

PFC Input Capacitors

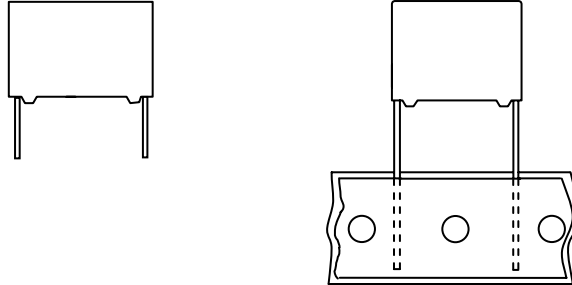
Metallized Polypropylene film capacitors

PCMP 372

(MPP)

MKP RADIAL POTTED CAPACITORS

Pitch 10.0/15.0/22.5/27.5mm



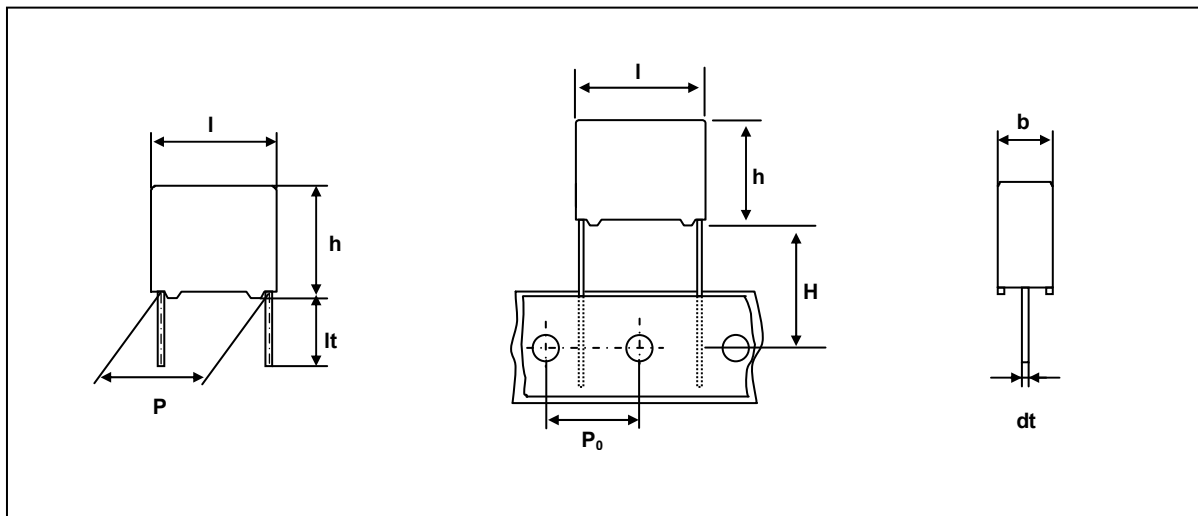
QUICK REFERENCE DATA

| | |
|----------------------------------|---------------------------------------|
| Capacitance range (E6 series) | 0.022 to 2.2 μ F |
| Capacitance tolerance | $\pm 5\%$, $\pm 10\%$ |
| Rated voltage (DC) | 450V, 500V, 630 V |
| Climatic category | 40/105/21 |
| Temperature range | -40 $^{\circ}$ C ~ + 105 $^{\circ}$ C |
| Reference specification | IEC 60384-16 |
| Potting & Encapsulation material | Qualified in accordance with UL94V-0 |

| | |
|---|---|
| <h4>FEATURES</h4> <ul style="list-style-type: none"> . Low-noise . Self-healing properties . Low dissipation factor . Low ESR . Supplied loose in box & ammo packing | <h4>APPLICATIONS</h4> <ul style="list-style-type: none"> . PFC Input Capacitor for LCD/PDP power |
|---|---|

- Please refer to caution and warning at <http://www.pilkor.co.kr/download/Introductions.pdf> before using these products.

