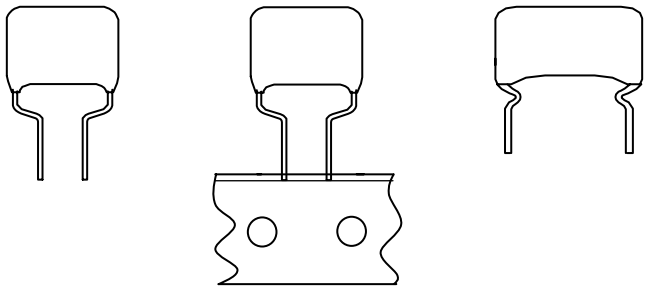
Metallized Polypropylene film capacitors

PCMP 489

MKP RADIAL LACQUERED CAPACITORS(Dipped Type) - Brown

Pitch 10.0/15.0/22.5 mm (reduced pitch ; 7.5mm)



QUICK REFERENCE DATA

Capacitance range (E24 series)	0.010 to 1.0μF
Capacitance tolerance	±5%
Rated voltage (DC)	250V, 400V, 630V
Climatic category	40/105/21
Temperature range	-40℃ ~ +105℃
Reference specification	IEC 60384-16
Coating material	Qualified in accordance with UL94V-0

FEATURES	APPLICATIONS
. 7.5mm to 20.0mm lead pitch	. Where steep pulses occur e.g. SMPS (switch mode power supplies)
. Low contact resistance	. S - correction
. Low loss dielectric	. Motor control circuits
. Small dimensions for high density packaging	
. Supplied loose in box and Ammo packing	

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

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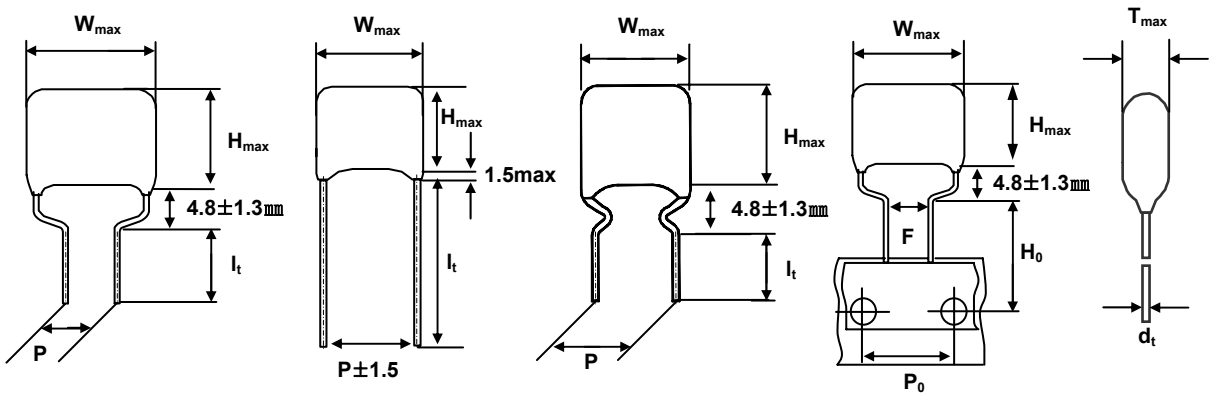
Ordering Information



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

PCMP 489 X X X X X X

Type series — Capacitance

Code	Voltage
4	250V
5	400V
6	630V

Code	Pitch
D	10.0mm
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_0)	13.0	18.0	26.0
						Pitch (P)		
1	Loose in box	±5%	J	l_t= 4.5±0.5mm	-	10.0	15.0	22.5
2	Loose in box	±5%	Y	l_t= 4.5±0.5mm	-	7.5(*)	7.5(*)	-
6	Loose in box	±5%	J	l_t= 4.5±0.5mm	-	-	-	20.0
7	Loose in box	±5%	A	l_t= 20.0mm(min.)	-	10.0	15.0	22.5
A	Ammo packing	±5%	F	H_0=16.0㎜	15.0mm	7.5(*)	7.5(*)	-

