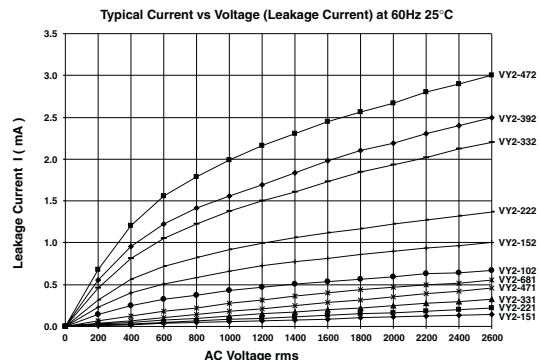
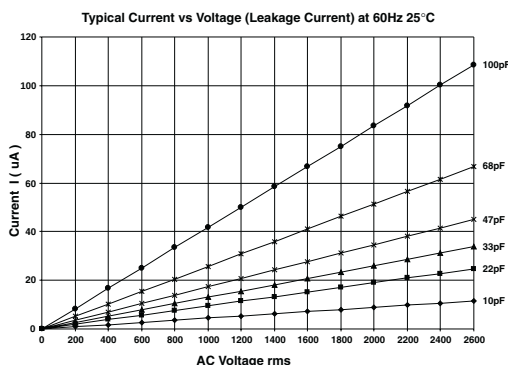
ENEC - VDE DE 1-30691

UL 1414 file E183844

CSA 22.2

PACKAGING:

Bulk; tape and reel; taped ammpack



The capacitors meet the essential requirements of "EIA 198". Unless stated otherwise all electrical values apply at an ambient temperature of $25 \pm 3^\circ\text{C}$, 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	CATALOG NUMBER
							15 th DIGIT*: T = REEL; U = AMMO; 3 = BULK; ⁽²⁾	8 th AND 9 th 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							VY2680K29Y5SS6*V5	2252 814 **606
100		Y5S					VY2101K29Y5SS6*V5	2252 814 **016
150							VY2151K29Y5SS6*V5	2252 814 **116
220							VY2221K29Y5SS6*V5	2252 814 **216
330							VY2331K29Y5SS6*V5	2252 814 **316
470	±20	Y5U	VY2471K29Y5SS6*V5	2252 814 **416				
680			VY2681M29Y5US6*V5	2252 814 **617				
1000			VY2102M29Y5US6*V5	2252 814 **027				
1500			VY2152M31Y5US6*V5	2252 814 **127				
2200			VY2222M35Y5US6*V5	2252 814 **227				
3300			VY2332M41Y5US6*V5	2252 814 **327				
3900			VY2392M43Y5US6*V5	2252 814 **377				
4700			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	CATALOG NUMBER
							15 th DIGIT*: T = REEL; U = AMMO; 3 = BULK; ⁽²⁾	8 th AND 9 th 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	±20	Y5U	VY2471K29Y5SS6*V7	2252 814 **416				
680			VY2681M29Y5US6*V7	2252 814 **617				
1000			VY2102M29Y5US6*V7	2252 814 **027				
1500			VY2152M31Y5US6*V7	2252 814 **127				
2200			VY2222M35Y5US6*V7	2252 814 **227				
3300			VY2332M41Y5US6*V7	2252 814 **327				
3900			VY2392M43Y5US6*V7	2252 814 **377				
4700			VY2472M49Y5US6*V7	2252 814 **427				
6800			VY2682M59Y5US63V7	2252 814 68627				
0.01μF					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	CATALOG NUMBER
							15 th DIGIT*: T = REEL; U = AMMO; 3 = BULK; ⁽³⁾	8 th AND 9 th 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							VY2680K29Y5SS6*V0	2252 814 **606
100		Y5S					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			VY2152M31Y5US6*V0				2252 814 **127	
2200			VY2222M35Y5US6*V0				2252 814 **227	
3300			VY2332M41Y5US6*V0				2252 814 **327	
3900			VY2392M43Y5US6*V0				2252 814 **377	
4700			VY2472M49Y5US6*V0				2252 814 **427	
6800			VY2682M59Y5US6*V0				2252 814 **627	
0.01μF			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

