

# PMR

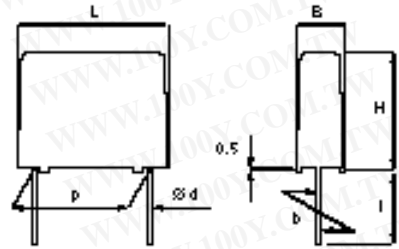
- Single metallized film, polypropylene dielectric
- According to IEC 384-16, grade 1.1

## TYPICAL APPLICATIONS

Pulse operation in SMPS and thyristor circuits. High frequency coupling and decoupling. Sample & hold circuits and other applications demanding stable operation.

## CONSTRUCTION

Polypropylene film capacitor with vacuum-evaporated aluminum electrodes. Radial leads of tinned wire are electrically welded to the contact metal layer on the ends of the capacitor winding. Encapsulation in self-extinguishing material meeting the requirements of UL 94V-0.



## TECHNICAL DATA

Rated voltage $U_R$ , VDC	100	160	250	400	630
Rated voltage $U_R$ , VAC	63	100	160	220	250
Capacitance range, $\mu\text{F}$	0.001 -0.15	0.027 -12	0.001 -12	0.001 -5.6	0.001 -2.2

**Capacitance values** In accordance with IEC E12 series

**Capacitance tolerance**  $\pm 10\%$ ,  $\pm 5\%$ ,  $\pm 2.5\%$ ,  $\pm 2\%$

**Temperature range**  $-55 \dots +105^\circ\text{C}$

**Voltage derating** The rated voltage is decreased with  $1.3\%/^\circ\text{C}$  between  $85^\circ\text{C}$  and  $105^\circ\text{C}$ .

**Climatic category** IEC 68-1, 55/105/56  
DIN 40040, FMD  
 $-55 \dots +105^\circ\text{C}$

Average relative humidity 80%  
RH = 100% for 30 days per year.  
RH = 90% for further days limited by average value per year.

**Maximum pulse steepness:**  $dU/dt$  according to article table  
For peak to peak voltages lower than rated voltage ( $U_{PP} < U_R$ ), the specified  $dU/dt$  can be multiplied by the factor  $U_R/U_{PP}$ .

**Temperature coefficient**  $-200 (+50, -100)$  ppm/ $^\circ\text{C}$  (at 1 kHz)

**Self-inductance** Approximately 6 nH/cm for the total length of capacitor winding and the leads.

**Dissipation factor tan** Maximum values at  $+23^\circ\text{C}$

	C	0.1 $\mu\text{F}$	0.1 $\mu\text{F} < C$	1.0 $\mu\text{F}$	1.0 $\mu\text{F} < C$	2.2 $\mu\text{F}$	2.2 $\mu\text{F} < C$	4.7 $\mu\text{F}$	C > 4.7 $\mu\text{F}$
1 kHz	-	-	-	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
10 kHz	0.10%	0.10%	0.10%	0.20%	0.20%	0.30%	0.30%	0.40%	0.40%
100 kHz	0.25%	0.25%	0.80%	-	-	-	-	-	-

**Insulation resistance** Measured at  $+23^\circ\text{C}$ , 100 VDC 60 s for  $U_R < 500$  VDC and at 500 VDC for  $U_R = 500$  VDC  
Between terminals:  
C 0.33  $\mu\text{F}$ : > 100 000 M  
C > 0.33  $\mu\text{F}$ : 30 000 s  
Between terminals and case:  
100 000 M

p	d	$\leq  d $	max	b
7.5 $\pm 0.4$	0.6	4 <sup>+1</sup>	20	$\pm 0.4$
10.0 $\pm 0.4$	0.6	6 <sup>-1</sup>	30	$\pm 0.4$
15.0 $\pm 0.4$	0.8	6 <sup>-1</sup>	30	$\pm 0.4$
22.5 $\pm 0.4$	0.8	6 <sup>-1</sup>	30	$\pm 0.4$
27.5 $\pm 0.4$	0.8	6 <sup>-1</sup>	30	$\pm 0.4$
37.5 $\pm 0.5$	1.0	6 <sup>-1</sup>	30	$\pm 0.7$
22.5 $\pm 0.4$	0.8	4 <sup>+1</sup>	30	$\pm 0.4$
27.5 $\pm 0.4$	0.8	4 <sup>+1</sup>	30	$\pm 0.4$
37.5 $\pm 0.5$	1.0	4 <sup>+1</sup>	30	$\pm 0.7$

