High-voltage capacitors
Cylindrical winding

Construction

- Dielectric: polyethylene terephthalate (polyester)
- Cylindrical winding
- In tubular plastic case
- Face ends sealed with epoxy resin

Typical applications

- High-voltage circuits
- Professional electronic testing equipment

Terminals

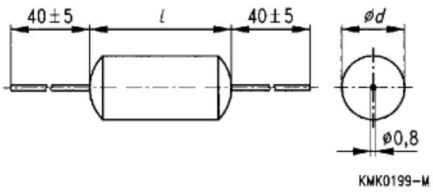
- Central axial wire leads, tinned

Markings

Manufacturer's logo,
style (MKT), rated capacitance,
capacitance tolerance (code letter),
rated dc voltage

Delivery mode

Bulk (untaped)



Dimensions in mm

When bending leads take care to leave a clearance of 1 mm to the capacitor body.

Overview of available types

Type	B 32 237							
0,68 nF								12,5 kV_{dc}
1,0 nF				4,0 kV_{dc}	6,3 kV_{dc}	8,0 kV_{dc}	10 kV_{dc}	
2,5 nF			2,5 kV_{dc}					
5,0 nF		1,6 kV_{dc}						
10 nF								
25 nF	1,0 kV_{dc}							

Ordering codes and packing units

V_R (V_{rms}, $f \leq 60$ Hz)	C_R	Maximum dimensions $d_{max} \times l_{max}$ (mm)	Ordering code[1]	Packing unit (pcs) Untaped
1,0 kV_{dc} (200 V_{ac})	25 nF	11,5 × 24,0	B32237-A253-+	100
1,6 kV_{dc} (200 V_{ac})	5,0 nF	7,5 × 24,0	B32237-A1502-+	150
	10 nF	10,5 × 24,0	B32237-A1103-+	100
2,5 kV_{dc} (200 V_{ac})	2,5 nF	9,5 × 33,0	B32237-J2252-+	100
	5,0 nF	9,5 × 33,0	B32237-J2502-+	100
	10 nF	10,5 × 33,0	B32237-B2103-+	50
	25 nF	16,5 × 33,0	B32237-J2253-+	50
4,0 kV_{dc} (450 V_{ac})	1,0 nF	7,5 × 33,0	B32237-A4102-+	100
	2,5 nF	9,5 × 33,0	B32237-J4252-+	100
	5,0 nF	10,5 × 33,0	B32237-J4502-+	50
	10 nF	12,5 × 33,0	B32237-B4103-+	50
6,3 kV_{dc} (450 V_{ac})	1,0 nF	9,5 × 33,0	B32237-B6102-+	100
	2,5 nF	10,5 × 33,0	B32237-B6252-+	50
	5,0 nF	10,5 × 45,0	B32237-B6502-+	50
	10 nF	16,5 × 45,0	B32237-B6103-+	300
8,0 kV_{dc} (450 V_{ac})	1,0 nF	9,5 × 45,0	B32237-A8102-+	50
	2,5 nF	10,5 × 45,0	B32237-B8252-+	50
	5,0 nF	12,5 × 45,0	B32237-A8502-+	50
	10 nF	16,5 × 45,0	B32237-J8103-+	300
10 kV_{dc} (450 V_{ac})	1,0 nF	9,5 × 56,0	B32237-A9102-+	500
	2,5 nF	11,5 × 56,0	B32237-A9252-+	500
	5,0 nF	16,5 × 56,0	B32237-A9502-+	300
12,5 kV_{dc} (450 V_{ac})	0,68 nF	9,5 × 56,0	B32237-A3681-+	500
	1,0 nF	10,5 × 56,0	B32237-A3102-+	500
	2,5 nF	12,5 × 56,0	B32237-A3252-+	400

