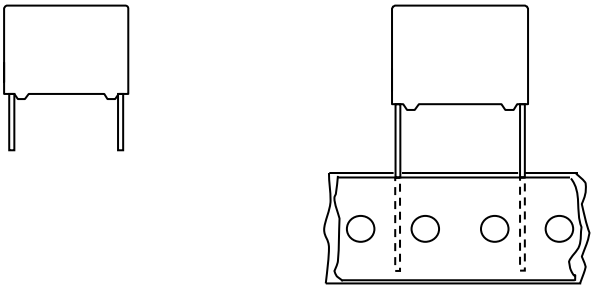
EMI Suppression film capacitors (RC unit)

PCRC 420

MKP RADIAL POTTED CAPACITORS **Pitch 15.0/17.5 mm**



P = 15.0 / 17.5mm

QUICK REFERENCE DATA

Capacitance value	0.033, 0.047, 0.068, 0.1, 0.15, 0.22μF
Capacitance tolerance	±20%
Resistance value	22Ω, 47Ω, 120Ω
Resistance tolerance	±10%
Rated (AC) voltage 50 to 60 Hz	250 V~
Climatic category	40/085/21
Temperature range	-40℃ ~ +85℃
Reference IEC specification	IEC 60384-14
Safety approvals	UL60384-14 & CSA E60384-14:09(cUL) VDE, KC
Potting & Encapsulation material	Qualified in accordance with UL 94V-0
Safety class	X2

FEATURES

. 15.0mm, 17.5mm lead pitch
. Supplied loose in box and taped in ammopack
. Consist of a low-inductive wound cell of metalized polypropylene film and carbon composition resistor, potted in a flame retardant case

APPLICATIONS

. For X2 – electromagnetic Interference suppression
. Spark quenching
. Noise suppression

• Please refer to caution and warning at http://www.pilkor.co.kr/sub/download/introductions.pdf before using these products.

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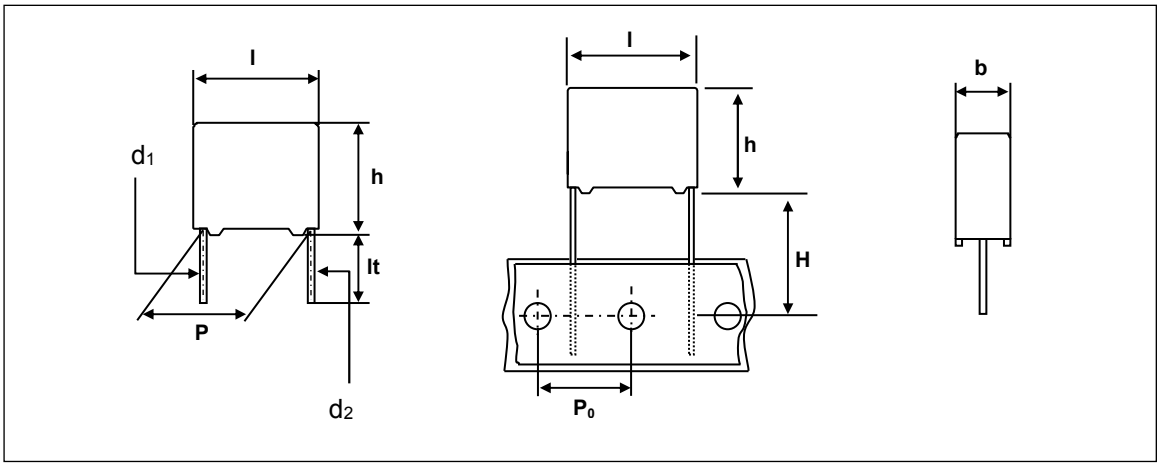
Ordering Information



