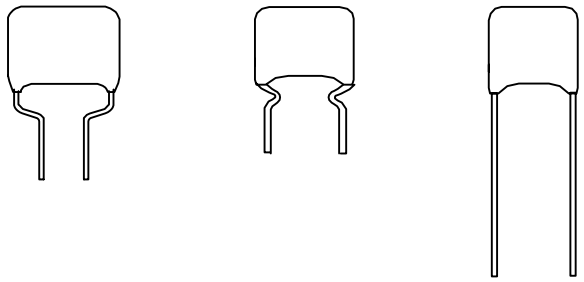
AC & Pulse PCMP 473

Metallized Polypropylene film capacitors

MKP RADIAL LACQUERED CAPACITORS(Dipped Type)-Brown **Pitch 15.0 / 22.5 mm**



PRELIMINARY

QUICK REFERENCE DATA

Capacitance range	1.0 ~ 3.3μF
Capacitance tolerance	±5%, ±10%
Rated voltage (DC)	300V
Climatic category	40/105/21
Temperature range	-40℃ ~ +105℃
Reference specification	IEC 60384-16
Coating Materials	Qualified in accordance with UL94V-0
Passive flammability category to IEC 60065	Class B

FEATURES	APPLICATIONS
. Super low-noise	. ERC / Vs input capacitor for PDP module & power
. Self-healing properties	. PFC Input Capacitor for LCD/PDP power
. Low dissipation factor / ESR	
. Cell coated with flame resisting epoxy lacquer	
. Supplied loose in box	

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

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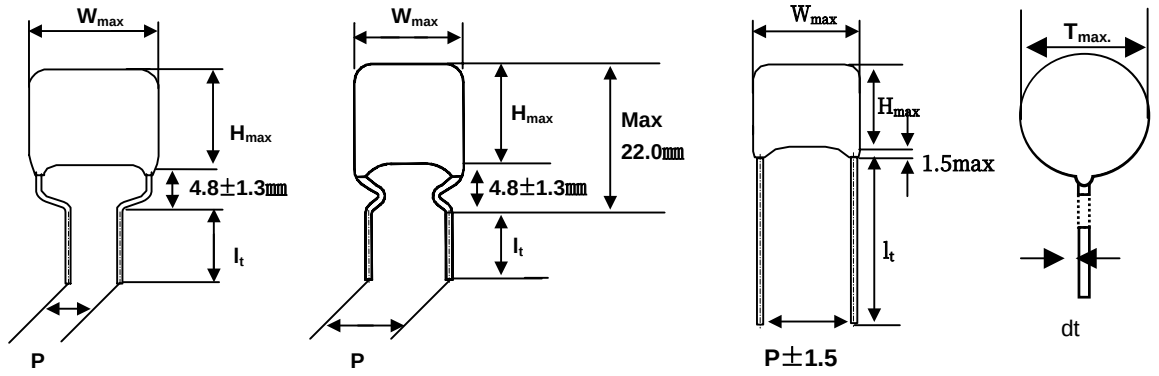
Ordering Information



< Figure Y > < Figure J > < Figure A >

PCMP 473 X X X X X X

Type series

Capacitance

Code	Voltage
T	300V

Code	Pitch
F	15.0mm
J	22.5mm

Available versions						Product (W_{max})		
Code	Packing method	C-tol.	Lead Figure	Lead length & Height	Hole to hole (P_o)	18.0	26.0	31.0
						Pitch (P)		
1	Loose in box	±5%	J	lt= 4.5±0.5mm	-	15.0	22.5	27.5
2	Loose in box	±10%	J	lt= 4.5±0.5mm	-	15.0	22.5	27.5
3	Loose in box	±5%	Y	lt= 4.5±0.5mm	-	7.5	-	-
4	Loose in box	±10%	Y	lt= 4.5±0.5mm	-	7.5	-	-
5	Loose in box	±5%	A	lt= Min. 20.0mm	-	15.0	22.5	27.5
6	Loose in box	±10%	A	lt= Min. 20.0mm	-	15.0	22.5	27.5

AC & Pulse PCMP 473

Metallized Polypropylene film capacitors

V_{Rdc} = 300 V

Cap. (µF)	W_{max} x H_{max} x T_{max} (mm)	Mass (g)	CATALOGUE NUMBER
			PCMP 473……
			loose in box
			lt= 4.5 ± 0.5 mm
			C – tol. ± 5%
Pitch = 15.0 ± 0.8 mm		dt = 0.8 + 0.08 / -0.05 mm (Cu wire)	
1.0	18.0 x 13.5 x 13.0	-	PCMP 473FT1105
Pitch = 22.5 ± 0.8 mm		dt = 0.8 + 0.08 / -0.05 mm (Fe wire)	
3.3	26.0 x 17.5 x 17.0	-	PCMP 472JT1335