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## ARTICLE TABLE

## DIMENSIONS

Capacitance $\mu\text{F}$	$U_R$ $V_{DC}/V_{AC}$ 100/63 (D)	$U_R$ $V_{DC}/V_{AC}$ 160/100 (F)	$U_R$ $V_{DC}/V_{AC}$ 250/160 (H)	$U_R$ $V_{DC}/V_{AC}$ 400/220 (K)	$U_R$ $V_{DC}/V_{AC}$ 630/250 (M)	Box size code	Max dimensions in mm			
							B	H	L	p
0.0010	J1		J1, K1	J1, K1	J1, K1	J1	2.5	6.5	7.2	5.0
0.0012	J1		J1, K1	J1, K1	J1, K1	J2	3.5	8.0	7.2	5.0
0.0015	J1		J1, K1	J1, K1	J1, K1	J3	4.5	9.0	7.2	5.0
0.0018	J1		J1, K1	J1, K1	J1, K1	J4	5.0	10.0	7.2	5.0
0.0022	J1		J1, K1	J1, K1	J1, K1	J5	6.0	11.0	7.2	5.0
0.0027	J1	A2	J1, K1, A2	J1, K1, A2	J1, K1, A2	J6	7.2	13.0	7.2	5.0
0.0033	J1	A2	J1, K1, A2	J1, K1, A2	J1, K1, A2					
0.0039	J1	A2	J1, K1, A2	J1, K1, A2	J1, K1, A2	K1	4.0	8.0	10.5	7.5
0.0047	J1	A2	J1, K1, A2	J1, K1, A2	J2, K1, A2	K2	5.0	11.0	10.5	7.5
0.0056	J1	A2	J1, K1, A2	J1, K1, A2	J2, K1, A2	K3	6.0	12.0	10.5	7.5
0.0068	J1	A2	J1, K1, A2	J1, K1, A2	J3, K2, A2					
0.0082	J1	A2	J1, K1, A2	J1, K1, A2	J3, K2, A2	A1	4.0	8.0	13.0	10.0
0.010	J1	A2	J1, K1, A2	J2, K1, A2	J3, K2, A2	A2	4.0	9.0	13.0	10.0
0.012	J1	A2	J1, K1, A2	J2, K1, A2	J4, K2, A3	A3	4.5	10.5	13.0	10.0
0.015	J1	A2	J1, K1, A2	J2, K1, A2	J5, K3, A4	A4	5.0	11.0	13.0	10.0
0.018	J2	A2	J2, K1, A2	J3, K1, A2	J5, K3, A4					
0.022	J2	A2	J2, K1, A2	J3, K1, A2	J6, A4, B1	B1	5.5	10.5	18.0	15.0
0.027	J2	A2	J2, K1, A2	J3, K1, A2	J6, B1	B2	5.5	12.5	18.0	15.0
0.033	J2	A2	J2, K1, A2	J4, K2, A2, B1	B1	B3	6.5	12.5	18.0	15.0
0.039	J2	A2	J2, K1, A2	J4, K2, A4, B1	B1	B4	7.5	14.5	18.0	15.0
0.047	J2	A2	J2, K1, A2	J5, K2, A4, B1	B3	B5	8.0	15.0	18.0	15.0
0.056	J3	A2	J3, K1, A2	J5, K3, A4, B1	B3	B6	8.5	16.0	18.0	15.0
0.068	J3	A2	J3, K2, A2	J6, K3, B1	B4					
0.082	J4	A2	J4, K2, A2	B1	B4, D1	D1	6.5	14.5	26.0	22.5
0.10	J5	A3, B1	J5, K2, A3, B1	B1	B5, D1	D2	7.0	16.5	26.0	22.5
0.12	J5	A4, B1	J5, K3, A4, B1	B2	B6, D1	D3	8.0	16.0	26.0	22.5
0.15	J6	A4, B1	J6, K3, A4, B1	B3, D1	D2	D4	9.0	18.5	26.0	22.5
0.18		B1	B1	B4, D1	D3	D5	10.5	19.0	26.0	22.5
0.22		B1	B1	B4, D1	D4	D6	11.0	21.5	26.0	22.5
0.27		B2	B2	B5, D1	D5					
0.33		B3, D1	B3, D1	B6, D1	D6, F1	F1	10.5	20.5	31.5	27.5
0.39		B4, D1	B4, D1	D2	D6, F1	F2	11.5	22.5	31.5	27.5
0.47		B4, D1	B4, D1	D3	F2	F3	14.5	24.5	31.5	27.5
0.56		B4, D1	B4, D1	D4, F1	F3	F4	17.5	28.0	31.5	27.5
0.68		B6, D1	B6, D1	D4, F1	F3					
0.82		D2	D2	D5, F1	F3, R1	R1	13.0	24.0	41.0	37.5
1.0		D2	D2	D6, F1	F3, R2	R2	15.0	26.0	41.0	37.5
1.2		D4, F1	D4, F1	F2	R2	R3	16.5	32.0	41.0	37.5
1.5		D4, F1	D4, F1	F2, R1	R3	R4	19.0	36.0	41.0	37.5
1.8		D5, F1	F1	F3, R1	R4					
2.2		D6, F1	F1	F3, R1	R4					
2.7		F2, R1	F2, R1	F4, R2						
3.3		F2, R1	F2, R1	R2						
3.9		F3, R1	F3, R1	R3						
4.7		F3, R1	F3, R1	R3						
5.6		F4, R1	F4, R1	R4						
6.8		F4, R2	F4, R2							
8.2		R3	R3							
10		R3	R3							
12		R4	R4							

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MAXIMUM PULSE STEEPNESS, DU/DT (V/ $\mu\text{S}$ )

Box size	$U_R$ $V_{DC}/V_{AC}$ 100/63 (D)	$U_R$ $V_{DC}/V_{AC}$ 160/100 (F)	$U_R$ $V_{DC}/V_{AC}$ 250/160 (H)	$U_R$ $V_{DC}/V_{AC}$ 400/220 (K)	$U_R$ $V_{DC}/V_{AC}$ 630/250 (M)
J	100		40	30	30
K			180	200	200
A		100	140	180	200
B		90	100	150	180
D		60	60	90	120
F		40	40	60	90
R		20	20	30	40