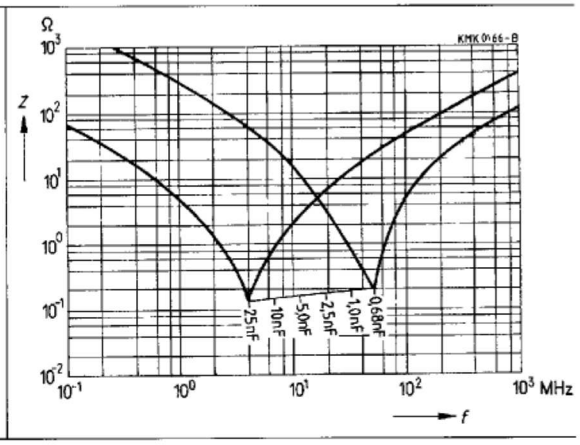
Capacitance tolerance: +50/–20 % ≙ S, ±20 % ≙ M

1) Replace the + by the code letter for the required capacitance tolerance

Technical data

Climatic category in accordance with IEC 68-1	40/100/21
Lower category temperature T_{min}	– 40 °C
Upper category temperature T_{max}	+ 100 °C
Damp heat test	21 days/40 °C/93 % relative humidity
Limit values after damp heat test	Capacitance change $\lvert\Delta C/C\rvert$ ≤ 5 % Dissipation factor change $\Delta \tan \delta$ ≤ $3 \cdot 10^{-3}$ (at 1 kHz) ≤ $5 \cdot 10^{-3}$ (at 10 kHz) Insulation resistance R_{is} ≥ 20 % of minimum as-delivered values
Reliability:	
Reference conditions	$0{,}5 \cdot V_R$; 40 °C
Failure rate	$10 \cdot 10^{-9}$/h = 10 fit For a conversion table for other operating conditions and temperatures, refer to page 273.
Service life	200 000 h
Failure criteria:	
Total failure	Short circuit or open circuit
Failure due to variation of parameters	Capacitance change $\lvert\Delta C/C\rvert$ > 10 % Dissipation factor tan δ > 2 · upper limit value Insulation resistance R_{is} < 150 MΩ
DC test voltage	$1{,}2 \cdot V_R$, 2 s
Category voltage V_C Operation with dc voltage or ac voltage V_{rms} up to 60 Hz	$T \leq$ 60 °C: $V_C = 1{,}0 \cdot V_R$ $T \leq$ 70 °C: $V_C = 1{,}0 \cdot V_{rms}$ T = 100 °C: $V_C = 0{,}55 \cdot V_R$ or $0{,}7 \cdot V_{rms}$
Dissipation factor tan δ at 20 °C (upper limit values)	at 1 kHz: $8 \cdot 10^{-3}$ at 10 kHz: $15 \cdot 10^{-3}$
Insulation resistance R_{is} at 20 °C, rel. humidity ≤ 65 % (minimum as-delivered values)	30 000 MΩ

Impedance Z versus frequency f (typical values)



Pulse handling capability

Maximum permissible voltage change per unit of time for non-sinusoidal voltages (impulses, sawtooth)

Rated voltage V_R	Max. rate of voltage rise V_{pp}/τ in V/µs (for $V_{pp} = V_R$)	Pulse characteristic k_0 in $V^2/\mu s$ (for $V_{pp} \leq V_R$)
1,0 kV_{dc}	15	30 000
1,6 kV_{dc}	25	80 000
2,5 kV_{dc}	25	125 000
4,0 kV_{dc}	40	320 000
6,3 kV_{dc}	50	630 000
8,0 kV_{dc}	50	800 000
10,0 kV_{dc}	370	7 500 000
12,5 kV_{dc}	1000	25 000 000

For $V_{pp} < V_R$, the permissible voltage rise rate value V_{pp}/τ may be multiplied by the factor V_R/V_{pp}. Also refer to the calculation example on page 246.

Permissible ac voltage V_{rms} versus frequency f

Values can be obtained upon request. In specific cases please provide a scaled voltage/ time graph and state operating conditions.