PCRC 420 X X XXX

Type series

Capacitance

code	Resistance
1	22Ω
2	47Ω
3	120Ω

code	Packing method	Lead configuration	C – tol, R - tol	12NC**
1	Loose in box	lt = 4.0 ± 1.0mm	C-tol ±20% & R-tol ±10%	PCRC 420 x1xxx
2	Loose in box	20 < lt ≤ 25mm	C-tol ±20% & R-tol ±10%	PCRC 420 x2xxx
3	Ammopack	H = 18.5 mm / P_0=12.7mm	C-tol ±20% & R-tol ±10%	PCRC 420 x3xxx
4	Ammopack	H = 18.5 mm / P_0=15.0mm	C-tol ±20% & R-tol ±10%	PCRC 420 x4xxx

** Some values do not follow coding rule.

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SAFETY APPROVALS

SAFETY APPROVALS	Voltage	Value	File Number
UL 60384-14 & CSA E60384-14:09(cUL)	250V(AC)	33nF to 220nF + 22Ω, 47Ω, 120Ω	E165646
VDE	250V(AC)	33nF to 220nF + 22Ω, 47Ω, 120Ω	120831
KC	250V(AC)	33nF to 220nF + 22Ω, 47Ω, 120Ω	SH03001-2004

∗ Approval number (File No.) of safety regulations are subject to revision without notice

Packaging Information

SMALLEST PACKING QUANTITIES (SPQ)	LOOSE IN BOX	
DIMENSIONS	lt = 4 ± 1.0 mm	20 < lt ≤ 25 mm
8.5 x 15.0 x 18.0	1000	1000
10.0 x 17.5 x 18.0	1000	1000
8.0 x 17.0 x 22.0	1000	1000
9.0 x 17.5 x 22.0	500	500
10.5 x 18.5 x 22.0	500	500

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SPECIFIC REFERENCE DATA FOR 250 V_{AC}

Tangent of loss angle	Frequency		at 1 khz		
	Value (Cap. + Res.)				
	Resistance (Ω)		22	47	120
	Capacitance (µF)	0.033 ~ 0.047	< 1.5%	< 3%	< 6%
		0.068 ~ 0.1	< 3%	< 5%	< 10%
		0.15 ~ 0.22	< 5%	< 10%	< 20%
Rated voltage pulse slope $(dV/dt)_R$			100 V/µs		
R between leads, for all value			〉30 000 MΩ		
Test voltage (DC) on line;			2250V, 1min		
Withstanding(AC) Voltage between leads and case			2400 V ; 1 min		

V_{Rac} = 250 V~

Cap. (µF)	Combination Resistance (Ω)	b x h x l (mm)	CATALOGUE NUMBER	
			PCRC 420	
			loose in box	
			lt = 4.0 ± 1.0 mm	20 < lt ≤ 25 mm
			C – tol ; ± 20 % & R – tol ; ± 10 %	
Pitch = 15.0 ± 0.5 mm		d_1 = 0.8 +0.08/-0.05 mm, d_2 = 0.7 +0.08/-0.05 mm		
0.033	22	8.5 x 15.0 x 18.0	11333	12333
	47		21333	22333
	120		31333	32333
0.047	22		11473	12473
	47		21473	22473
	120		31473	32473
0.068	22	11.0 x 19.0 x 18.0	11683	12683
	47		21683	22683
	120		31683	32683
0.1	22		11A04	12A04
	47		21A04	22A04
	120		31A04	32A04
Pitch = 17.5 ± 0.5 mm		d_1 = 0.8 +0.08/-0.05 mm, d_2 = 0.7 +0.08/-0.05 mm		
0.1	22	8.0 x 17.0 x 22.0	11104	12104
	47		21104	22104
	120		31104	32104
0.15	22	9.0 x 17.5 x 22.0	11154	12154
	47		21154	22154
	120		31154	32154
0.22	22	10.5 x 18.5 x 22.0	11224	12224
	47		21224	22224
	120		31224	32224