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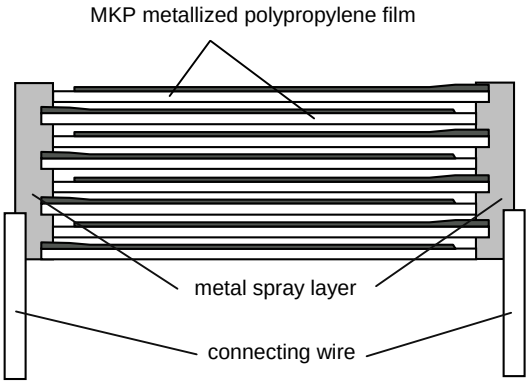
CONSTRUCTION



Description ;

. Electrode : Metallized film

. Dielectric : Polypropylene film

. Flame retardant epoxy-dipped coating (UL 94V-0)

. Radial leads, tin-coated

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 VIBRATIONAND 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.

STORAGE TEMPERATURE

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

RATINGS AND CHARACTERISTICS

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

CHARACTERISTICS

● Test Voltage

. Cut off current 10mA (rise time 100V/sec.)

. Test Voltage (between lead and lead) : 1.6 x 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 1kHz ±200Hz and max. 5V_{rms}

● Dissipation Factor(DF)

. Dissipation factor: When sine wave AC is applied at 10kHz and ≤ 1 V_{rms},

DF < 15 × 10^{-4} when C < 1.0μF

DF < 20 × 10^{-4} when C ≥ 1.0μF

● Insulation Resistance

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

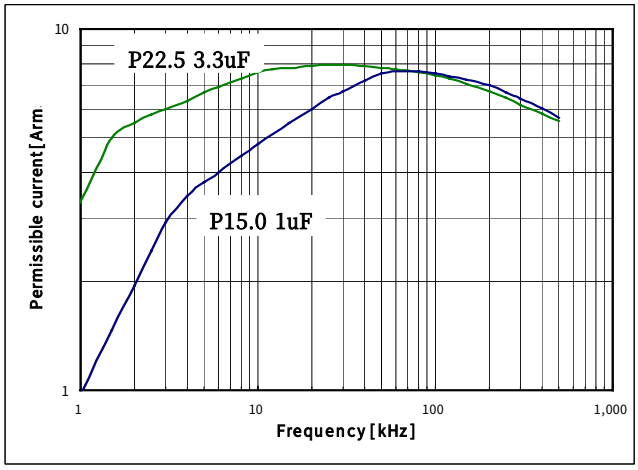
Minimum RC product > 15,000s when C > 0.33μF

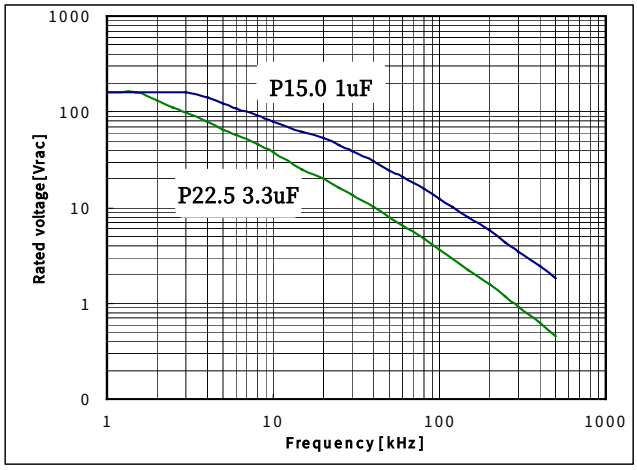
(R = insulation resistance between the terminations[Ω], C= capacitance[Farad])

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

Rated voltage	MAXIMUM RATED VOLTAGE PULSE SLOPE (V/μs)		
	P = 15.0 mm	P = 22.5 mm	P = 27.5
300V	100	35	-

Characteristics of permissible current [Arms] to frequency [kHz]





* Ts (Capacitor's surface temperature)

; Ambient temp. + Self heating temp. + radiation and conduction heat temp. from other electric supply sources.

● Self heating temperature

. Maximum allowable rise is 10℃ under Ts 105℃.