Ordering Information



PCMP 372 X X X X X X

Type series

Capacitance

| Code | Voltage |
|------|-----------|
| R | 450V mini |
| U | 500V mini |
| Q | 630V mini |

| Code | Pitch |
|------|--------|
| D | 10.0mm |
| F | 15.0mm |
| J | 22.5mm |
| L | 27.5mm |

| Available versions | | | | | Product (I_{max}) | | | |
|--------------------|----------------|------------|----------------------|------------------------|-----------------------|------|------|------|
| code | Packing method | C - tol. | Lead length & Height | Hole to hole (P_0) | 12.5 | 18.0 | 26.0 | 31.0 |
| | | | | | Pitch (P) | | | |
| 3 | Loose in box | $\pm 5\%$ | $lt = 5.0 \pm 1.0mm$ | - | 10.0 | 15.0 | 22.5 | 27.5 |
| 4 | Loose in box | $\pm 10\%$ | $lt = 5.0 \pm 1.0mm$ | - | 10.0 | 15.0 | 22.5 | 27.5 |
| 5 | Loose in box | $\pm 5\%$ | $lt = 25 \pm 2.0mm$ | - | 10.0 | 15.0 | 22.5 | 27.5 |
| 6 | Loose in box | $\pm 10\%$ | $lt = 25 \pm 2.0mm$ | - | 10.0 | 15.0 | 22.5 | 27.5 |
| 7 | Ammopack | $\pm 5\%$ | $H = 18.5 mm^*$ | 12.7mm | 10.0 | 15.0 | 22.5 | 27.5 |
| 8 | Ammopack | $\pm 10\%$ | $H = 18.5 mm^*$ | 12.7mm | 10.0 | 15.0 | 22.5 | 27.5 |

* H(In-tape height) ; For detailed specifications refer to chapter PACKAGING

Packaging Information

| SMALLEST PACKING QUANTITIES (SPQ) | Loose in box | |
|--|----------------|-----------------|
| | It = 5.0±1.0mm | It = 25.0±2.0mm |
| DIMENSIONS | SPQ | SPQ |
| 4.0 X 10.0 X 12.5 | 2000 | 1200 |
| 5.0 X 11.0 X 12.5 | 1500 | 1000 |
| 6.0 X 12.0 X 12.5 | 1000 | 1000 |
| 5.0 X 11.0 X 18.0 | 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 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 |
| 6.0 X 15.5 X 26.0 | 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 |
| 11.5 X 21.0 X 26.0 | 500 | 500 |
| 12.5 X 22.5 X 26.0 | 500 | 500 |
| 13.0 X 23.0 X 26.0 | 500 | 500 |
| 11.0 X 21.0 X 31.0 | 500 | 250 |
| 13.0 X 23.0 X 31.0 | 250 | 250 |
| 15.0 X 25.0 X 31.0 | 250 | 250 |
| 18.0 X 28.0 X 31.0 | 200 | 200 |

PFC Input Capacitors

PCMP 372

Metallized Polypropylene film capacitors

(MPP)

