

SERIES 719C1

(TYPE KS)

Polystyrene & Foil Capacitors (Philips 2222 443 Series)

DESCRIPTION

Series 719C1 polystyrene and foil capacitors consist of low-inductive wound cells of metal foil with polystyrene capacitor grade film. Encased in a rectangular epoxy encapsulated flame retardant polypropylene case with sturdy tinned solder coated pins. They lend themselves readily to insertion into printed circuit cards, mother boards, and similar modular assemblies.

APPLICATIONS

For use in LC filters, particularly in telephone equipment where high requirements are imposed on precision, stability, humidity, dissipation factor, and reliability. The dimensions are such that in combination with current available ferrites, a high package density is possible.

FEATURES

Electrical

- Rated capacitance range 100 to 34,000 pF
- Tolerance on rated capacitance $\pm 1\%$
- Climatic category: Class 1 55/070/56
Class 3 55/085/56
- Related specification IEC 384-7
- Dielectric Withstanding—200% x Rated (VDC) terminal to terminal.
400 VDC between interconnected terminals & case (foil method).
- Dissipation Factor

capacitance	tangent of loss angle		
	at 1 kHz	at 100 kHz	at 1 MHz
$C_R \leq 500 \text{ pF}$	$\leq 5 \times 10^{-4}$		$< 5 \times 10^{-4}$
$500 \text{ pF} < C_R \leq 1000 \text{ pF}$	$\leq 5 \times 10^{-4}$		$\leq 10 \times 10^{-4}$
$1000 \text{ pF} < C_R \leq 10000 \text{ pF}$	$\leq 5 \times 10^{-4}$	$\leq 10 \times 10^{-4}$	
$10000 \text{ pF} < C_R \leq 15000 \text{ pF}$	$\leq 5 \times 10^{-4}$	$< 15 \times 10^{-4}$	
$15000 \text{ pF} < C_R \leq 20000 \text{ pF}$	$\leq 5 \times 10^{-4}$	$\leq 25 \times 10^{-4}$	
$20000 \text{ pF} < C_R \leq 30000 \text{ pF}$	$\leq 5 \times 10^{-4}$	$\leq 40 \times 10^{-4}$	
$C_R > 30000 \text{ pF}$	$\leq 5 \times 10^{-4}$	$\leq 60 \times 10^{-4}$	

Insulation resistance

The insulation resistance is measured after a voltage of $10 \pm 1 \text{ V}$ has been applied for 1 min $\pm 5 \text{ s}$, at $T_{amb} = 20^\circ\text{C}$.

R between terminations $> 500000 \text{ M}\Omega$

R between interconnected terminations and case $> 500000 \text{ M}\Omega$

Temperature Coefficients (PPM/ $^\circ\text{C}$)

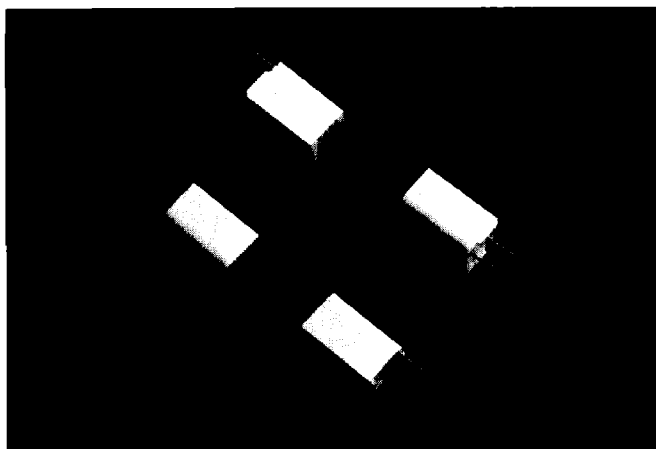
$C_R \leq 15000 \text{ pF} - (125 \pm 30) \times 10^{-6}/\text{K}$

