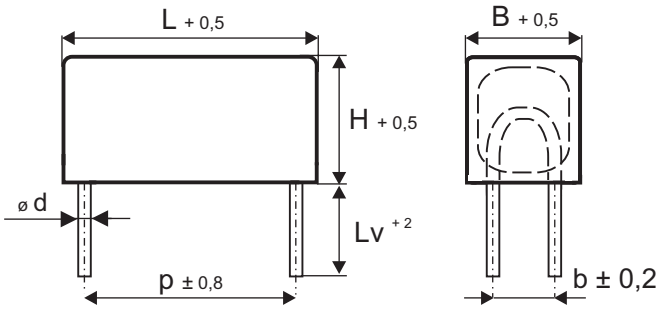
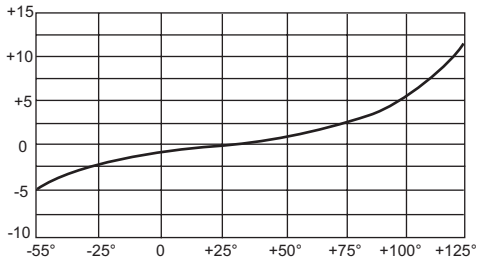
MKT Metallized Polyester Film Capacitors radial

Electronic components CZ
Syllabova 380/41, 703 00 OSTRAVA - Vítkovice
Phone: +420/ 595 781 623, 596 623 385
Fax: +420/ 595 781 612, 596 623 386
E - mail: eso@es-ostrava.cz
Web Site:http://www.es-ostrava.cz

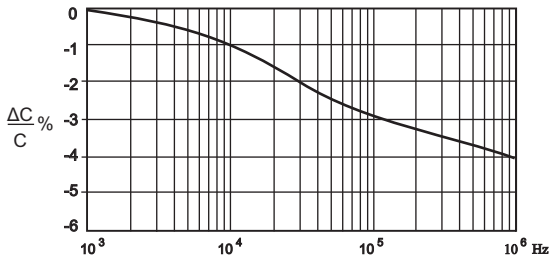
MKT 200-005, MKT 200-006



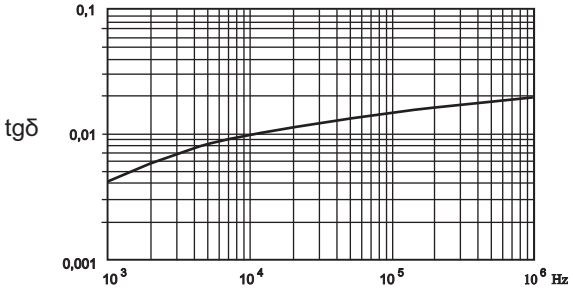
Capacitance change versus temperature $\frac{\Delta C}{C}$



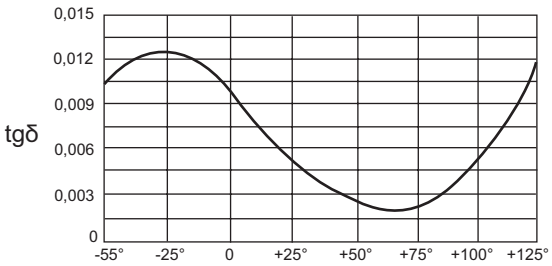
Capacitance change versus frequency: $\frac{\Delta C}{C} = F(f)$



Dissipation factor versus frequency tgδ = f(f)



Dissipation factor versus temperature tgδ = f(T) measured at 1 kHz



Construction of capacitors:
Metallized polyester film capacitors noninductive construction
self - healing ability, radial plastic case, epoxy resin sealed
Leads: tinned cooper wire, dual, trough.

Reference standards:
General specifications: IEC 384-1
Sectional specifications:IEC 384-2

Tolerance of capacity: ± 10%
Capacitance temperature coefficient: see the graph

Climatic resistivity category:
Climatic category which the capacitor belongs to is expressed in numbers in accordance to IEC publ. 60068-1. For capacitors MKT is 55/100/56. The first number represent the lower category temperature, the second number the upper category temperature and the third number the number of days relevant to the damp heat test.

Nominal capacitance:
Nominal capacitance values are based on the E6 serie in acordance to IEC 60063 publ. or arbitrary values in capacitance range on request. The rated capacitance C_R is the capacitance at 1kHz and 20°C. The max. testvoltage must be less than 3% of U_R or 5V.

Nominal capacitance tolerance:
The permissible capacitance deviation from the rated capacitance at +20°C and frequency 1kHz.

Dissipation factor:
is the ratio between the resistive and reactive part of the impedance of the capacitor sumbitted to a sinusoidal voltage of specified frequency tgδ

It depends on ambient temperature working - frequency.