 $V_{Rdc} = 450V \text{ \& } 500V$

mini type

| Cap. (μF) | b x h x l (mm) | Mass (g) | CATALOGUE NUMBER | |
|---------------------------|--------------------|--------------------|----------------------------|----------------------|
| | | | PCMP 372..... | |
| | | | loose in box | |
| | | | 450V mini | 500V mini |
| | | | lt= 5.0 \pm 1.0 mm | lt= 5.0 \pm 1.0 mm |
| C – tol. \pm 10% | | C – tol. \pm 10% | | |
| Pitch = 10.0 \pm 0.4 mm | | | dt = 0.6 + 0.06 / -0.05 mm | |
| 0.10 | 4.0 x 10.0 x 12.5 | 0.8 | PCMP 372DR4104 | PCMP 372DU4104 |
| 0.15 | 5.0 x 11.0 x 12.5 | 0.8 | PCMP 372DR4154 | PCMP 372DU4154 |
| 0.22 | 5.0 x 11.0 x 12.5 | 0.9 | PCMP 372DR4224 | PCMP 372DU4224 |
| 0.33 | 6.2 x 12.3 x 12.5 | 1.0 | PCMP 372DR4334 | PCMP 372DU4334 |
| Pitch = 15.0 \pm 0.4 mm | | | dt = 0.8 + 0.08 / -0.05 mm | |
| 0.22 | 5.0 x 11.0 x 18.0 | 1.2 | PCMP 372FR4224 | PCMP 372FU4224 |
| 0.33 | 5.0 x 11.0 x 18.0 | 1.2 | PCMP 372FR4334 | PCMP 372FU4334 |
| 0.47 | 6.0 x 12.0 x 18.0 | 1.4 | PCMP 372FR4474 | PCMP 372FU4474 |
| 0.56 | 7.0 x 13.5 x 18.0 | 1.9 | PCMP 372FR4564 | PCMP 372FU4564 |
| 0.68 | 8.5 x 15.0 x 18.0 | 2.6 | PCMP 372FR4684 | PCMP 372FU4684 |
| 0.82 | 8.5 x 15.0 x 18.0 | 2.6 | PCMP 372FR4824 | PCMP 372FU4824 |
| 1.0 | 8.5 x 15.0 x 18.0 | 2.6 | *PCMP 372FR4105 | *PCMP 372FU4105 |
| 1.0 | 10.0 x 16.5 x 18.0 | 3.1 | **PCMP 372FR3105 | **PCMP 372FU3105 |
| 1.5 | 11.0 x 18.5 x 18.0 | 4.1 | PCMP 372FR4155 | PCMP 372FU4155 |
| Pitch = 22.5 \pm 0.4 mm | | | dt = 0.8 + 0.08 / -0.05 mm | |
| 0.47 | 6.0 x 15.5 x 26.0 | 3.0 | PCMP 372JR4474 | PCMP 372JU4474 |
| 0.56 | 6.0 x 15.5 x 26.0 | 3.0 | PCMP 372JR4564 | PCMP 372JU4564 |
| 0.68 | 6.0 x 15.5 x 26.0 | 3.0 | PCMP 372JR4684 | PCMP 372JU4684 |
| 0.82 | 7.0 x 16.5 x 26.0 | 3.5 | PCMP 372JR4824 | PCMP 372JU4824 |
| 1.0 | 7.0 x 16.5 x 26.0 | 3.5 | PCMP 372JR4105 | PCMP 372JU4105 |
| 1.5 | 8.5 x 18.0 x 26.0 | 4.4 | PCMP 372JR4155 | PCMP 372JU4155 |
| 2.2 | 10.0 x 19.5 x 26.0 | 5.5 | PCMP 372JR4225 | PCMP 372JU4225 |

* 10% tolerance products only / ** 5% tolerance products only

PFC Input Capacitors

PCMP 372

Metallized Polypropylene film capacitors

(MPP)

