

Polyester capacitors for pulse applications with electrodes of double-sided metallized carrier film

■ Self-healing pulse duty construction with low ESR (see illustration page 76). ■ For pulse duty applications at low repetition frequency. ■ Available taped and reeled up to and including case size 15 x 26 x 31.5 / PCM 27.5.

Technical Data

Dielectric: Polyethylene terephthalate film.

Capacitor electrodes: Double-sided metallized plastic film.

Encapsulation: Flame-retardant plastic case, UL 94 V-0, with epoxy resin seal. Colour: Red. Marking: Black.

Temperature range: -55° C to +100° C.

Test category: 55/100/56 in accordance with IEC.

Insulation resistance at +20° C:

U_r	U_{rest}	$C \leq 0.33 \mu F$	$0.33 \mu F < C \leq 6.8 \mu F$
100 VDC	100 V	$\geq 1.5 \times 10^4 M\Omega$ Mean value: $5 \times 10^4 M\Omega$	$\geq 5000 \text{ sec } (M\Omega \times \mu F)$ Mean value: 20 000 sec
$\geq 250 \text{ VDC}$	100 V	$\geq 3 \times 10^4 M\Omega$ Mean value: $3 \times 10^5 M\Omega$	$\geq 10 000 \text{ sec } (M\Omega \times \mu F)$ Mean value: 40 000 sec

Measuring time: 1 min.

Dissipation factors at +20° C: $\tan \delta$

at f	$C \leq 0.1 \mu F$	$0.1 \mu F < C \leq 1.0 \mu F$	$C > 1.0 \mu F$
1 kHz	$\leq 6 \times 10^{-3}$	$\leq 6 \times 10^{-3}$	$\leq 8 \times 10^{-3}$
10 kHz	$\leq 12 \times 10^{-3}$	$\leq 12 \times 10^{-3}$	-
100 kHz	$\leq 20 \times 10^{-3}$	-	-

Capacitance tolerances: $\pm 20\%$, $\pm 10\%$ ($\pm 5\%$ available subject to special enquiry).

Temperature characteristics: See graph.

Maximum pulse rise time:

Capacitance μF	Pulse rise time V/ μsec max. operation		
	100 VDC	250 VDC	400 VDC
0.01 ... 0.022	-	280	350
0.033 ... 0.068	110	170	250
0.1 ... 0.22	60	100	140
0.33 ... 0.68	45	70	90
1.0 ... 2.2	40	50	60
3.3 ... 6.8	40	50	-

for pulses equal to the rated voltage.

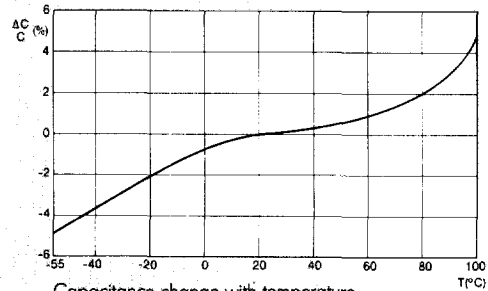
Test voltage: 1.6 U_r , 2 sec.

Vibration: 6 hours at 10 ... 2000 Hz and 0.75 mm displacement amplitude or 10 g in accordance with IEC 60068-2-6.

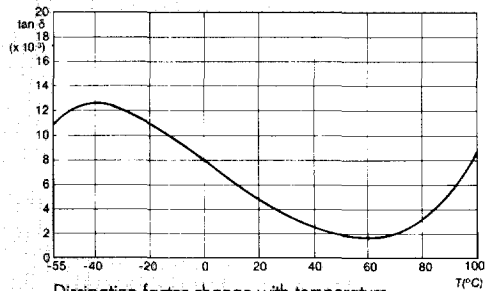
Low air density: 1 kPa = 10 mbar in accordance with IEC 60068-2-13.

Bump test: 4000 bumps at 390 m/sec² in accordance with IEC 60068-2-29.