Type	MKT 200 - 005						MKT 200 - 006					
Rated Voltage U_R = DC/AC[V]	100/63						250/160					
Nominal capacitance C_R [µF]	Dimension [mm]											
	B	H	L	p	b	d	B	H	L	p	b	d
10	16	25	32	27,9	7,62	1,0	16	25	32	27,9	7,62	1,2
15	16	25	32	27,9	7,62	1,0						
22	22	30	42,5	38,1	15,24	1,0	22	30	42,5	38,1	15,54	1,2
33	28	37	42,5	38,1	15,24	1,0						

Length of leads standardly 6 $^{+2\,mm}$

Maxim.dissipation factor tgδ .10^{-4} at +25 °C

kHz	C ≤ 0,1µF	0,1µF<C ≤ 1µF	> 1µF
1	≤ 80	≤ 80	≤ 100

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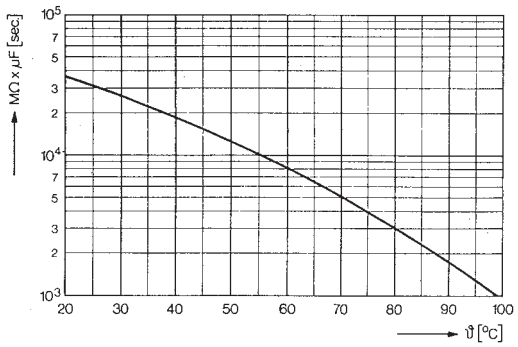
Insulation resistance Ris:
Time constant tis:
The time constant is used to express the quality of insulance for higher capacities and is expresed in seconds with the following formula:

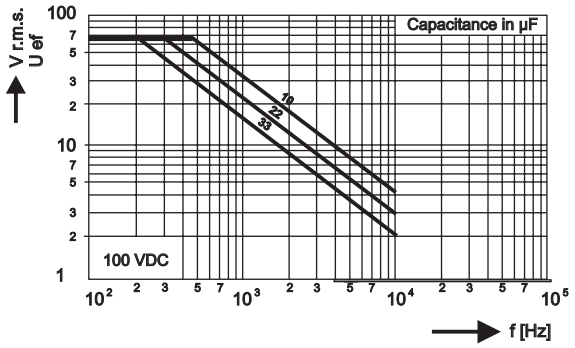
tis=Ris×C [sec; MΩ; µF]
tis > 10 000 sec.

Time konstant versus temperature



Permisible AC Voltage:
It is the pure sine wave voltage that may be applied to the capacitor at the frequency up to 50/60 Hz For the operation at higher frequencies refer to permisible AC voltage versus frequency graphs.

Allowed altern. voltage versus frequency and capacity



Endurance test:
The permisible ΔC/C and tg d after test by +85°C U_T=1,25.U_R 2000 hours.
The polyester capacitors must perform
ΔC/C ≤ 5%
$\Delta tg\delta \leq 20.10^{-4}$ at 1kHz pro C > 1µF
ΔRis must perform 50% of initial limit

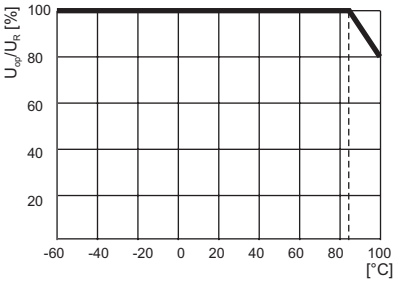
Capacitance drift by storage:
Max. permissible changes of capacitance after a period of 2 years (up to 40°C) ΔC/C < ±3%

Test voltage:
The capacitors are testet by U_T = 1,6 U_R for 2 sec. at +25°C ±5°C

Rated temperature T:
Is the maximum ambient temperature at whitch the rated voltage may be applied. For the MKT is rated temperature + 85°C.

Upper operating temperature:
The max. temperaturemeasured on the case surface at which the capacitor can work continualy. MKT capacitors have the upper operating temperature is +100°C.

Category voltage U_C:
The maximum direct voltage, or the maximum r.m.s. voltage or the max. value of a voltage pulse, wich may be continuously applied to the terminals of capacitor till to the rated temperature.
For the MKT till to +85°C U_C=U_R.
From +85°C till to +100°C the voltage derating is 1,25% / °C



Rated voltage U:
The rated voltage is the voltage for which the capacitor has been designed It is the maximum direct voltage or peak value of pulse voltage which may be applied continuosly to a capacitor at any temperature between the lower category temperature and the rated temperature.

Pulse loading:
The capacitors charged with unsinusoidal valtage pulses with qick rise (high dU/dt) will be loaded with high current pulses
The current pulse must be limited in order to not overload or not destroy the internal contact and conections.
The limit of alowed current loading is given with allowed voltage rise in time dU/dt [V/µsec] Minimum resistance in series with capacitor is
$R_S = U_R/C_R \times dU/dt$
U_R - rated voltage [V]
C_R - nominal capacitance [µF]
R_S - [Ω]
dU/dt max. < 1V/µs

If the max. pulse voltage is less than the rated voltage, higher dU/dt values can be permited $dU_{OP}/dt = d_{UR}/dt \times U_R/U_{OP}$
U_R - rated voltage
U_{OP} - working voltage amplitude