● Permissible peak current (Aop)

Product \ Aop	Permissible peak current (pulse current)	
PCMP 473 P15.0 1.0uF	100	(Aop = C×dv/dt, dv/dt = 100)
PCMP 473 P22.5 3.3uF	115	(Aop = C×dv/dt, dv/dt = 35)

* Aop ; Single permissible peak current [A]

PRODUCT MARKING

The capacitors are marked on the side in black ink with the following informations :

. Rated capacitance in code according to IEC 60062(1000nF : 105)

. Tolerance on rated capacitance(J : ±5%, K : ±10%)

. Rated DC voltage(300V : 300)

. Manufacturer's mark(Pilkor ; P)

. Manufacturer's type designation(PCMP 473 : 473)

. Code for dielectric material(Metallized polypropylene film : MPP)

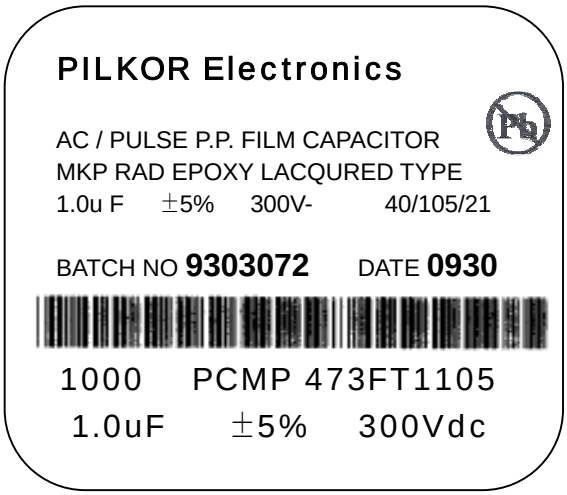
. Date code number(9303072)

Example of marking

105 J 300
P473 MPP
9303072

PACKAGE MARKING

The package containing the capacitors is marked as shown.



LINE MARKING EXPLANATION

1 Manufacturer's name

2 Sub – family & Pb free marking (JEDEC-STD-97)

3 Type description

4 Capacitance value, tolerance, Voltage and climatic category (IEC)

5 Batch no. & production period year and week code

6 Quantity and Product code (13NC)

7 Capacitance, tolerance and voltage

TEST REQUIREMENTS

TEST	CONDITIONS	REQUIREMENTS
1. Dimensions (detail)		As specified in Table 1 of this Specification
2. Capacitance	at 1 kHz	Within specified tolerance
3. Tangent of loss angle	at 10kHz	As in this specification
4. Voltage proof	at 1.6 x V_{Rdc} for 1 min	No breakdown or flashover.
5. Insulation resistance	V_{Rdc} < 500V ; at 100V for 1min. V_{Rdc} ≥ 500V ; at 500V for 1min.	As in this specification(at 20°C)
6. Robustness of terminals	Tensile ; load 10N Bending ; 4 x 90 °	No visible damage, Legible marking
7. Resistance to soldering Heat	Solder bath : 260°C for 10 s	No visible damage ΔC/C ≤ 2% Δtanδ < 0.002
8. Component solvent resistance	Isopropyl alcohol ; 23°C ; 5 min	No visible damage ΔC/C ≤ 2% Δtanδ < 0.002
9. Solderability	Non-activated colophony flux 501 Solder bath : 235±5°C Dwell time : 2±0.5s	Good tinning as evidenced by free flowing of the solder with wetting of the terminations (>95%)
10. Rapid change of temperature	θA = lower category temperature θB = upper category temperature 5 cycles Duration t = 30 min	No visible damage ΔC/C ≤ 2% Δtan δ < 0.002 R_{ins} ≥ 50% specified value
11. Climatic sequence	T = + 105°C for 16 hours T = -40°C for 2 hours	No permanent breakdown, flashover or harmful deformation of the case ΔC/C ≤ 3% Δtanδ < 0.003 R_{ins} ≥ 50% specified value
12. Damp heat steady state	21days ; 40°C; 90 to 95%RH	No visible damage, Legible marking ΔC/C ≤ 3% Δtanδ < 0.003 R_{ins} ≥ 50% specified value
13. Endurance (DC)	1000hours ; 105°C; 1.25 x V_{Rdc} R = 0.022/C [Ω] C = capacitance[F]	No visible damage, Legible marking ΔC/C ≤ 5% Δtanδ < 0.004 R_{ins} ≥ 50% specified value
14. Charge and discharge	Number of pulse; 10,000cycles Pulse frequency ; (1Hz) Test pulse rise; 1.5 x $(dV/dt)_R$	ΔC/C ≤ 3% Δtanδ < 0.003 R_{ins} ≥ 50% specified value
15. Direct charge & discharge	Vrdc x 1.4 R = Metal (0ohm), 10cycles	Δtanδ < 0.013 at 100kHz
16. Noise	Room temperature[°C] 8kHz	Noise $level_{ave.}$[db](side 1&2)≤ 60dB