

# CA42 SERIES

## Features

- Epoxy-coated, flame-retardant, water-proof, radial lead, marked with laser;
- Small size, excellent and stable electrical performances, long life, good shelf stability;
- Lead-free terminals in compliance with RoHS and REACH regulations;
- Used for telecommunication, computer, TV, camcorder, telephone, instruments and meters;
- Applicable specification SJ/T10856-1996 oscillation loop circuits.



## Technical Specification

- Operating temperature range:  $-55^{\circ}\text{C} \sim +125^{\circ}\text{C}$  ( $>85^{\circ}\text{C}$  with derating);
- DC leakage at  $25^{\circ}\text{C}$ :  $I_0 \leq 0.02CRUR$  or  $1 \mu\text{A}$  (whichever is 0R greater);
- Capacitance range:  $0.047 \mu\text{F} \sim 1000 \mu\text{F}$ , see Table 3
- Capacitance tolerance:  $\pm 20\%$ ,  $\pm 10\%$ ,  $\pm 5\%$  (for special order);
- Case size and dimensions: see Table 1
- Temperature characteristics: see Table 2

**Table 1 Case size and dimensions**

Unit: mm (inches)

CASE SIZE	D(MAX)	H(MAX)	H(±0.5MM)	D(±0.05MM)
A	4.5	7.0	2.5	0.5
B	5.0	8.0	2.5	0.5
C	5.5	9.5	2.5	0.5
D	6.5	11.0	2.5	0.5
E	8.5	13.0	5.0	0.5
F	9.5	16.5	5.0	0.5

**Table 2 Case size and dimensions**

Capacitance (uF)	Capacitance change (%)			DF Max. (%)				DCL Max.(uA)		
	-55°C	+85°C	+125°C	-55°C	+25°C	+85°C	+125°C	+25°C	+85°C	+125°C
≤1.0	±10	5	±15	6	4	6	6	10 ≤ 0.02CRUR OR 1uA ( Refer maximum value )	10I <sub>0</sub>	5I <sub>0</sub>
1.5~6.8				8	6	8	8			
10~68				10	8	10	10			
100~330				12	10	12	12			
≥470				14	12	14	14			

**Table3 Capacitance and rate voltage by case size**

UR (V) Rated voltage		3(e)	4(G)	6.3(J)	10(A)	16(C)	20(D)	25(E)	35(V)	50(T)
UC (V) Derating		2	2.5	4	6.3	10	13	16	20	32
US (V) Surge voltage		4	5	8	13	20	26	32	40	63
Capacitance CR (μF)	Code	case size								
0.1	104								A	A
0.15	154								A	A
0.22	224								A	A
0.33	334								A	A
0.47	474								A	A
0.68	684								A	A
1.0	105					A	A	A	A	A
1.5	155					A	A	A	B	B
2.2	225				A	A	A	A	B	C
3.3	335			A	A	A	B	B	B	C
4.7	475	A	A	A	A	B	B	B	C	C
6.8	685	A	A	A	A	B	B	B	C	D
10	106	A	A	A	B	C	C	C	D	E
15	156	A	A	B	B	C	C	D	D	E
22	226	B	B	B	C	C	C	D	D	E
33	336	B	B	B	C	D	D	D	E	F
47	476	B	B	C	C	D	E	E	F	
68	686	C	C	D	D	D	F	E	F	
100	107	C	C	D	D	E	F	F		
150	157	D	D	E	E	F	F			
220	227	E	E	E	E	F				
330	337	E	E	F	F					
470	477	F	F	F	F					
680	687	F	F	F						
1000	108	F								

**How to order**

<b>XRCA42</b>	<b>104</b>	<b>K</b>	<b>350</b>	<b>A</b>	<b>B</b>
<b>Model</b>	<b>capacitor code</b>	<b>Capacity tolerance</b> (K +/-10% M+-20%)	(6.3V=6R3 10V=100, 63V =630 100V =101)	(A:2.54MM PITCH B 5.08MM PITCH)	<b>BULK</b> (B:BULK PACK A : ammo)

