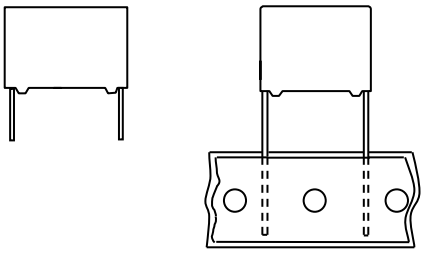
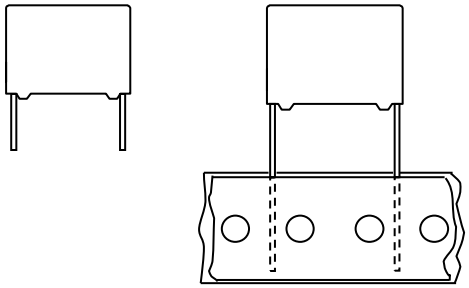
Series Impedance Film capacitors

PCX2 347

MKT RADIAL POTTED CAPACITORS **Pitch 10.0/15.0/22.5/27.5mm**



10.0 and 15.0mm



22.5 and 27.5mm

QUICK REFERENCE DATA

Capacitance range (E6 series) *	0.01μF to 2.2μF
Capacitance tolerance	± 10 %, ± 20 %
Rated (AC) voltage 50 to 60 Hz	310 V~
Climatic category	55/110/56
Temperature range	-55℃ ~ +110℃
Reference IEC, UL specification	IEC 60384-14(3rd edition) and UL60384-14
Safety approvals	ENEC, EK
	UL60384-14
Potting & Encapsulation material	Qualified in accordance with UL 94V-0
Safety class	X2

*** Intermediate values of the E12 series are available to special order**

FEATURES

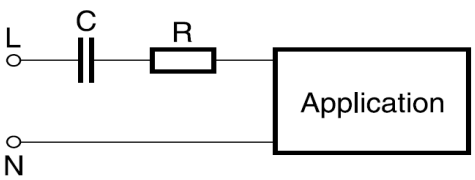
. 10.0 to 27.5 mm lead pitch
. Supplied loose in box and taped on reel
. Consist of a low-inductive wound cell of Metallized Polyester film, potted in a flame retardant case

APPLICATIONS

. For X2-electromagnetic interference suppression
. Specially designed to meet the NEW REQUIREMENTS in new IEC 60384-14 specification(3rd edition)/UL 60384-14 requiring for X2 a 2.5kV peak pulse voltage test
. Energy meter
. Stable capacitance in damp environment 85℃85%RH, 240Vac, 1000hours

• **Design and specifications are subjected to change without notice. Please refer to caution and warning at http://www.pilkor.co.kr/sub/download/Introductions.pdf before using these products.**

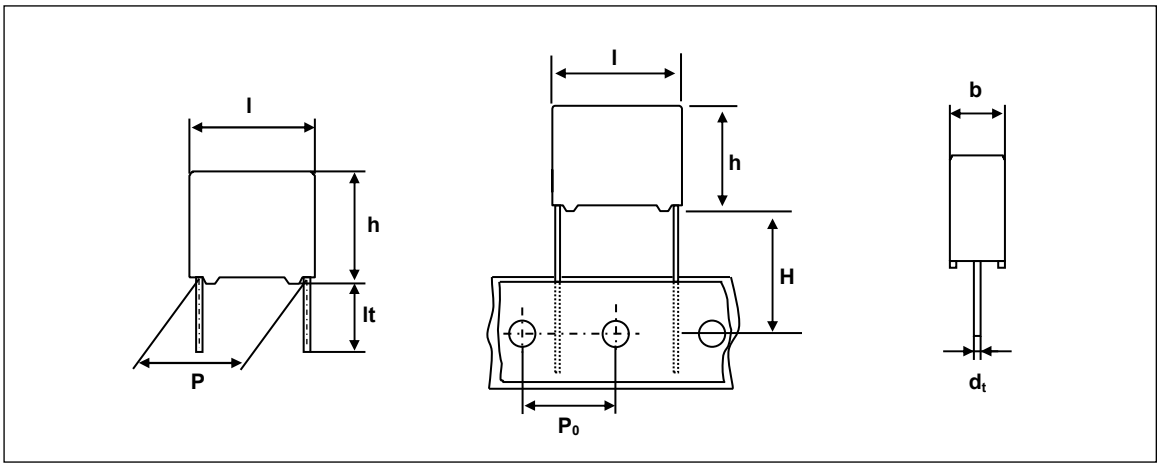
Main application _ In series with the powerline (capacitive power supply)



Series Impedance
Film capacitors

PCX2 347

Ordering Information



PCX2 347 X X X XXX

Capacitance

Code	Voltage
3	310V

Code	Original Pitch
D	10.0 mm
F	15.0 mm
J	22.5 mm
L	27.5 mm

Available versions					Product (I_{max})			
code	Packing method	C – tol.	Lead length & Height	Hole to hole (P_o)	12.5	18.0	26.0	31.0
					Pitch (P)			
0	Loose in box	±20%	lt = 5.0±1.0mm	-	10.0	15.0	22.5	27.5
1	Loose in box	±10%	lt = 5.0±1.0mm	-	10.0	15.0	22.5	27.5
4	Loose in box	±20%	lt =25.0±2.0mm	-	10.0	15.0	22.5	27.5
5	Loose in box	±10%	lt =25.0±2.0mm	-	10.0	15.0	22.5	27.5
6	Ammopack	±20%	H = 18.5mm*	12.7mm	10.0	15.0	22.5	27.5
7	Ammopack	±10%	H = 18.5mm*	12.7mm	10.0	15.0	22.5	27.5

* H ; intape height ; for detailed specifications refer to chapter PACKAGING
** Some values is not following the coding rule.

