Special MKT Capacitors

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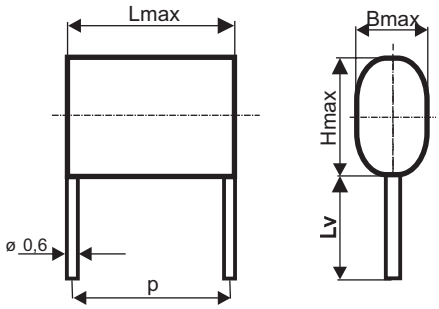
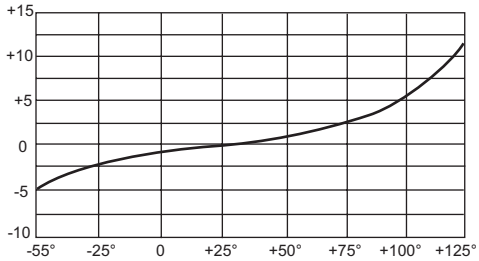
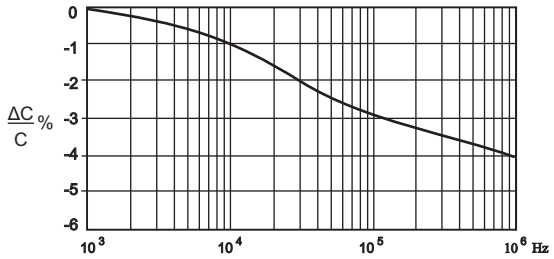
MKT 200-017



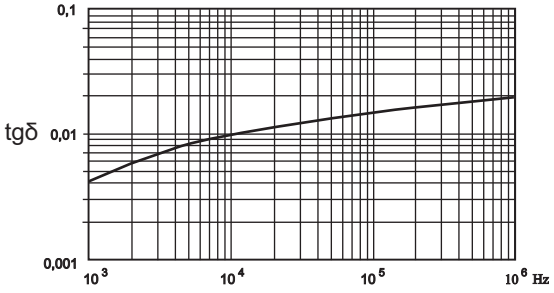
Capacitance change versus temperature: $\frac{\Delta C}{C}$



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



Dissipation factor versus frequency tg δ = f(f)



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

Typical applications:
These capacitors are for DC voltage applications, but it is also possible to apply in AC voltage circuits if the sum of the DC voltage and the amplitude of AC voltage does not accross the limit of the U_R. In the circuits with higher freguencies is to respect the derating of the permissible working voltage - see the diagram below. These capacitors are not suitable for the accros the line applications.

Reference standards:
General specifications: IEC 60384-1
Sectional specifications:IEC 60384-2

Capacitance: 0,47 µF; 2,2 µF

Tolerance: ±10%, other tolerances on request

Rated voltage U_R: 250 VDC
Capacitance temperature coefficient: see the graph

Climatic resistivity category: in accordance to IEC publ. 68-1 55/100/56

Dissipation factor tgδ**:**
It depends on ambient temperature working - frequency.

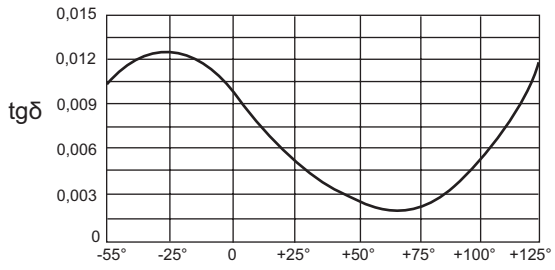
Nominal capacitance C_R [µF]	Dimension [mm]			
	B	H	L	p
0,47	6,5	14	12	10
2,2	11	19	17	15

Length of leads standardly 10 $^{+2\ mm}$
other length on request

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

kHz	0,1µF<C ≤1µF	> 1µF
1	≤ 80	≤ 100

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



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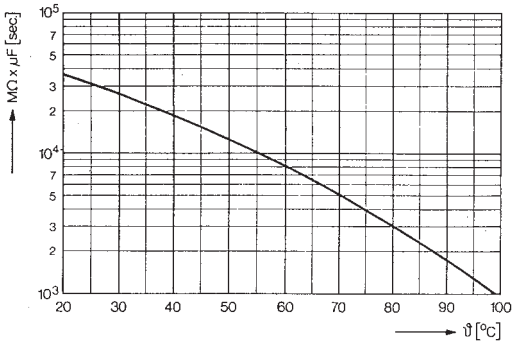
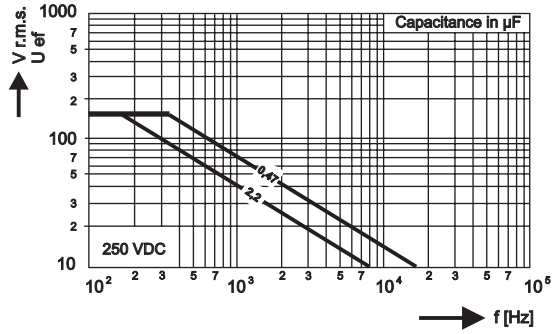
Insulation resistance Ris:
Time constant tis:
The time constant is used to express the quality of insulance for higher capacities and is expresed in seconds with the following formula:
tis=Ris.C [sec; MΩ; µF]
tis > 10 000 sec.

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



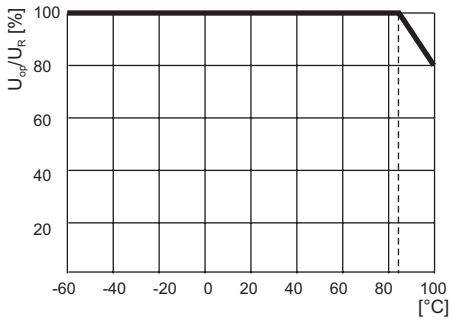
Endurance test:
The permisible **Δ**C/C and tgδ after test by +85°C U_T=1,25.U_R 2000 hours.
The polyester capacitors must perform
ΔC/C ≤ 5%
Δtgδ ≤ 20.10^{-4} at 1kHz pro C >1µF
ΔRis must perform 50% of initial limit

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

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



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[V/µs]max. < 5V/µs

Test voltage:
The capacitors are testet by U_T = 1,6 U_R for 2 sec. at +25°C ±5°C, no short - - circuits, no breakdown