$C > 15000 \text{ pF} - (160 \pm 40) \times 10^{-6}/\text{K}$

Standard Voltage Ratings—

Class 1 (Stability Class) 63VDC
@ -55°C to $+70^\circ\text{C}$

Class 3 (Stability Class) 63VDC
@ -55°C to $+85^\circ\text{C}$



Mechanical

- Low inductance
- Low series resistance
- High precision $\pm 1\%$ tolerance
- Precisely dimensioned case—Permits high package density.
- Mounting feet
- Flame retardant
- Withstand most solvent and rinsing liquids
- Lead solderability—Tested in accordance with MIL-STD-202, Method 208.
- Resistance to soldering heat with pre-heating capacitors mounted on a 1.6 mm board with non-plated holes.
Body Temp.: 80°C
Bath Temp.: 260°C
Dwell Time: 5 s

TYPICAL MARKING EXAMPLE

CASE SIZE "CA" (FIGURE 1)

LINE 1: CAPACITANCE IN PF WITHOUT PF UNIT SYMBOL

LINE 2: TOLERANCE CODE ($F = \pm 1\%$); RATED VOLTAGE VDC

LINE 3: PRODUCTION DATE CODE; DIELECTRIC CODE (POLYSTYRENE=KS)

OUTSIDE FOIL (EARTH SIDE) IS INDICATED BY A VERTICAL LINE TO LEFT OF 2ND AND 3RD LINE OF MARKING AND BY THE BEVELLED CORNER.

CASE SIZES "CB" & "CC"

LINE 1: CAPACITANCE IN PF WITHOUT PF UNIT SYMBOL

LINE 2: TOLERANCE CODE ($F = \pm 1\%$), RATED VOLTAGE VDC

LINE 3: PHILIPS TYPE NO. 443

LINE 4: PRODUCTION DATE CODE; DIELECTRIC CODE (POLYSTYRENE = KS)

CASE SIZE "CA"

412P
F 63
KO KS

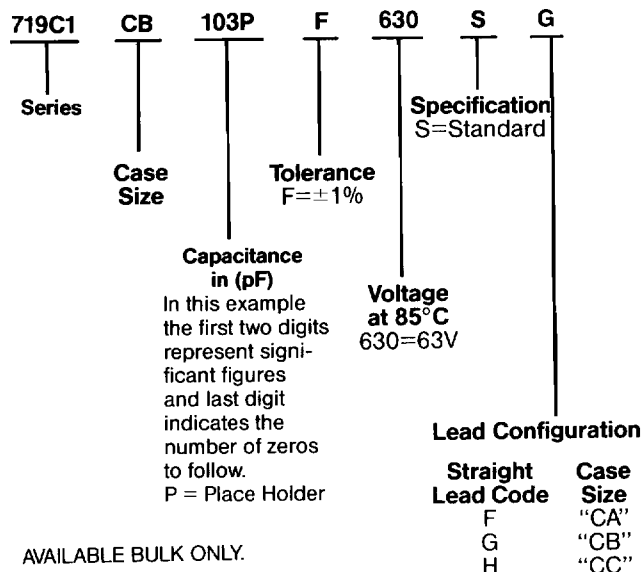
CASE SIZES "CB" & "CC"

412P
F 63
443
KO KS

HOW TO SPECIFY:

Series 719C1 capacitors may be specified using the following designation:

(See General Part Number Description for more details)



AVAILABLE BULK ONLY.

719C1 SERIES, CAPACITANCE VALUES AVAILABLE (IN PF)

