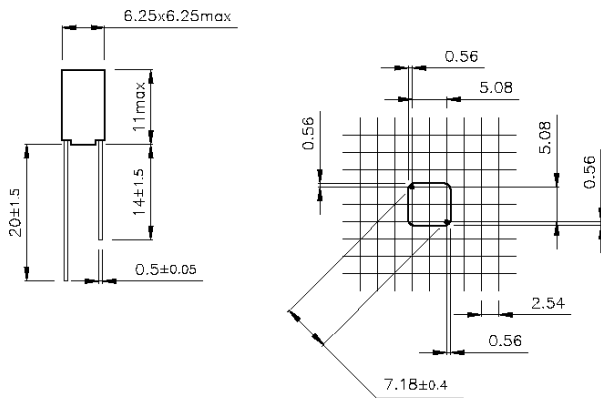


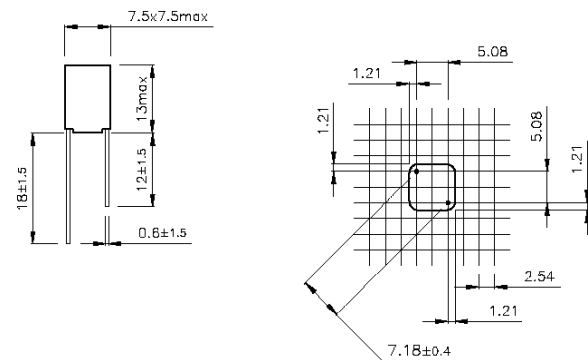
MKP-KP Series  
**METALLIZED AND FILM-FOIL POLYPROPYLENE CAPACITOR**

Typical applications: timing, LC-filters  
 (i.e.:TELECOM, measurement equipment).

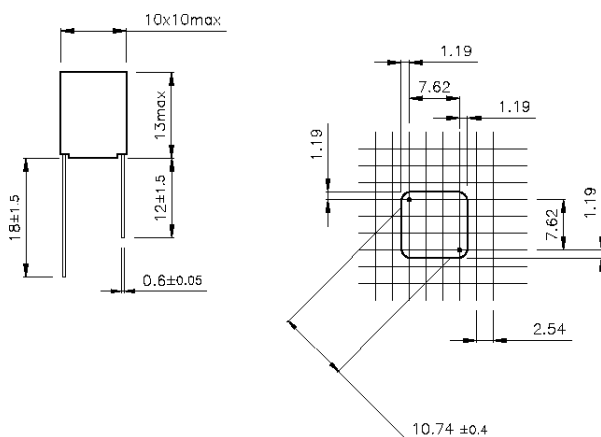
PRODUCT CODE: P42



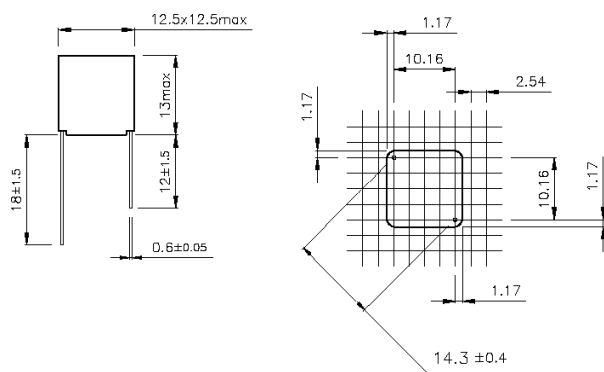
Case A



Case B



Case C



Case D

All dimensions are in mm.

Upon request different leads can be provided up to a minimum of 2.5mm (only for A, B and C constructions).

**GENERAL TECHNICAL DATA**

**Dielectric:** polypropylene film.

**Plates:** KP: tin foil;  
 MKP: aluminium layer deposited by evaporation under vacuum.

**Winding:** non-inductive type.

**Leads:** tinned wire.

**Protection:** plastic case, epoxy resin filled. Box material is solvent resistant and flame retardant according to UL94 V0.

**Marking:** series (P.42 for KP; 1.42 for MKP), outer foil, capacitance, tolerance, D.C. rated voltage, manufacturing date code.