Series Impedance Film capacitors

PCX2 347

SAFETY APPROVALS

SAFETY APPROVALS	Voltage	Value	File Number
UL60384-14	310V(AC)	0.01μF to 2.2μF	E165646
ENEC(SEMKO) *	310V(AC)	0.01μF to 2.2μF	SE/0256-7
EK	310V(AC)	C ≤ 0.1μF 0.1μF < C ≤ 0.33μF 0.33μF < C ≤ 1.0μF	SH03001-14001 SH03001-14002 SH03001-14003

* The ENEC-approval together with the CB-Certificate replace all national approval marks of the following countries(they have already signed the ENEC-Agreement): Austria; Belgium; Czech. Republic; Denmark; Finland; France; Germany; Greece; Hungary; Ireland; Italy; Luxembourg; Netherlands; Norway; Portugal; Slovenian; Spain; Sweden; Switzerland and United Kingdom

Packaging Information

SMALLEST PACKING QUANTITIES (SPQ)	LOOSE IN BOX	
DIMENSIONS	**lt = 5.0 ± 1.0 mm**	**lt = 25 ± 2.0 mm**
4.0 x 10.0 x 12.5	2000	1000
5.0 x 11.0 x 12.5	1500	1000
6.0 x 12.0 x 12.5	1000	1000
6.0 x 12.0 x 18.0	1000	1000
7.0 x 13.5 x 18.0	1000	1000
8.5 x 13.5 x 18.0	1000	1000
8.5 x 15.0 x 18.0	1000	1000
10.0 x 16.5 x 18.0	1000	1000
11.0 x 18.5 x 18.0	1000	1000
7.0 x 16.5 x 26.0	1000	1000
8.5 x 18.0 x 26.0	500	500
10.0 x 19.5 x 26.0	500	500
12.0 x 22.0 x 26.0	500	500
16.5 x 22.0 x 26.0	250	250
9.0 x 19.0 x 31.0	500	500
10.0 x 20.0 x 31.0	500	250
11.0 x 21.0 x 31.0	500	250
13.0 x 23.0 x 31.0	250	250
21.0 x 31.0 x 31.0	150	150

Series Impedance Film capacitors

PCX2 347

SPECIFIC REFERENCE DATA FOR 310 V_{AC}

Tangent of loss angle	at 1 khz	at 10 khz
C ≤ 1 µF C > 1 µF	≤ 80 x 10^{-4} ≤ 80 x 10^{-4}	≤ 150 x 10^{-4} -
Rated voltage pulse slope $(dV/dt)_R$	100 V/µs	
R between leads, for C ≤ 0.33 µF	〉15 000 MΩ	
RC between leads, for C > 0.33 µF	〉5 000 s	
Withstanding(DC) Voltage (cut-off current 10mA)	4.3* V_R, 1min	
Withstanding(AC) Voltage between leads and case	2400V 1min	

V_{Rac} = 310V~ X2 **loose and taped**

Cap. (µF)	b x h x l (mm)	MASS (g)	CATALOGUE NUMBER PCX2 347..... loose in box			
			lt = 5 ± 1.0 mm		lt = 25 ± 2.0 mm	
			C – tol. ± 20 %	C – tol. ± 10 %	C – tol. ± 20 %	C – tol. ± 10 %
Pitch = 10.0 ± 0.4 mm dt = 0.6 +0.06/-0.05 mm						
0.01	4.0 x 10.0 x 12.5	0.8	D30103	D31103	D34103	D35103
0.015	4.0 x 10.0 x 12.5	0.8	D30153	D31153	D34153	D35153
0.022	4.0 x 10.0 x 12.5	0.8	D30223	D31223	D34223	D35223
0.033	5.0 x 11.0 x 12.5	0.9	D30333	D31333	D34333	D35333
0.047	5.0 x 11.0 x 12.5	0.9	D30473	D31473	D34473	D35473
0.068	6.0 x 12.0 x 12.5	1.0	D30683	D31683	D34683	D35683
0.082	6.0 x 12.0 x 12.5	1.0	D30823	D31823	D34823	D35823
0.1	6.0 x 12.0 x 12.5	1.0	D30104	D31104	D34104	D35104
Pitch = 15.0 ± 0.4 mm dt = 0.8 +0.08/-0.05 mm						
0.1	6.0 x 12.0 x 18.0	1.4	F30104	F31104	F34104	F35104
0.15	7.0 x 13.5 x 18.0	1.9	F30154	F31154	F34154	F35154
0.22	8.5 x 15.0 x 18.0	2.6	F30224	F31224	F34224	F35224
0.33	10.0 x 16.5 x 18.0	3.1	F30334	F31334	F34334	F35334
0.47	11.0 x 18.5 x 18.0	4.1	F30474	F31474	F34474	F35474
Pitch = 22.5 ± 0.4 mm dt = 0.8 +0.08/-0.05 mm						
0.33	7.0 x 16.5 x 26.0	3.2	J30334	J31334	J34334	J35334
0.47	8.5 x 18.0 x 26.0	4.4	J30474	J31474	J34474	J35474
0.68	10.0 x 19.5 x 26.0	5.5	J30684	J31684	J34684	J35684
1.0	12.0 x 22.0 x 26.0	9.0	J30105	J31105	J34105	J35105
1.5	16.5 x 22.0 x 26.0	10.0	J30155	J31155	J34155	J35155
Pitch = 27.5 ± 0.4 mm dt = 0.8 +0.08/-0.05 mm						
0.47	9.0 x 19.0 x 31.0	5.5	L30474	L31474	L34474	L35474
0.68	10.0 x 20.0 x 31.0	6.5	L30684	L31684	L34684	L35684
1.0	11.0 x 21.0 x 31.0	7.8	L30105	L31105	L34105	L35105
1.5	13.0 x 23.0 x 31.0	10.4	L30155	L31155	L34155	L35155
2.2	21.0 x 31.0 x 31.0	20.5	L30225	L31225	L34225	L35225