Example : 68nF + 120Ω (lt = 4 ±1.0 mm) → code number : PCRC 420 31683

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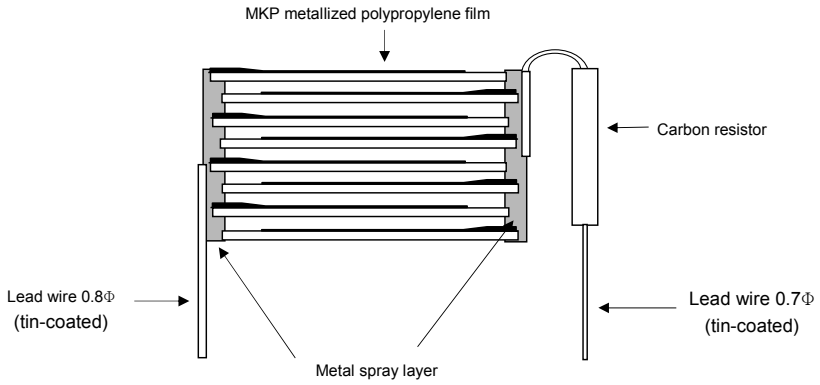
CONSTRUCTION



MOUNTING

NORMAL USE

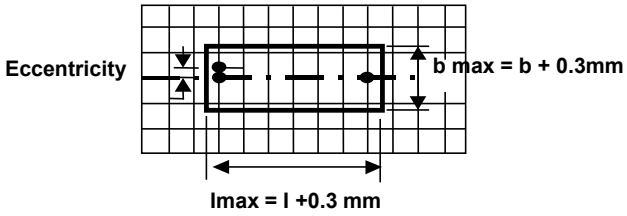
The capacitors are designed for mounting on printed-circuit boards.
The capacitors packed in bandoliers are designed for mounting on printed-circuit boards by means of automatic insertion machines.
For detailed specifications refer to chapter "PACKAGING".

SPECIFIC METHOD OF MOUNTING TO WITHSTAND VIBRATION AND SHOCK

In order to withstand vibration and shock tests, it must be ensured that the stand-off pips are in good contact with the printed-circuit board.
- For pitches of 15.0mm the capacitors shall be mechanically fixed by leads.
- For pitches of 17.5mm the capacitors shall be mounted in the same way and the body clamped.

SPACE REQUIREMENTS ON PRINTED-CIRCUIT BOARD

The maximum length and width of film capacitors are shown in the following drawing ;



- Eccentricity as in drawing.
  The maximum eccentricity is smaller than or equal to the lead diameter of the product concerned.
- Product height with seating plane as given by IEC 60717 as reference : $h_{max} \leq$ h+0.3mm

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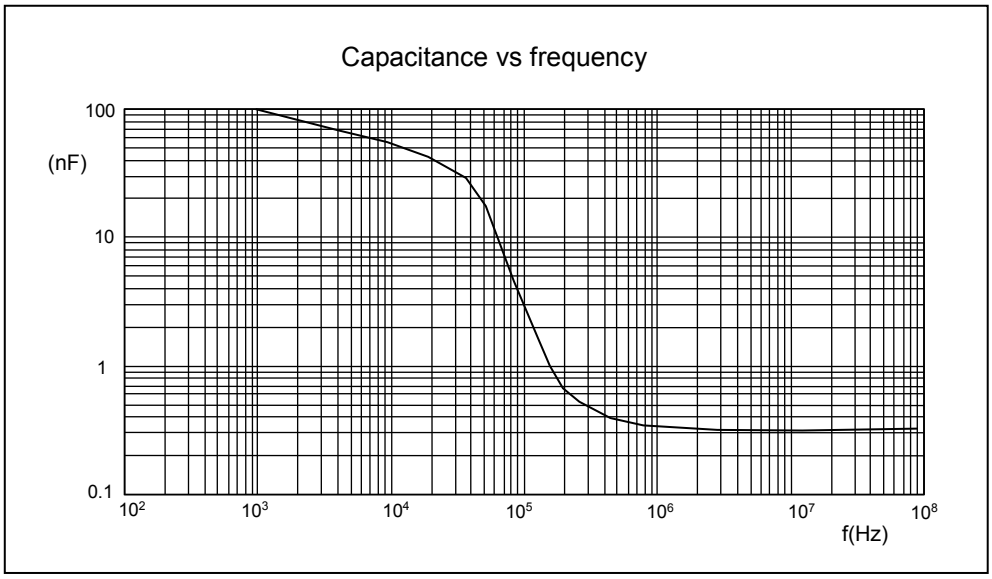
RATINGS AND CHARACTERISTICS