**Environmental**

RoHS declaration (6/6) complies with the requirements of Directive 2002/95/EC, which stipulates the use of 100% Sn solder, gold plated or non-magnetic 100% Sn solder

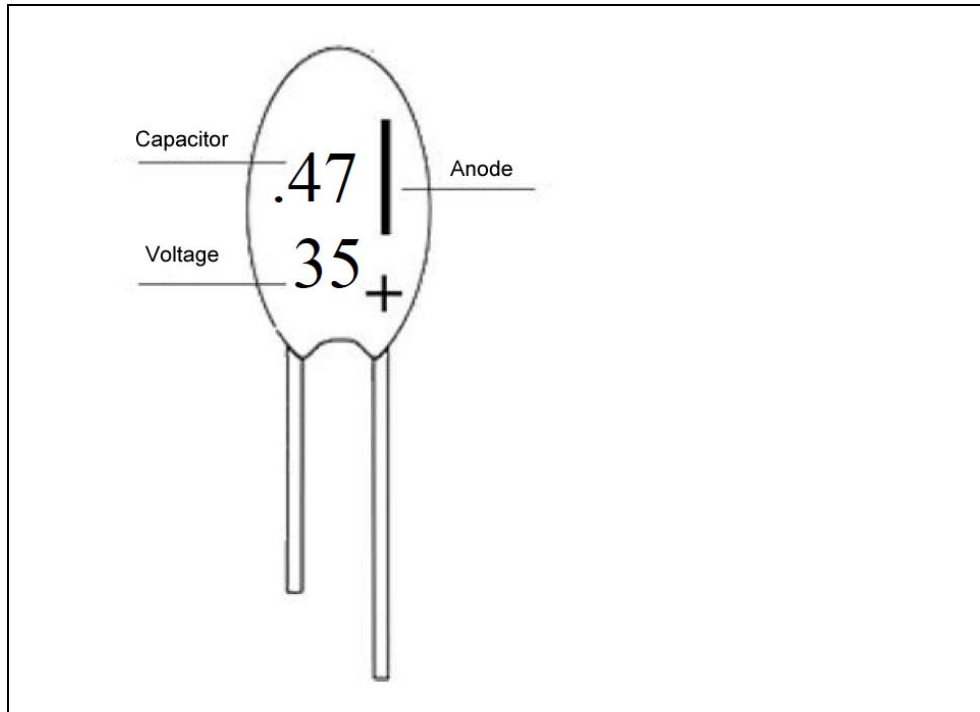


**Application**

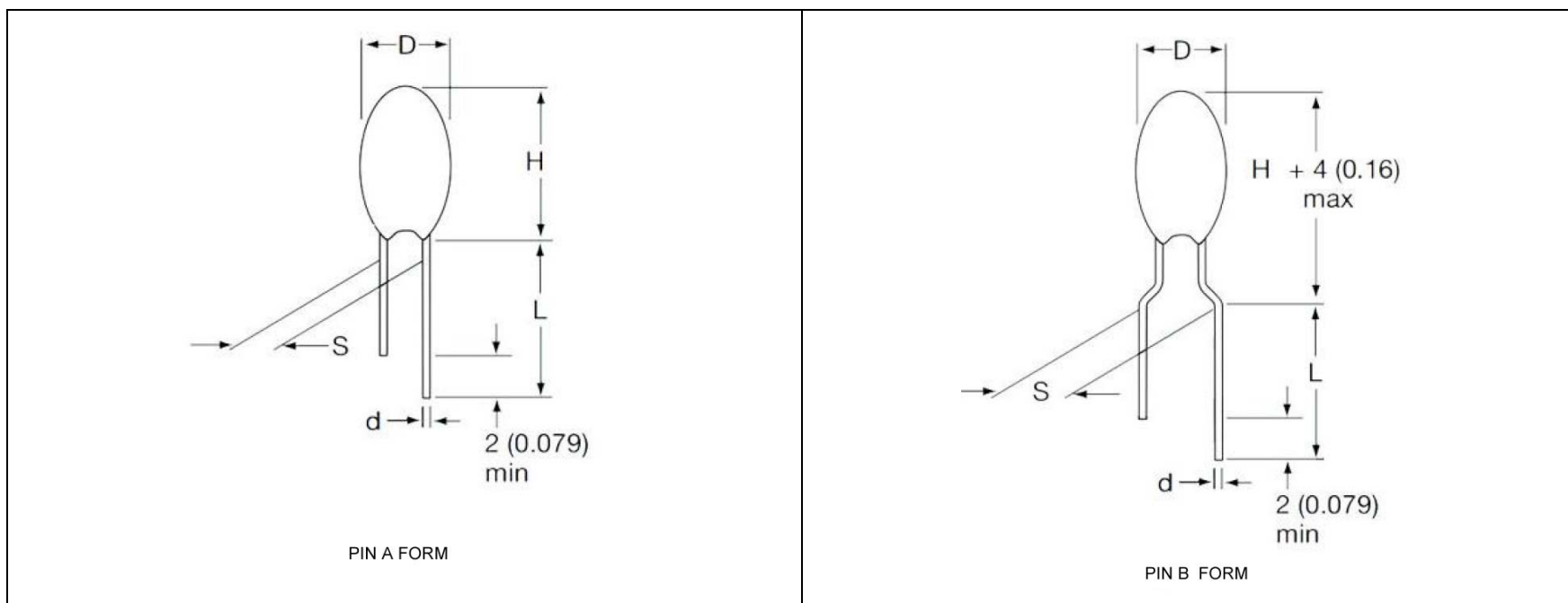
Computer	PC Power	Measuring instruments	Telecom Infrastructure

**Preferred Wire Forms**

Screen printing form:

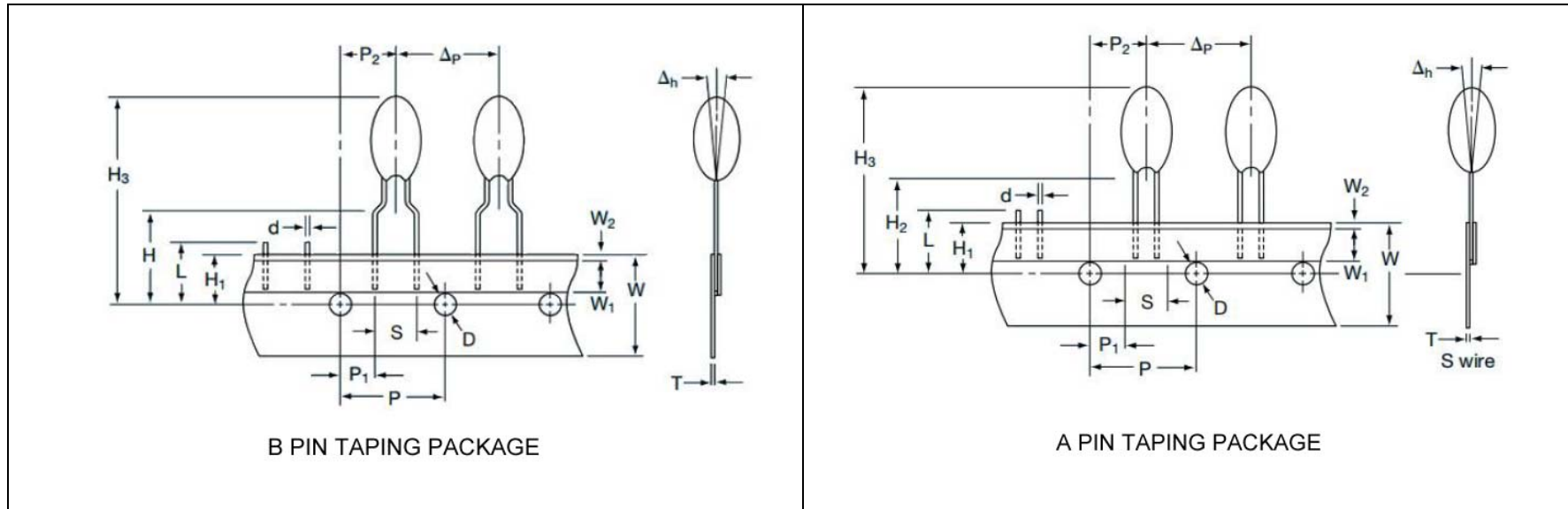


Pin form:



CASE	H (±0.5)	D (±0.5)	S (±0.5)		d	L (±0.5)
			B	A		
A	6.0	3.2	5.0	2.5	0.5	14
B	7.5	3.8	5.0	2.5	0.5	14
C	8.0	4.8	5.0	2.5	0.5	14
D	8.8	5.2	5.0	2.5	0.5	14
E	9.5	6.0	5.0	2.5	0.5	14
F	10.0	6.5	5.0	2.5	0.5	14

**Packaging**



Designation	Pitch of component	Feed hole pitch	Tape width	Hold down tape width	Hole position
Symbol	P	Po	W	W1	H1
Dimensions(mm)	13±1.0	13±0.3	18	8±0.5	9max
Designation	Holddowntapeposition	component height	Component alignment	Feed hole diameter	Tape thickness
Symbol	W2	H3	ΔP	D	T
Dimensions(mm)	3max	30max	±1.3max	4.0 ±0.5	0.5±0.2
Designation	Component alignment	Lengthofsnippedlead	Lead clinch height	Lead wire spacing	Hole center to Pitch
Symbol	Δh	L	H2	S	P1
Dimensions(mm)	±3.0max	11max	18±0.5	2.5±0.5    5.0±0.5	4.0±0.5
Designation	hole center tocomponent	Lead diameter			
Symbol	P2	d			
Dimensions(mm)	6.0±0.5	0.5±0.5			

## Electrical performance of product series

Rated voltage $U_R$ (V)	Capacitance $C_R$ ( $\mu$ F)	Case size	DCL( $\mu$ A) Max	DF(%) Max	Part number
3 Volt 85°C (2 Volt 125°C)					
3	4.7	A	0.5	6	XRCA42475*003-#
3	6.8	A	0.5	6	XRCA42685*003-#
3	10	A	0.5	8	XRCA42106*003-#
3	15	A	0.5	8	XRCA42156*003-#
3	22	B	0.7	8	XRCA42226*003-#
3	33	B	1	8	XRCA42336*003-#