* Reduced pitch (Reduced lead spacings)

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V_{Rdc} = 250 V

Cap. (µF)	W_{max} x H_{max} x T_{max} (mm)	Mass (g)	CATALOGUE NUMBER PCMP 489…… Figure Y Pitch = 7.5mm lt= 4.5 ± 0.5 mm C – tol. ± 5%	CATALOGUE NUMBER PCMP 489…… Figure J Pitch = 20.0mm lt= 4.5 ± 0.5 mm C – tol. ± 5%
Original Pitch = 10.0 ± 0.8 mm			dt = 0.6 + 0.06 / -0.05 mm	
0.091	13.0 x 11.0 x 6.0		PCMP 489D42913	-
0.10	13.0 x 11.0 x 6.0		PCMP 489D42104	-
0.11	13.0 x 11.5 x 6.5		PCMP 489D42114	-
0.12	13.0 x 11.5 x 6.5		PCMP 489D42124	-
0.13	13.0 x 12.0 x 7.0		PCMP 489D42134	-
0.15	13.0 x 12.5 x 7.5		PCMP 489D42154	-
0.16	13.0 x 12.5 x 7.5		PCMP 489D42164	-
0.18	13.0 x 13.0 x 8.0		PCMP 489D42184	-
Original Pitch = 15.0 ± 0.8 mm			dt = 0.8 + 0.08 / -0.05 mm	
0.20	18.0 x 11.5 x 6.5		PCMP 489F42204	-
0.22	18.0 x 11.5 x 6.5		PCMP 489F42224	-
0.24	18.0 x 12.0 x 7.0		PCMP 489F42244	-
0.27	18.0 x 12.5 x 7.5		PCMP 489F42274	-
0.30	18.0 x 12.5 x 7.5		PCMP 489F42304	-
0.33	18.0 x 13.0 x 8.0		PCMP 489F42334	-
0.36	18.0 x 13.0 x 8.0		PCMP 489F42364	-
0.39	18.0 x 13.5 x 8.5		PCMP 489F42394	-
0.43	18.0 x 14.0 x 9.0		PCMP 489F42434	-
0.47	18.0 x 14.0 x 9.0		PCMP 489F42474	-
0.51	18.0 x 14.5 x 9.5		PCMP 489F42514	-
0.56	18.0 x 16.0 x 9.5		PCMP 489F42564	-
0.62	18.0 x 16.5 x 10.0		PCMP 489F42624	-
0.68	18.0 x 17.0 x 10.5		PCMP 489F42684	-
0.75	18.0 x 17.5 x 11.0		PCMP 489F42754	-
0.82	18.0 x 18.0 x 11.5		PCMP 489F42824	-
0.91	18.0 x 18.5 x 12.0		PCMP 489F42914	-
1.0	18.0 x 19.0 x 12.5		PCMP 489F42105	-
Original Pitch = 22.5 ± 0.8 mm			dt = 0.8 + 0.08 / -0.05 mm	
0.39	26.0 x 13.5 x 7.0		-	PCMP 489J46394
0.43	26.0 x 14.0 x 7.5		-	PCMP 489J46434
0.47	26.0 x 14.0 x 7.5		-	PCMP 489J46474
0.51	26.0 x 14.5 x 8.0		-	PCMP 489J46514
0.56	26.0 x 15.0 x 8.5		-	PCMP 489J46564
0.62	26.0 x 15.5 x 9.0		-	PCMP 489J46624
0.68	26.0 x 16.0 x 9.5		-	PCMP 489J46684
0.75	26.0 x 16.5 x 10.0		-	PCMP 489J46754
0.82	26.0 x 17.0 x 10.5		-	PCMP 489J46824
0.91	26.0 x 17.5 x 11.0		-	PCMP 489J46914
1.0	26.0 x 18.0 x 11.5		-	PCMP 489J46105

