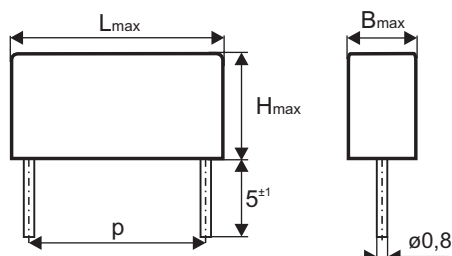


MKPI Metallized Polypropylene Film pulse capacitors

MKPI 330 - 333



L [mm]	p [mm]
13	10
13,5	10
18	15
26,5	22,5
27,5	22,5
32	27,5
42,5	37,5
43	37,5



Capacitors for pulse operation:

Dielectric: double-sided metallized polypropylene film. Noninductive construction. Self-healing ability. Rectangular plastic case epoxy resin sealed. Terminals: tinned copper. Flamed retardant construction in accordance to UL 94 V-0

Reference standards:

General specifications: IEC 60384-1

Sectional specifications: IEC 60384-17

Tolerances: ± 20%; ± 10%; ± 5%, other values on request.

Climatic category: 55/100/56

Type	MKPI 330	MKPI 331	MKPI 332	MKPI 333
Nominal voltage $U_R = DC/AC$	250 160	400 200	630 300	1000 450
Nominal capacitance C_R	Maximal dimensions B x H x L (mm)			
0,010 µF		5,5x11x13		
0,015		5,5x11x13		
0,022	5,5x11x13	5,5x11x13		
0,033	5,5 x 11 x 13	7x12,5x13,5		
0,047	7 x 12,5 x 13,5	6x12x18		
0,068	6x12x18	7,5x13,5x18		
0,10 µF	7,5x13,5x18	8,5 x 14,5 x 18	10x20x32	10,5x20,5x42,5
0,15	8,5 x 14,5 x 18	8,5 x 14 x 26,5	13,5x23,5x32	11x22x42,5
0,22	8,5 x 14 x 26,5	8,5 x 17 x 26,5	13,5x23,5x32	14x25,5x42,5
0,33	8,5x17x26,5	11,5x20,5x27,5	15x24,5x32	14x25,5x42,5
0,47	11,5x20,5x27,5	13,5x23,5x32	14x25,5x42,5	16,5x28,5x43
0,68	10x20x32	15 x 24,5 x 32	16,5x28,5x43	18,5x29x43
1,0 µF	13,5x23,5x32	14x25,5x42,5	18,5 x 29 x 43	22,5 x 30,5 x 43
1,2	14x25,5x42,5	16,5x28,5x43	22,5 x 30,5 x 43	22,5 x 30,5 x 43
1,5	14x25,5x42,5	16,5x28,5x43	28,5 x 37,5 x 43	28,5 x 37,5 x 43
2,0	16,5x28,5x43	22,5x30,5x43	28,5 x 37,5 x 43	30x45x42,5
2,2	16,5 x 28,5 x 43	22,5x30,5x43	28,5x37,5x43	30x45x42,5
3,0	22,5x30,5x43	28,5x37,5x43	35 x 45,5 x 43	35 x 45,5 x 43
3,3	28,5x37,5x43	28,5x37,5x43	35x45,5x43	
4,0	28,5x37,5x43	30x45x42,5		
4,7	28,5x37,5x43	35x45,5x43		
5,0	30x45x42,5			
6,0	35x45,5x43			
6,8	35x45,5x43			

Max. pulse rise time dU/dt [V/µsec]

p [mm]	10	15	22,5	27,5	37,5
U_R	dU/dt [V/µs]				
250	200	180	100	70	50
400	250	200	150	100	80
630	400	300	250	200	150
1000	500	400	300	250	200

Dissipation of capacitor:

Power loss of capacitor P_T at loading sinusoidal voltage of higher frequencies may be calculated in accordance to this formula: $P_T = U^2 \epsilon f \times 2\pi \times f \times C \times \text{tg}\delta$

at unsinusoidal alternating voltage is to be dismantled according to Fourier's analysis to sinusoidal voltage and calculated the power loss as a sum of single partial sinusoidal power losses

The max. power dissipation by the capacitor under normal conditions can be calculated through the following approximate formula

$$P_T = \sum_{i=1}^n U^2(i) \epsilon f \times 2\pi \times f(i) \times C \times \text{tg}\delta(i)$$

$K = 2,5$ [mW/C . cm]

S - is the case-surface of capacitor

$\Delta T_{\text{max}} 10^\circ\text{C}$ - is the max. temperature increasing on the case surface over the ambient temperature in influence of power loss in capacitor

$$P_{T,\text{max}} = K \times S \times \Delta T$$

If the working voltage U_{op} is lower than U_R , the capacitor may work higher dU/dt. The dU_{op}/dt is obtained multiplying the dU_R/dt with the ratio U_R/U_{op} .

$$dU_{op}/dt = dU_R/dt \times U_R/U_{op}$$

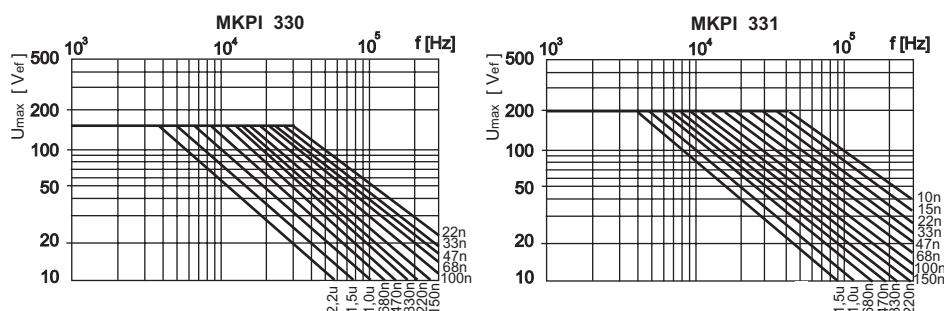
Max. dissipation factor tgδ at +25°C

kHz	$C \leq 0,1\mu\text{F}$	$0,1\mu\text{F} < C \leq 0,1\mu\text{F}$	$C > 1,0\mu\text{F}$
1	0,0003	0,0003	0,0003
10	0,0006	0,0006	
100	0,0015		

Working voltage U_c :

up to +85°C $U_c = U_R$. For temperatures between +85°C and +100°C a decreasing factor of 1,25% per °C on the U_R has to be applied.

Maximum AC voltage dependence on frequency



Other electrical parameters are identical to type KPI 341 - KPI 344