3	47	C	1.4	8	XRCA42476*003-#
3	68	D	2	8	XRCA42686*003-#
3	100	D	3	10	XRCA42107*003-#
3	150	D	4.5	10	XRCA42157*003-#
3	220	E	6.6	10	XRCA42227*003-#
3	330	E	9.9	10	XRCA42337*003-#
3	470	F	14.1	10	XRCA42477*003-#
3	680	F	20.4	12	XRCA42687*003-#
3	1000	F	30	14	XRCA42108*003-#
4 Volt 85°C (2.5 Volt 125°C)					
4	4.7	A	0.5	6	XRCA42475*004-#
4	6.8	A	0.5	6	XRCA42685*004-#
4	10	A	0.5	8	XRCA42106*004-#
4	15	A	0.6	8	XRCA42156*004-#
4	22	B	0.9	8	XRCA42226*004-#
4	33	B	1.3	8	XRCA42336*004-#
4	47	B	1.9	8	XRCA42476*004-#
4	68	C	2.7	8	XRCA42686*004-#
4	100	C	4	10	XRCA42107*004-#
4	150	D	6	10	XRCA42157*004-#
4	220	E	8.8	10	XRCA42227*004-#
4	330	E	13.2	10	XRCA42337*004-#
4	470	F	18.8	10	XRCA42477*004-#
4	680	F	27.2	12	XRCA42687*004-#
6.3 Volt 85°C (4 Volt 125°C)					
6.3	3.3	A	0.5	6	XRCA42335*006-#
6.3	4.7	A	0.5	6	XRCA42475*006-#
6.3	6.8	A	0.5	6	XRCA42685*006-#
6.3	10	A	0.6	8	XRCA42106*006-#
6.3	15	B	0.9	8	XRCA42156*006-#
6.3	22	B	1.4	8	XRCA42226*006-#
6.3	33	B	2.1	8	XRCA42336*006-#
6.3	47	C	3	8	XRCA42476*006-#
6.3	68	C	4.3	8	XRCA42686*006-#
6.3	100	D	6.3	10	XRCA42107*006-#
6.3	150	E	9.5	10	XRCA42157*006-#
6.3	220	E	13.9	10	XRCA42227*006-#
6.3	330	F	20.8	10	XRCA42337*006-#
6.3	470	F	29.6	10	XRCA42477*006-#
6.3	680	F	42.8	12	XRCA42687*006-#

