

K1 Ceramic Disc Capacitor

Y1 Class: 440Vac - X1 Class: 440Vac

- SAFETY CAPACITOR -

■ **Description**

- 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 0.6mm.
- The capacitors are supplied with straight leads.
- The standard tolerance on capacitance is $\pm 20\%$
- Encapsulation is made of flammable resistant epoxy resin in accordance with UL94 V0.


■ **Applications**

- Across-the-line
- Line by-pass
- Antenna coupling
- Interference suppression

■ **Features**

- 4kV (AC) test voltage
- High temperature operation, up to 125°C
- Complying with EN 132400 and IEC 60384-14, 2nd edition, including amendment 1.1995

■ **Marking**

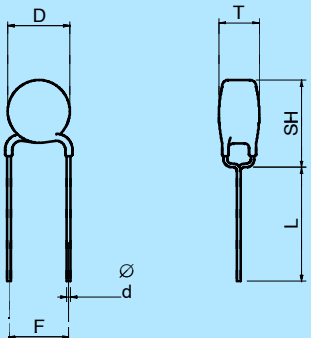
ARCOTRONICS' logo: 
 Series: K1
 Rated voltage & Subclass (IEC 60384-14): 440~Y1X1
 Rated voltage: (cUL 1414): 250~
 Capacitance expressed in nF
 Approval marks

■ **Pitch10mm**

Max thickness T= 6mm Standard lead length L=5 ± 1mm / Straight leads

■ **Pitch12.5mm**

Max thickness T= 6mm Standard lead length L=5 ± 1mm / Straight leads

	C	Tol	D (max)	F (± 1)	SH F=10	SH F=12.5	Part Number
	(pF)	%	(mm)	(mm)	(mm)	(mm)	
	100	±20	9	10 or 12.5	13	13	K1Y101MQ35-A- -A
	150	±20	9	10 or 12.5	13	13	K1Y151MQ35-A- -A
	220	±20	9	10 or 12.5	13	13	K1Y221MQ35-A- -A
	330	±20	9	10 or 12.5	13	13	K1Y331MQ35-A- -A
	470	±20	9	10 or 12.5	13	13	K1Y471MQ35-A- -A
	560	±20	10	10 or 12.5	14	14	K1Y561MQ39-A- -A
	680	±20	10	10 or 12.5	14	14	K1Y681MQ39-A- -A
	1000	±20	10	10 or 12.5	14	14	K1Y102MQ39-A- -A
	1500	±20	11	10 or 12.5	15	15	K1Y152MQ43-A- -A
	1800	±20	12	10 or 12.5	16	16	K1Y182MQ47-A- -A
	2200	±20	12	10 or 12.5	16	16	K1Y222MQ47-A- -A
	2700	±20	14	10 or 12.5	18	18	K1Y227MQ55-A- -A
	3300	±20	14	10 or 12.5	18	18	K1Y332MQ55-A- -A
	3900	±20	16	10 or 12.5	20	20	K1Y392MQ55-A- -A
	4700	±20	16	10 or 12.5	20	20	K1Y472MQ63-A- -A

All dimensions are in mm

Digit 11: F=pitch 10mm; G=pitch 12.5mm

Digit 13 and 14: Mechanical version and packaging (see table 1)

AA = loose, standard leads

CK = taped in reel

■ **ELECTRICAL CHARACTERISTICS**

The capacitors meet the essential requirements of IEC 60384-14, 2nd edition. Unless stated otherwise all electrical values apply at an ambient temperature of 20°C ±3°C, at normal atmospheric conditions.

Description	Value
Capacitance range at 1kHz, 1V (RMS)	100 to 4700 pF
Capacitance tolerance	± 20%
Rated AC voltage:	Y1 = 440V; 50/60Hz X1 = 440V; 50/60Hz
Dielectric strength (AC)	4000V for 60 s
Dielectric strength of coating (AC)	4000V for 60 s
Test voltage (AC)	4000V
Insulation resistance at 500V (DC)	≥ 10000MΩ
Temperature coefficients on capacitance	Y5U or better
Dissipation factor at 1 kHz, 1V (RMS)	2.5% max
Operating temperature range	-30 to +125°C
Climatic category	25/125/21
Approvals	ENEC (EN132400/60384-14, 2nd ed.) - APPROVED cUL:1414 - APPROVED

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Packaging

■ **Capacitors pitch 10 and 12.5 mm .**

The capacitors are supplied in bulk packaging (cardboard boxes, straight leads), on tape in reel (see table 2).