 $V_{Rdc} = 630 V$

mini type

| Cap. (μF) | b x h x l (mm) | Mass (g) | CATALOGUE NUMBER | |
|---------------------------|--------------------|-------------|----------------------------|-----------------------|
| | | | PCMP 372..... | |
| | | | loose in box | |
| | | | It= 5.0 \pm 1.0 mm | It= 25.0 \pm 2.0 mm |
| | | | C - tol. \pm 10% | C - tol. \pm 10% |
| Pitch = 10.0 \pm 0.4 mm | | | dt = 0.6 + 0.06 / -0.05 mm | |
| 0.022 | 4.0 x 10.0 x 12.5 | 0.8 | PCMP 372DQ4223 | PCMP 372DQ6223 |
| 0.033 | 5.0 x 11.0 x 12.5 | 0.9 | PCMP 372DQ4333 | PCMP 372DQ6333 |
| 0.047 | 5.0 x 11.0 x 12.5 | 0.9 | PCMP 372DQ4473 | PCMP 372DQ6473 |
| 0.068 | 5.0 x 11.0 x 12.5 | 0.9 | PCMP 372DQ4683 | PCMP 372DQ6683 |
| 0.10 | 5.0 x 11.0 x 12.5 | 0.9 | PCMP 372DQ4104 | PCMP 372DQ6104 |
| 0.15 | 6.0 x 12.0 x 12.5 | 0.9 | PCMP 372DQ4154 | PCMP 372DQ6154 |
| 0.22 | 6.2 x 12.3 x 12.5 | 1.0 | PCMP 372DQ4224 | PCMP 372DQ6224 |
| Pitch = 15.0 \pm 0.4 mm | | | dt = 0.8 + 0.08 / -0.05 mm | |
| 0.10 | 5.0 x 11.0 x 18.0 | 1.2 | PCMP 372FQ4104 | PCMP 372FQ6104 |
| 0.15 | 5.0 x 11.0 x 18.0 | 1.2 | PCMP 372FQ4154 | PCMP 372FQ6154 |
| 0.22 | 6.0 x 12.0 x 18.0 | 1.4 | PCMP 372FQ4224 | PCMP 372FQ6224 |
| 0.33 | 7.0 x 13.5 x 18.0 | 1.9 | PCMP 372FQ4334 | PCMP 372FQ6334 |
| 0.47 | 8.5 x 15.0 x 18.0 | 2.6 | PCMP 372FQ4474 | PCMP 372FQ6474 |
| 0.68 | 10.0 x 16.5 x 18.0 | 3.1 | PCMP 372FQ4684 | PCMP 372FQ6684 |
| 0.82 | 11.0 x 18.5 x 18.0 | 4.1 | PCMP 372FQ4824 | PCMP 372FQ6824 |
| 1.0 | 11.0 x 18.5 x 18.0 | 4.1 | PCMP 372FQ4105 | PCMP 372FQ6105 |
| Pitch = 22.5 \pm 0.4 mm | | | dt = 0.8 + 0.08 / -0.05 mm | |
| 0.47 | 7.0 x 16.5 x 26.0 | 3.5 | PCMP 372JQ4474 | PCMP 372JQ6474 |
| 0.68 | 7.0 x 16.5 x 26.0 | 3.5 | PCMP 372JQ4684 | PCMP 372JQ6684 |
| 0.82 | 8.5 x 18.0 x 26.0 | 4.4 | PCMP 372JQ4824 | PCMP 372JQ6824 |
| 1.0 | 8.5 x 18.0 x 26.0 | 4.4 | PCMP 372JQ4105 | PCMP 372JQ6105 |
| 1.5 | 10.0 x 19.5 x 26.0 | 5.5 | PCMP 372JQ4155 | PCMP 372JQ6155 |
| 2.2 | 13.0 x 23.0 x 26.0 | 8.0 | PCMP 372JQ4225 | PCMP 372JQ6225 |

MOUNTING**NORMAL USE**

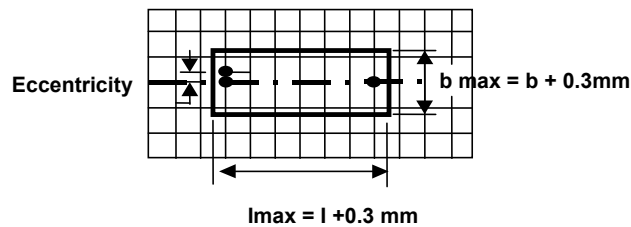
The capacitors are designed for mounting on printed-circuit boards. The capacitors packed in bandoliers are designed for mounting on printed-circuit boards by means of automatic insertion machines.