Rated voltage $U_R$ (V)	Capacitance $C_R$ ( $\mu$ F)	Case size	DCL( $\mu$ A) Max	DF(%) Max	Part number
10 Volt 85°C (6.3 Volt 125°C)					
10	2.2	A	0.5	6	XRCA42225*010-#
10	3.3	A	0.5	6	XRCA42335*010-#
10	4.7	A	0.5	6	XRCA42475*010-#
10	6.8	A	0.7	6	XRCA42685*010-#
10	10	A	1	8	XRCA42106*010-#
10	15	B	1.5	8	XRCA42156*010-#
10	22	B	2.2	8	XRCA42226*010-#
10	33	C	3.3	8	XRCA42336*010-#
10	47	C	4.7	8	XRCA42476*010-#
10	68	C	6.8	8	XRCA42686*010-#
10	100	D	10	10	XRCA42107*010-#
10	150	E	15	10	XRCA42157*010-#
10	220	E	22	10	XRCA42227*010-#
10	330	F	33	10	XRCA42337*010-#
10	470	F	47	10	XRCA42477*010-#
16 Volt 85°C (10 Volt 125°C)					
16	1	A	0.5	4	XRCA42105*016-#
16	1.5	A	0.5	6	XRCA42155*016-#
16	2.2	A	0.5	6	XRCA42225*016-#
16	3.3	A	0.5	6	XRCA42335*016-#
16	4.7	A	0.8	6	XRCA42475*016-#
16	6.8	A	1.1	6	XRCA42685*016-#
16	10	B	1.6	8	XRCA42106*016-#
16	15	B	2.4	8	XRCA42156*016-#
16	22	C	3.5	8	XRCA42226*016-#
16	33	C	5.3	8	XRCA42336*016-#
16	47	D	7.5	8	XRCA42476*016-#
16	68	D	10.9	8	XRCA42686*016-#
16	100	E	16	10	XRCA42107*016-#
16	150	F	24	10	XRCA42157*016-#
16	220	F	35.2	10	XRCA42227*016-#
20 Volt 85°C (13 Volt 125°C)					
20	1	A	0.5	4	XRCA42105*020-#
20	1.5	A	0.5	6	XRCA42155*020-#
20	2.2	A	0.5	6	XRCA42225*020-#
20	3.3	B	0.7	6	XRCA42335*020-#
20	4.7	B	0.9	6	XRCA42475*020-#
20	6.8	C	1.4	6	XRCA42685*020-#
20	10	C	2	8	XRCA42106*020-#
20	15	D	3	8	XRCA42156*020-#
20	22	D	4.4	8	XRCA42226*020-#
20	33	E	6.6	8	XRCA42336*020-#
20	47	E	9.4	8	XRCA42476*020-#
20	68	F	13.6	8	XRCA42686*020-#
20	100	F	20	10	XRCA42107*020-#
20	150	F	30	10	XRCA42157*020-#