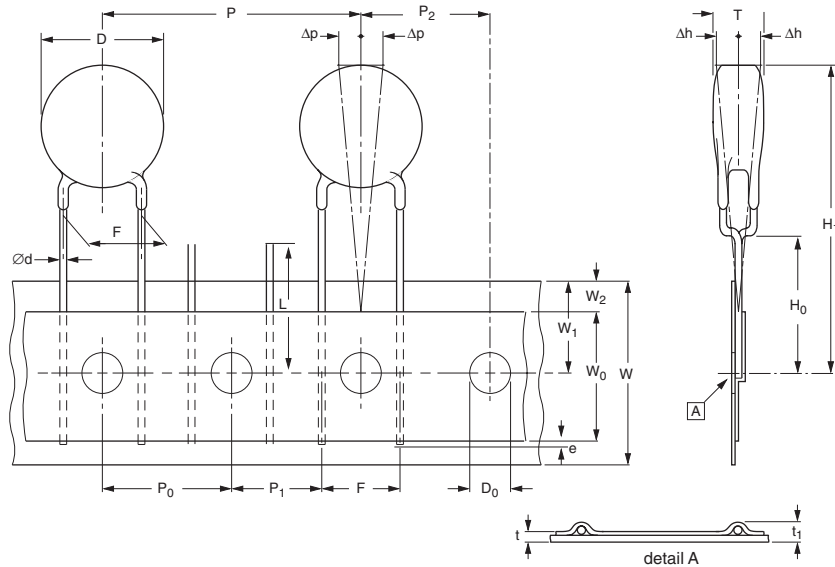
PACKAGING					
CAPACITANCE VALUE	SIZE CODE	BODY DIAMETER D _{max} (mm)	PACKAGING QUANTITIES		
			BULK	REEL	AMMO
10pF to 4700pF	25 ~ 49	12.5	1000	1000	1000
6800pF to 0.01μF	59 ~ 63	16.0	500	-	-

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 ammpack.



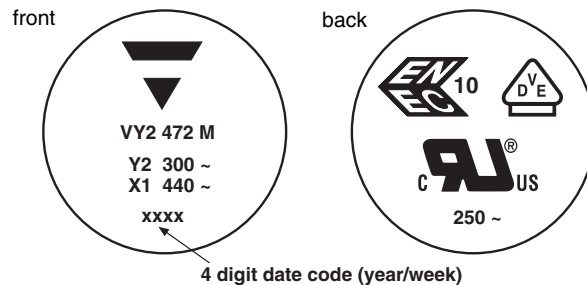
Inline kink (V) leaded capacitors on tape, lead spacing 5.0 mm (0.200"), 7.5 mm (0.300") and 10 mm (0.400").

STANDARD RECOGNITION

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

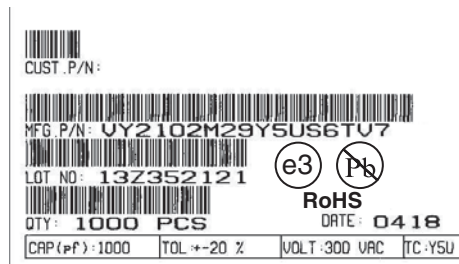
UL 1414 - Across-the-line, antenna-coupling and line-by-pass component
CCC - Chinese Safety Standard is available on request

MARKING: 2 SIDES (EXAMPLE)



4 digit date code (year/week)

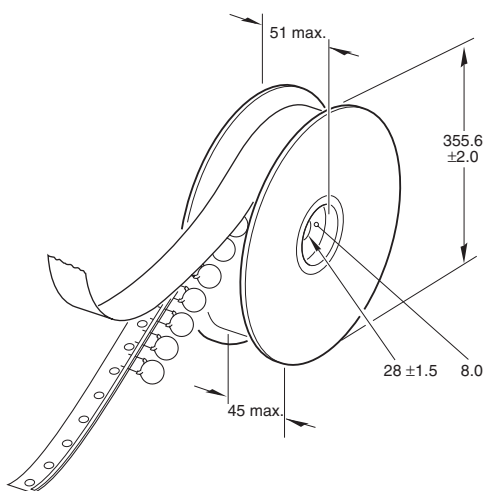
LABEL (EXAMPLE)



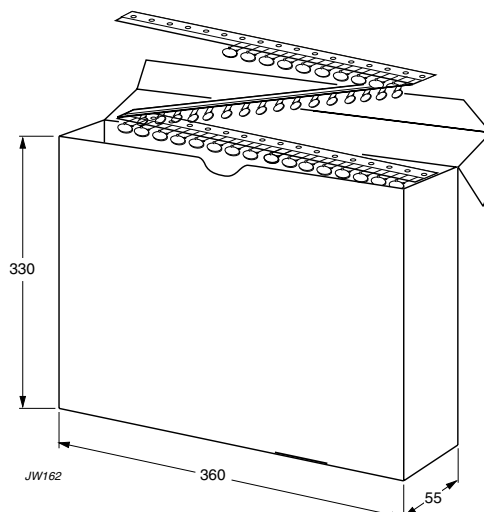
DIMENSIONS OF TAPE					
SYMBOL		PARAMETER	DIMENSIONS (mm)		
			Fig.1 5mm	Fig.1 7.5mm	Fig.2 10mm
D	1)	body diameter	12.5 max.	14.0 max.	22.0 max.
d		lead diameter	0.6 ± 0.05	0.6 ± 0.05	0.6 ± 0.05
P		pitch of component	12.7 ± 1	15.0 ± 1	25.4 ± 1
P ₀	2)	pitch of sprocket hole	12.7 ± 0.3	12.7 ± 0.4	12.7 ± 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.
l		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.



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.