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V_{Rdc} = 400 V

Cap. (µF)	W_{max} x H_{max} x T_{max} (mm)	Mass (g)	CATALOGUE NUMBER PCMP 489…… Figure Y Pitch = 7.5mm lt= 4.5 ± 0.5 mm C – tol. ± 5%	CATALOGUE NUMBER PCMP 489…… Figure J Pitch = 20.0mm lt= 4.5 ± 0.5 mm C – tol. ± 5%
Original Pitch = 10.0 ± 0.8 mm			dt = 0.6 + 0.06 / -0.05 mm	
0.051	13.0 x 11.5 x 6.5		PCMP 489D52513	-
0.056	13.0 x 11.5 x 6.5		PCMP 489D52563	-
0.062	13.0 x 12.0 x 7.0		PCMP 489D52623	-
0.068	13.0 x 12.5 x 7.5		PCMP 489D52683	-
0.075	13.0 x 12.5 x 7.5		PCMP 489D52753	-
0.082	13.0 x 13.0 x 8.0		PCMP 489D52823	-
0.091	13.0 x 13.0 x 8.0		PCMP 489D52913	-
0.10	13.0 x 13.5 x 8.5		PCMP 489D52104	-
Original Pitch = 15.0 ± 0.8 mm			dt = 0.8 + 0.08 / -0.05 mm	
0.12	18.0 x 12.0 x 7.0		PCMP 489F52124	-
0.13	18.0 x 12.0 x 7.0		PCMP 489F52134	-
0.15	18.0 x 13.0 x 7.5		PCMP 489F52154	-
0.16	18.0 x 13.0 x 7.5		PCMP 489F52164	-
0.18	18.0 x 13.0 x 8.0		PCMP 489F52184	-
0.20	18.0 x 13.5 x 8.5		PCMP 489F52204	-
Original Pitch = 22.5 ± 0.8 mm			dt = 0.8 + 0.08 / -0.05 mm	
0.22	26.0 x 14.0 x 7.5		-	PCMP 489J56224
0.24	26.0 x 14.0 x 7.5		-	PCMP 489J56244
0.27	26.0 x 14.5 x 8.0		-	PCMP 489J56274
0.30	26.0 x 15.0 x 8.5		-	PCMP 489J56304
0.33	26.0 x 16.0 x 9.0		-	PCMP 489J56334
0.36	26.0 x 16.5 x 9.0		-	PCMP 489J56364
0.39	26.0 x 17.0 x 9.0		-	PCMP 489J56394
0.43	26.0 x 17.5 x 9.5		-	PCMP 489J56434
0.47	26.0 x 18.0 x 10.0		-	PCMP 489J56474
0.51	26.0 x 18.5 x 10.5		-	PCMP 489J56514
0.56	26.0 x 19.0 x 11.0		-	PCMP 489J56564
0.62	26.0 x 20.0 x 11.5		-	PCMP 489J56624
0.68	26.0 x 20.0 x 12.0		-	PCMP 489J56684
0.75	26.0 x 20.5 x 12.5		-	PCMP 489J56754
0.82	26.0 x 21.5 x 13.0		-	PCMP 489J56824