Rated voltage $U_R$ (V)	Capacitance $C_R$ ( $\mu$ F)	Case size	DCL( $\mu$ A) Max	DF(%) Max	Part number
<b>25 Volt 85°C (16 Volt 125°C)</b>					
25	1	A	0.5	4	XRCA42105*025-#
25	1.5	A	0.5	6	XRCA42155*025-#
25	2.2	A	0.6	6	XRCA42225*025-#
25	3.3	A	0.8	6	XRCA42335*025-#
25	4.7	B	1.2	6	XRCA42475*025-#
25	6.8	B	1.7	6	XRCA42685*025-#
25	10	B	2.5	8	XRCA42106*025-#
25	15	C	3.8	8	XRCA42156*025-#
25	22	C	5.5	8	XRCA42226*025-#
25	33	D	8.3	8	XRCA42336*025-#
25	47	E	11.8	8	XRCA42476*025-#
25	68	E	17	8	XRCA42686*025-#
25	100	F	25	10	XRCA42107*025-#
<b>35 Volt 85°C (23 Volt 125°C)</b>					
35	0.1	A	0.5	4	XRCA42104*035-#
35	0.15	A	0.5	4	XRCA42154*035-#
35	0.22	A	0.5	4	XRCA42224*035-#
35	0.33	A	0.5	4	XRCA42334*035-#
35	0.47	A	0.5	4	XRCA42474*035-#
35	0.68	A	0.5	4	XRCA42684*035-#
35	1	A	0.5	4	XRCA42105*035-#
35	1.5	A	0.5	6	XRCA42155*035-#
35	2.2	B	0.8	6	XRCA42225*035-#
35	3.3	B	1.2	6	XRCA42335*035-#
35	4.7	B	1.6	6	XRCA42475*035-#
35	6.8	C	2.4	6	XRCA42685*035-#
35	10	C	3.5	8	XRCA42106*035-#
35	15	D	5.3	8	XRCA42156*035-#
35	22	E	7.7	8	XRCA42226*035-#
35	33	E	11.6	8	XRCA42336*035-#
35	47	F	16.5	8	XRCA42476*035-#
35	68	F	23.8	8	XRCA42686*035-#
<b>50 Volt 85°C (33 Volt 125°C)</b>					
50	0.1	A	0.5	4	XRCA42104*050-#
50	0.15	A	0.5	4	XRCA42154*050-#
50	0.22	A	0.5	4	XRCA42224*050-#
50	0.33	A	0.5	4	XRCA42334*050-#
50	0.47	A	0.5	4	XRCA42474*050-#
50	0.68	A	0.5	4	XRCA42684*050-#
50	1	B	0.5	4	XRCA42105*050-#
50	1.5	B	0.8	6	XRCA42155*050-#
50	2.2	C	1.1	6	XRCA42225*050-#
50	3.3	C	1.7	6	XRCA42335*050-#
50	4.7	D	2.4	6	XRCA42475*050-#
50	6.8	E	3.4	6	XRCA42685*050-#
50	10	E	5	8	XRCA42106*050-#
50	15	F	7.5	8	XRCA42156*050-#
50	22	F	11	8	XRCA42226*050-#
50	33	F	16.5	8	XRCA42336*050-#

- Table1 Case size and dimensions
- Capacitance and DF measured at:  $U=0.3V$  RMS frequency: 120Hz
- DCL is measured at rated voltage after 5 minutes, and derating is applied at  $+125^\circ C$
- Refer to tolerance K:  $\pm 10\%$ , M:  $\pm 20\%$ .
- Representative foot pitch A:2.54mm B:5.08mm
- # refer to packing T:ammo,B:bulk .