100	178	316	562	1000	1780	3160	5760	10200	18200
102	182	324	576	1020	1820	3240	5900	10500	18700
105	187	332	590	1050	1870	3320	6040	10700	19100
107	191	340	604	1070	1910	3400	6190	11000	20000
110	196	348	619	1100	1960	3480	6340	11300	21000
113	200	357	634	1130	2000	3570	6490	11500	21500
115	205	365	649	1150	2050	3650	6650	11800	22100
118	210	374	665	1180	2100	3740	6810	12100	22600
121	215	383	681	1210	2150	3830	6980	12400	23200
124	221	392	698	1240	2210	3920	7150	12700	23700
127	226	402	715	1270	2260	4120	7320	13000	24300
130	232	412	732	1300	2320	4220	7500	13300	24900
133	237	422	750	1330	2370	4320	7680	13700	25500
137	243	432	768	1370	2430	4420	7870	14000	26100
140	249	442	787	1400	2490	4530	8060	14300	27400
143	255	453	806	1430	2550	4640	8250	14700	28000
147	261	464	825	1470	2610	4750	8450	15000	28700
150	267	475	845	1500	2670	4870	8660	15400	29400
154	274	487	866	1540	2740	4990	8870	15800	30100
158	280	499	887	1580	2800	5110	9090	16200	30900
162	287	511	909	1620	2870	5230	9310	16500	31600
165	294	523	931	1650	2940	5360	9530	16900	32400
169	301	536	953	1690	3010	5490	9760	17400	33200
174	309	549	976	1740	3090	5620	10000	17800	34000

Mounting

The capacitors are designed for mounting on printed-wiring boards. The required space on the printed-wiring board for a hole diameter of 1 mm is given in Figs 4, 5 and 6.

**63 VDC-25 VAC RMS ($\pm 1\%$ TOLERANCE ONLY)
FOR CAPACITANCE VALUES AVAILABLE SEE NOTE ABOVE**

Mechanical Data

CASE SIZE "CA"

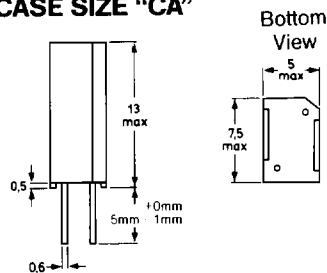


Fig. 1 Capacitors of rated capacitance range 100 to 3920 pF.

CASE SIZE "CB"

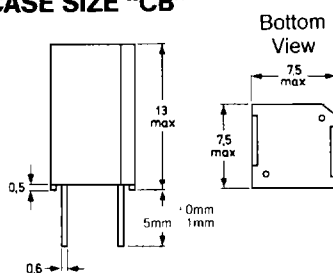


Fig. 2 Capacitors of rated capacitance range 100 to 15000 pF.

CASE SIZE “CC”

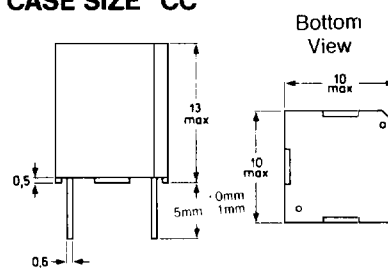


Fig. 3 Capacitors of rated capacitance range 15400 to 34000 pF.

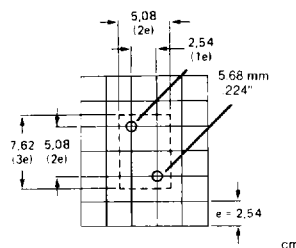


Fig. 4 Required space for capacitors according to Fig. 1.

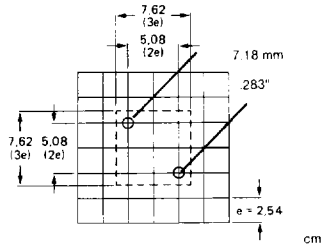


Fig. 5 Required space for capacitors according to Fig. 2.

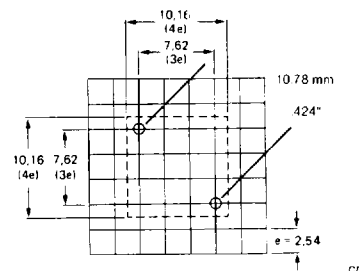


Fig. 6 Required space for capacitors according to Fig. 3.

NOTICE: MISAPPLICATION SUCH AS EXCEEDING DESIGN LIMITS MAY
RESULT IN DESTRUCTION OR EXPLOSION OF CAPACITORS.