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V_{Rdc} = 630 V

Cap. (µF)	W_{max} x H_{max} x T_{max} (mm)	Mass (g)	CATALOGUE NUMBER PCMP 489…… Figure Y Pitch = 7.5mm lt= 4.5 ± 0.5 mm C – tol. ± 5%	CATALOGUE NUMBER PCMP 489…… Figure J Pitch = 20.0mm lt= 4.5 ± 0.5 mm C – tol. ± 5%
Original Pitch = 10.0 ± 0.8 mm			dt = 0.6 + 0.06 / -0.05 mm	
0.010	13.0 x 10.5 x 6.0		PCMP 489D62103	-
0.011	13.0 x 10.5 x 6.0		PCMP 489D62113	-
0.012	13.0 x 10.5 x 6.0		PCMP 489D62123	-
0.013	13.0 x 11.0 x 6.0		PCMP 489D62133	-
0.015	13.0 x 11.0 x 6.0		PCMP 489D62153	-
0.016	13.0 x 11.0 x 6.0		PCMP 489D62163	-
0.018	13.0 x 11.0 x 6.5		PCMP 489D62183	-
0.020	13.0 x 11.0 x 6.5		PCMP 489D62203	-
0.022	13.0 x 11.0 x 7.0		PCMP 489D62223	-
0.024	13.0 x 11.5 x 7.0		PCMP 489D62243	-
0.027	13.0 x 11.5 x 7.5		PCMP 489D62273	-
0.030	13.0 x 12.0 x 7.5		PCMP 489D62303	-
0.033	13.0 x 12.0 x 8.0		PCMP 489D62333	-
Original Pitch = 15.0 ± 0.8 mm			dt = 0.8 + 0.08 / -0.05 mm	
0.036	18.0 x 12.5 x 6.0		PCMP 489F62363	-
0.039	18.0 x 13.0 x 6.0		PCMP 489F62393	-
0.047	18.0 x 13.5 x 6.5		PCMP 489F62473	-
0.051	18.0 x 13.5 x 7.0		PCMP 489F62513	-
0.056	18.0 x 13.0 x 6.0		PCMP 489F62563	-
0.062	18.0 x 13.0 x 6.5		PCMP 489F62623	-
0.068	18.0 x 13.5 x 6.5		PCMP 489F62683	-
0.075	18.0 x 14.0 x 7.0		PCMP 489F62753	-
0.082	18.0 x 14.0 x 7.0		PCMP 489F62823	-
0.091	18.0 x 14.5 x 7.5		PCMP 489F62913	-
0.10	18.0 x 14.0 x 7.0		PCMP 489F62104	-
0.12	18.0 x 14.5 x 7.5		PCMP 489F62124	-
0.13	18.0 x 15.0 x 8.0		PCMP 489F62134	-
0.15	18.0 x 15.5 x 8.5		PCMP 489F62154	-
0.16	18.0 x 15.5 x 9.0		PCMP 489F62164	-
0.18	18.0 x 16.0 x 9.5		PCMP 489F62184	-
0.20	18.0 x 16.5 x 10.0		PCMP 489F62204	-
0.22	18.0 x 17.0 x 10.0		PCMP 489F62224	-
Original Pitch = 22.5 ± 0.8 mm			dt = 0.8 + 0.08 / -0.05 mm	
0.20	26.0 x 16.5 x 8.0		-	PCMP 489J66204
0.22	26.0 x 16.5 x 8.5		-	PCMP 489J66224

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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 REFERENCE CONDITIONS

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

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

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CHARACTERISTICS

- **Test Voltage**
  . Test Voltage (between leads) : 1.6 x V_{Rdc}, 1min (cut-off current 10mA)
  . Test Voltage (between leads and Case) : 2840 V_{dc}, 1min

- **Dissipation Factor**
  . Dissipation factor(DF) : When sine wave AC is applied at 10KHz ±200Hz and 5V_{rms},
  DF < 10 × 10^{-4} (0.1%) when C ≤ 1.0㎌

- **Insulation Resistance (lead to lead)**
  . The insulation resistance is measured for 1min ±5s,
  at 100V_{dc} for V_{Rdc} < 500V, at 500Vdc for V_{Rdc} ≥ 500V
  C ≤ 0.33㎌ : R > 100 000 MΩ
  C > 0.33㎌ : RC ≥ 30 000 s

- **Capacitance**
  . at 1KHz ±200Hz and 5Vrms Max 10 x 10^{-4} (0.1%) when C ≤ 1.0㎌
  . at 10KHz ±200Hz and 5Vrms Max 20 x 10^{-4} (0.2%) when C ≤ 1.0㎌

- **Self heating temperature**
  . Maximum allowable rise is 7℃

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PRODUCT MARKING

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

. Rated capacitance in code according to IEC 60062(154)
. Tolerance on rated capacitance (H:±3%, J :±5%, K :±10%)
. Rated DC voltage(400)
. Product type(P489)
. Code for dielectric material(MPP)
. Batch number code(1343072)

Example of marking

154J 400
P489 MPP
1343072