SPECIFIC METHOD OF MOUNTING TO WITHSTAND VIBRATION AND SHOCK

- . For pitches of 15 mm the capacitors shall be mechanically fixed by the 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 ;



- 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 : $h_{\max} \leq h + 0.3\text{mm}$

STORAGE TEMPERATURE

. Storage temperature : $T_{stg} = -25$ to $+40^{\circ}\text{C}$ with RH maximum 80% without condensation.

RATINGS AND CHARACTERISTICS

Unless otherwise specified all electrical values apply at an ambient temperature of $23 \pm 1^{\circ}\text{C}$, an atmospheric pressure of 86 to 106kPa and a relative humidity of $50 \pm 2\%$.

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%.

CHARACTERISTICS● **Test Voltage**

- Cut off current 10mA / rise time 100V/sec.
- Test Voltage (between lead and lead) : $1.6 \times V_{Rdc}$, 1min.
- Test Voltage (between leads and case) : $2840 V_{dc}$, 1min.

● **Capacitance**

. Capacitance : Within specified tolerance range when sine wave AC is applied at $1\text{kHz} \pm 200\text{Hz}$ and $5V_{rms}$

● **Dissipation Factor(DF)**

. Dissipation factor: When sine wave AC is applied at 10kHz and $\leq 1 V_{rms}$, $DF < 20 \times 10^{-4}$

● **Insulation Resistance**

. The insulation resistance is measured for 1min. $\pm 5s$, at 100V for $V_{Rdc} < 500V$, at 500V for $V_{Rdc} \geq 500V$

| Rated voltage | Minimum RC | Minimum Insulation Resistance |
|---------------------------------|---------------------------------|------------------------------------|
| | Capacitance $> 0.33\mu\text{F}$ | Capacitance $\leq 0.33\mu\text{F}$ |
| 450V mini/ 500V mini/ 630V mini | $> 10,000s$ | $> 30G\Omega$ |

(R = insulation resistance between the terminations [Ω], C= capacitance[Farad])

● **Self heating temperature**

. Maximum allowable rise is 7°C

● **Rated Voltage Pulse Load Slope(dV/dt)_R**

. For values see specific reference data. IF the pulse voltage is lower than the rated voltage, the values of the specific reference data must be multiplied by V_{Rdc} and divided by the applied voltage.

| Rated voltage | MAXIMUM RATED VOLTAGE PULSE SLOPE (V/ μs) | | | |
|----------------------|---|-------------|-------------|-------------|
| | P = 10.0 mm | P = 15.0 mm | P = 22.5 mm | P = 27.5 mm |
| 450V mini/ 500V mini | 150 | 95 | 60 | - |
| 630V mini | 270 | 141 | 85 | 65 |

PRODUCT MARKING

The capacitors are marked with the following informations :

- . Rated capacitance in code according to IEC 60062 (680n ; 680nF)
- . Tolerance on rated capacitance (J : $\pm 5\%$, K : $\pm 10\%$)
- . Rated DC voltage (630V)
- . Manufacturer's mark (PILKOR)
- . Manufacturer's type designation (372)
- . Code for dielectric material (MKP)
- . Date code number (WK....)

Example of marking

Pitch = 10.0mm

| |
|---------------------------------------|
| 220n K 450V 372 MKP PILKOR |
|---------------------------------------|

Marking on the side

Pitch = 15.0mm

| |
|------------------------|
| 470n K 630V 372 MKP |
|------------------------|

Marking on the top

| |
|------------------|
| PILKOR WK.... |
|------------------|

Marking on the side

Pitch = 22.5mm or 27.5mm

| |
|------------------------|
| 680n K 630V 372 MKP |
|------------------------|

Marking on the top

| |
|------------------|
| PILKOR WK.... |
|------------------|

Marking on the side

or

| |
|--------------------------------------|
| 680n K 630V PILKOR 372 MKP WK.... |
|--------------------------------------|

Marking on the top

Pitch = 27.5mm

| |
|--------------------------------------|
| 2u2 K 630V 372 MKP PILKOR |
|--------------------------------------|

Marking on the top