Series Impedance Film capacitors

PCX2 347

MOUNTING

NORMAL USE

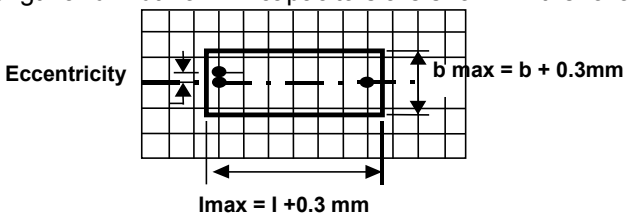
The capacitors are designed for mounting on printed-circuit boards.
The capacitors packed in bandoliers are designed for mounting on printed-circuit boards by means of automatic insertion machines.
For detailed specifications refer to chapter "PACKAGING".

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 15mm the capacitors shall be mechanically fixed by leads.
. For larger pitches 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 ;



- Product height with seating plane as given by IEC 60717 as reference : $h_{max} \leq$ h+0.3mm

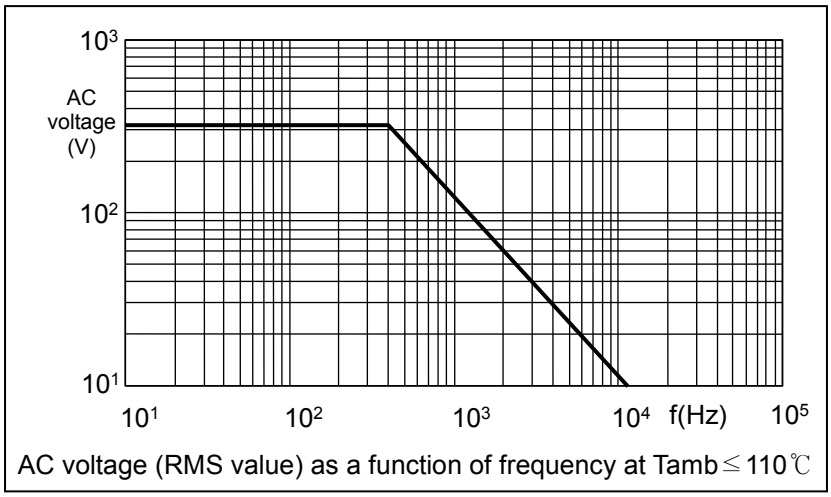
STORAGE TEMPERATURE

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

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%.

Maximum RMS Voltage as a function of frequency



AC voltage (RMS value) as a function of frequency at Tamb≤110℃

APPLICATION NOTE

To ensure withstanding high humidity requirements in the application it is recommended not to damage the

epoxy adhesion at the leads. Therefore the leads may not be damaged or bent before soldering.

PRODUCT MARKING

Capacitors are marked with having following information;

1.Manufacturer (PILKOR)

2.Manufacturer's type designation (PCX2 347)

3.Rated capacitance in code according to IEC 60062

4.Rated (AC) voltage (310V~)

5.Sub class (X2)

6.Tolerance on rated capacitance M =± 20 % K = ± 10 %

7.Climatic category (55/110/56)

8.Metallized polyester film (MKT)

9.Year and week of manufacturing (e.g 1401)

10.Safety approvals

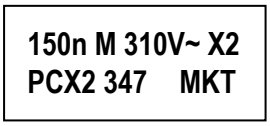
* white or black color

Example of marking

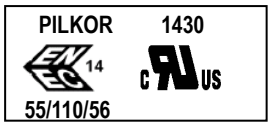
Marking on the side

or

Marking on the side



Marking on the top



Marking on the side

Marking on headface

Marking on headface