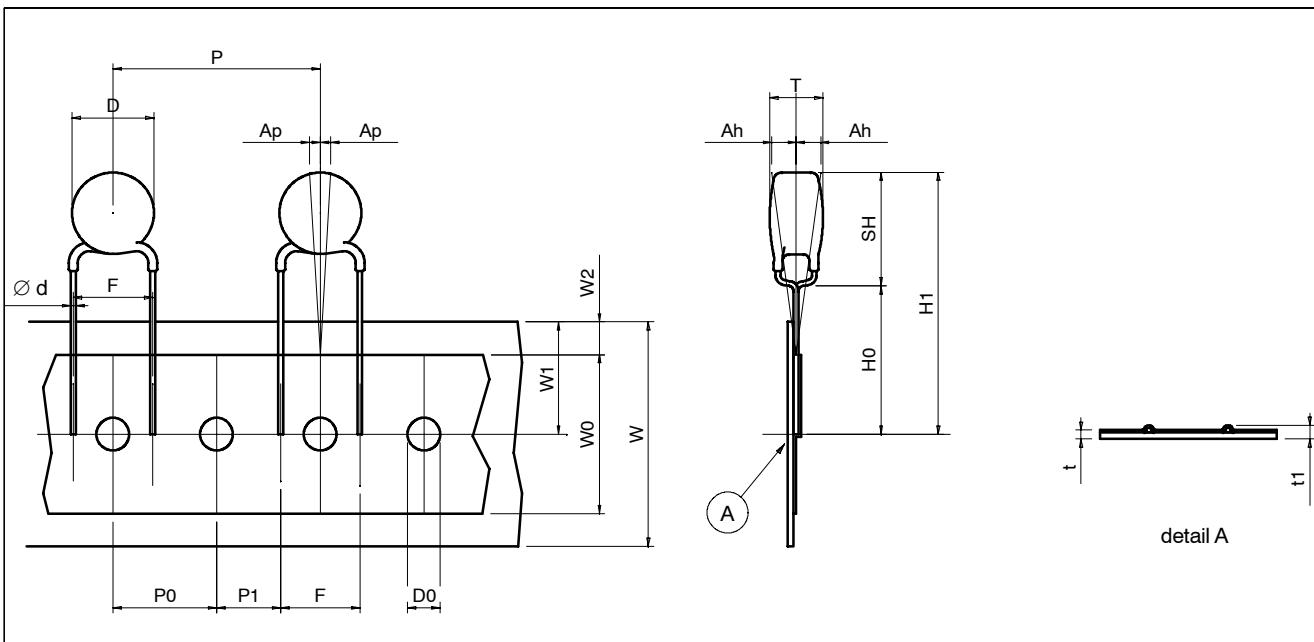
■ **Packaging quantities** (Dimension in mm)

Table 1

Pitch	Std leads length	D (max)	Bulk	D (max)	P	Reel
10	5 ±1	< 11	500 x 10	9 ≤ D ≤ 16	25.4	750 x 2
		11 and 12	250 x 10			
		> 12	200 x 10			
12.5	5 ±1	< 11	500 x 10	9 ≤ D ≤ 16	25.4	750 x 2
		11 and 12	250 x 10			
		> 12	200 x 10			

Leads length 3 ±0.5mm, 4.5 ±0.5 available upon request

■ **Capacitors on tape pitch 10 and 12.5mm**



Symbol	Parameter	Dimensions (mm)		
		Nominal pitch 10	Tolerance pitch 10-12.5	Nominal pitch 12.5
d	lead diameter	0.6	±0.05	0.6
P	pitch between capacitors	25.4	±1.0	25.4
P ₀	feed-hole pitch	12.7	±0.3; note 1	12.7
P ₁	feed-hole centre to lead centre	7.62	±0.7; note 2	6.27
F	lead spacing	10	±1	12.5
Δh	component alignment	0	±3	0
Δp	deviation along tape, left or right	0	±1.3	0
W	tape width	18.0	±0.5	18.0
W ₀	hold-down tape width	12	-	12
W ₁	hole position	9.0	±0.5	9.0
W ₂	hold-down tape position	3	-	3.0
H ₀	seated height to tape centre	16.0	±0.5	16.0
H ₁	maximum component height	37	max	37
D ₀	feed-hole diameter	4.0	±0.2	4.0
t	total tape thickness	0.65	±0.2	0.65
t ₁	maximum thickness of tape and wires	1.5	max	1.5

Note1: Cumulative pitch error: ± ≤ 1mm / 20 pitches

Note 2: Obliquity maximum 3°

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Packaging

■ Tape in reel pitch 10 and 12.5mm (Dimensions in mm)

	pitch 10	pitch 12.5
W	57 ± 2	57 ± 2
W_0	48 ± 2	48 ± 2
D	355 ± 1	355 ± 1
D_0	$30^{+0.5/-0}$	$30^{+0.5/-0}$