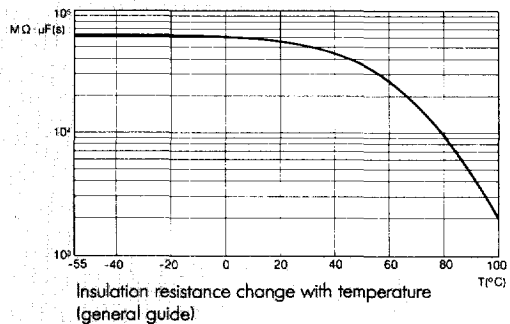
Voltage derating: A voltage derating factor of 1.25% per K must be applied from +85° C for DC voltages and from +75° C for AC voltages.



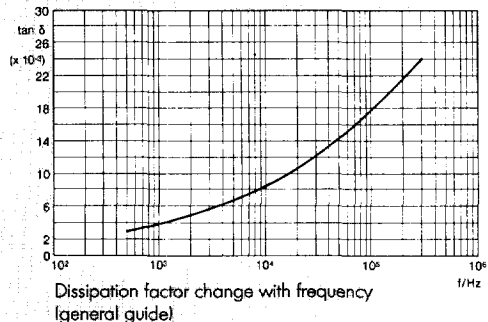
Capacitance change with temperature (f = 1 kHz) (general guide)



Dissipation factor change with temperature (f = 1 kHz) (general guide)



Insulation resistance change with temperature (general guide)



Dissipation factor change with frequency (general guide)

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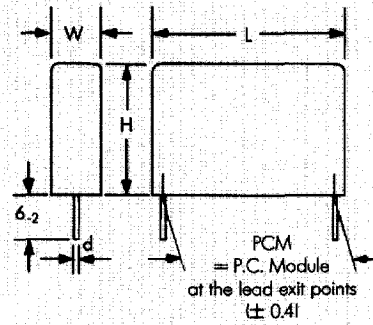
General Data

Capacitance	100 VDC / 63 VAC*				250 VDC / 160 VAC*				400 VDC / 220 VAC*			
	W	H	L	PCM**	W	H	L	PCM**	W	H	L	PCM**
0.01 μ F					4	9	10	7.5	4	9	10	7.5
0.015 "					4	9	10	7.5	4	9	10	7.5
0.022 "					4.5	9.5	10.3	7.5	4	9.5	13	10
0.033 "					4.5	9.5	10.3	7.5	5	11	13	10
0.047 "	4.5	9.5	10.3	7.5	4	9.5	13	10	5	11	18	15
0.068 "	4	9.5	13	10	5	11	13	10	6	12.5	18	15
0.1 μ F	5	11	13	10	5	11	18	15	7	14	18	15
0.15 "	6	12.5	13	10	6	12.5	18	15	8	15	18	15
0.22 "	6	12.5	18	15	8	15	18	15	7	16.5	26.5	22.5
0.33 "	7	14	18	15	7	16.5	26.5	22.5	8.5	18.5	26.5	22.5
0.47 "	8	15	18	15	8.5	18.5	26.5	22.5	11	21	26.5	22.5
0.68 "	7	16.5	26.5	22.5	11	21	26.5	22.5	11	21	31.5	27.5
1.0 μ F	8.5	18.5	26.5	22.5	11	21	31.5	27.5	13	24	31.5	27.5
1.5 "	11	21	26.5	22.5	13	24	31.5	27.5	17	29	31.5	27.5
2.2 "	13	24	31.5	27.5	17	29	31.5	27.5	17	34.5	31.5	27.5
3.3 "	15	26	31.5	27.5	20	39.5	31.5	27.5				
4.7 "	17	29	31.5	27.5								
6.8 "	20	39.5	31.5	27.5								

* AC voltage: $f = 50 \text{ Hz}$;
 $1.4 \times U_{rms} + U_{DC} \leq U_r$

** PCM = Printed circuit module = lead spacing

Dims. in mm.



$\varnothing d$	PCM	W
0.7	10	
0.8	15-22.5	
0.8	27.5	< 15
1.0	27.5	> 15

Taped version see page 92.

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Permissible AC voltages
in relation to frequency at
 10° C internal temperature rise
(general guide):