**Climatic category:** 55/085/56 IEC 60068-1

**Related documents:**

KP: IEC 60384-13; DIN 41380 T4

MKP: IEC 60384-16; DIN 45910 T23; CECC 31200

**MKP-KP Series  
METALLIZED AND FILM-FOIL POLYPROPYLENE  
CAPACITOR**

PRODUCT CODE: P42

**ELECTRICAL CHARACTERISTICS**

**Rated voltage (V<sub>R</sub>):** 63 Vdc  
**Category voltage (V<sub>C</sub>):** up to +85°C V<sub>C</sub>=V<sub>R</sub>  
**Capacitance range (pF):**

KP CAPACITORS		MKP CAPACITORS	
CASE A	100 to 9200	CASE A	5001 to 75000
CASE B	100 to 21000	CASE B	5001 to 120000
CASE C	21001 to 44200	CASE C	120000 to 237000
		CASE D	210000 to 432000

**Capacitance values:**

values in compliance with IEC 63 Norms and as E192 series.

**Capacitance tolerances:**

± 1% (F); ± 1.25% (A); ± 2% (G); ± 2.5% (H);  
 with a min. ± 1 pF (Z).

**Total self inductance:**

max 1 nH per 1 mm lead and capacitor length.

**Temperature coefficient:**

-(150 ± 70) ppm/°C for C ≤ 5000pF  
 -(200 ± 100) ppm/°C for C > 5000pF

**Dissipation factor (DF):**

tgδ × 10<sup>-4</sup> at +25°C ± 5°C

KHz	C ≤ 33nF	C ≤ 100nF	C > 100nF
1	≤ 3	≤ 3	≤ 5
100	≤ 20	≤ 50	≤ 100

**Insulation resistance:**

**Test conditions**

Temperature: +25°C ± 5°C  
 Voltage charge time: 1 min  
 Voltage charge: 10Vdc

**Performance**

≥ 20 × 10<sup>4</sup> MΩ for C ≤ 120nF  
 ≥ 24000 s for C > 120nF

**Test voltage between terminations:**

KP: 2.5 × V<sub>R</sub>  
 MKP: 1.6 × V<sub>R</sub>

applied for 2 s at +25°C ± 5°C

**Maximum pulse rise time (dv/dt)**

C (pF)	dv/dt (V/μs)	K <sub>0</sub> (V <sup>2</sup> /μs)
≤ 9000	50	6300
≤ 21000	40	5000
≤ 120000	10	1300
> 120000	5	630

**TEST METHOD AND PERFORMANCE**

**Damp heat, steady state:**

**Test conditions**

Temperature: +40°C ± 2°C  
 Relative humidity (RH): 93%  
 Test duration: 56 days

**Performance**

Capacitance change |ΔC/C|: ≤ 0.4%  
 Insulation resistance: ≥ 5 × 10<sup>4</sup> MΩ for C ≤ 120nF  
 ≥ 6000 s for C > 120nF

**Endurance:**

**Test conditions**

Temperature: +85°C ± 2°C  
 Test duration: 2000 h  
 Voltage applied: 1.5 × V<sub>R</sub>

**Performance**

Capacitance change |ΔC/C|: ≤ 0.5%  
 DF change (Δtgδ): ≤ 20 × 10<sup>-4</sup> for C ≤ 0.1μF  
 ≤ 30 × 10<sup>-4</sup> for C > 0.1μF  
 measured at 100kHz.

The typical capacitance variation after 8000 hours is ± 0.6%

**Resistance to soldering heat:**

**Test conditions**

Solder bath temperature: +260°C ± 5°C  
 Dipping time (with heat screen): 5 s ± 1 s

**Performance**

Capacitance change |ΔC/C|: ≤ 0.2%

**Thermal shock:**

**Test conditions**

Temperature: -40°C ... +85°C  
 Cycles: nr. 5

**Performance**

Capacitance change |ΔC/C|:  
 ≤ (0.3% + 0.4 pF) for C ≤ 1000pF  
 ≤ 0.2% for C > 1000pF

**Long term stability:**

**Test conditions**

Temperature: +40°C ± 2°C  
 Relative humidity (RH): 70% max  
 Test duration: 2 years

**Performance**

Capacitance change |ΔC/C|: ≤ (0.2% + 0.2pF)

**RELIABILITY:**

KP	MKP
ZR	ZR
Z = 30 FIT	Z = 80 FIT
R = 10 <sup>5</sup> hours	R = 10 <sup>5</sup> hours

1 FIT = 1 × 10<sup>-9</sup> failure/comp. × h.