Unless otherwise specified all electrical values apply to an ambient temperature of 23±1℃, an atmospheric pressure of 86 to 106KPa and a relative humidity 50±2%.

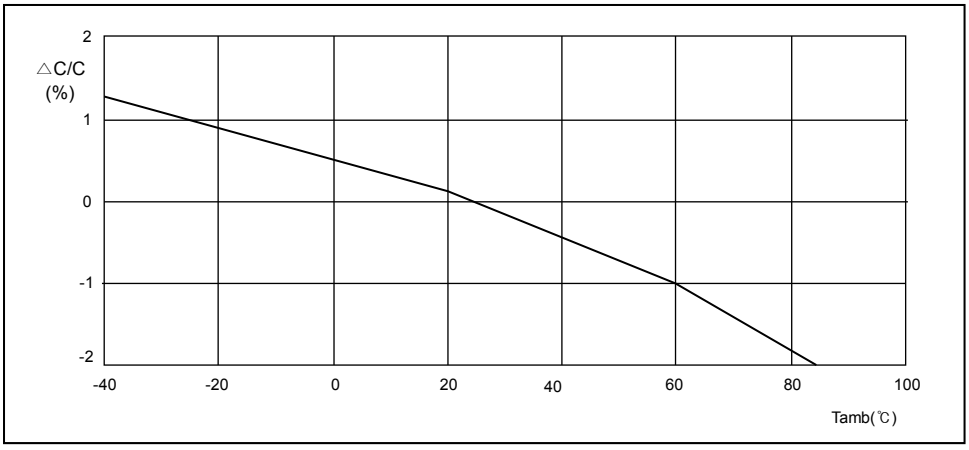
For reference testing, a conditioning period shall be applied of 96±4 hours by heating the products in a circulating air oven at the rated temperature and a relative humidity not exceeding 20%.

CAPACITANCE

- All capacitance values are specified at 1 kHz. (Vs. Temperature)



- Capacitance at 25℃ (Vs. Frequency) , ex) 100nF+120Ω



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TEMPERATURE

- Storage temperature : T_{stg} = - 25 to + 40℃ with RH maximum 80% without condensation.

VOLTAGE

- Test voltage between leads, 100% on line for 1 second : for all value ; 2200V (DC)
- Test voltage between interconnected leads and case (foil method) : 2050V (AC).

DISSIPATION FACTOR

The dissipation factor is measured at 1㎑

INSULATION RESISTANCE

The insulation resistance is measured after a voltage of 100±15 V has been applied for 1 minute ±5 seconds at T_{amb} = 20℃.
- R between leads for all value : > 30 000 ㏁.
- R between interconnected leads and case (foil method) : > 30 000 ㏁.

PRODUCT MARKING

Capacitors are marked with following information;

1.Manufacturer (PILKOR)
2.Manufacturer's type designation (PCRC 420)
3.Rated capacitance
4.Rated (AC) voltage (250V~)
5.Sub class (X2)
6.Tolerance on rated capacitance M =±20 % K =±10 %
7.Climatic category (40/085/21)
8.Code for dielectric material (MKP)
9.Resistance value (Ω)
10.Year and week of manufacturing (e.g. WK1301)
11.Safety approvals
* white or black color

Example of marking

100n M + 120Ω K
PCRC 420 250V~ X2
40/085/21
MKP
PILKOR WK2030

Marking on the side