



Film Capacitors

EMI Suppression Capacitors (MKP)

Series/Type: **B81122**
Date: August 2004

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Typical applications

- Y2 class for interference suppression
- "Line to ground" applications

Climatic

- Max. operating temperature: 100 °C
- Climatic category (IEC 60068-1):
40/100/21 $e = 10 \text{ mm}$
40/085/21 $e \geq 15 \text{ mm}$

Construction

- Dielectric: polypropylene (MKP)
- Internal series connection (for $e \geq 15 \text{ mm}$)
- Plastic case (UL 94 V-0)
- Epoxy resin sealing (UL 94 V-0)

Features

- Very small dimensions
- Self-healing properties

Terminals

- Parallel wire leads, lead-free tinned
- Standard lead lengths: 6 – 1 mm
- Special lead lengths available on request

Marking

Manufacturer's logo, lot number, date code, rated capacitance (coded), cap. tolerance (code letter), rated AC voltage, series number, sub-class (Y2), dielectric code (MKP), climatic category, passive flammability category, approvals.

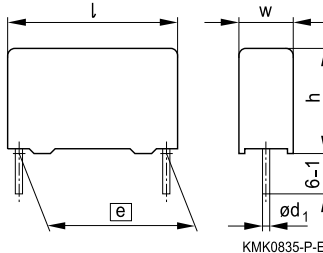
Delivery mode

Bulk (untaped)
Taped (Ammo pack or reel)
For taping details, refer to chapter "Taping and packing".

Approvals

Marks of conformity	Standards	Certificate
	EN 132400, IEC 60384-14	138600 ($e = 10 \text{ mm}$) 138603 ($e \geq 15 \text{ mm}$)
	UL 1414 CSA C22.2 No.1	E97863 E97863

Dimensional drawing



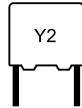
Dimensions in mm

Lead spacing $e \pm 0.4$	Lead diameter d_1
10 mm	0.6
15 ... 27.5 mm	0.8

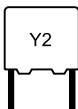
Marking example



KMK0824-9


Overview of available types

Lead spacing	10 mm	15 mm	22.5 mm	27.5 mm
C_R (μF)				
0.0010				
0.0015				
0.0022				
0.0033				
0.0047				
0.0056				
0.0068				
0.010				
0.015				
0.022				
0.027				
0.033				
0.047				
0.056				
0.068				
0.10				
0.15				
0.22				
0.33				


B81122
Y2 / 250 VAC

Ordering codes and packing units

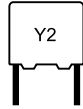
Lead spacing mm	C _R μF	Max. dimensions w × h × l mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
10	0.0010	4.0 × 9.0 × 13.0	B81122C1102M***	1000	1700	1000
	0.0015	4.0 × 9.0 × 13.0	B81122C1152M***	1000	1700	1000
	0.0022	5.0 × 11.0 × 13.0	B81122C1222M***	830	1300	1000
	0.0033	5.0 × 11.0 × 13.0	B81122C1332M***	830	1300	1000
	0.0047	6.0 × 12.0 × 13.0	B81122C1472M***	680	1100	1000
	0.0056	6.0 × 12.0 × 13.0	B81122C1562M***	680	1100	1000
	0.0068	6.0 × 12.0 × 13.0	B81122C1682M***	680	1100	1000
15	0.010	6.0 × 11.0 × 18.0	B81122A1103M***	960	1100	1000
	0.015	7.0 × 12.5 × 18.0	B81122A1153M***	830	900	1000
	0.022	8.5 × 14.5 × 18.0	B81122A1223M***	680	700	500
	0.027	8.5 × 14.5 × 18.0	B81122A1273M***	680	700	500
	0.033	9.0 × 17.5 × 18.0	B81122A1333M***	640	700	500
22.5	0.047	7.0 × 16.0 × 26.5	B81122A1473M***	580	600	630
	0.056	8.5 × 16.5 × 26.5	B81122A1563M***	480	500	510
	0.068	10.5 × 16.5 × 26.5	B81122A1683M***	390	400	540
	0.10	10.5 × 20.5 × 26.5	B81122A1104M***	390	400	540
27.5	0.15	11.0 × 21.0 × 31.5	B81122A1154M***	—	350	320
	0.22	13.5 × 23.0 × 31.5	B81122A1224M***	—	250	260
	0.33	18.0 × 27.5 × 31.5	B81122A1334M***	—	—	200

Further E series and intermediate capacitance values on request.

Composition of ordering code

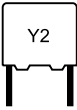
+ = Capacitance tolerance code:
M = ±20%

*** = Packaging code:
289 = Ammo pack
189 = Reel
000 = Untaped (lead length 6 – 1 mm)



Technical data

Max. operating temperature $T_{op,max}$	+100 °C		
Dissipation factor $\tan \delta$ (in 10^{-3}) at 20 °C (upper limit values)		$C_R \leq 0.1 \mu F$	$C_R > 0.1 \mu F$
	at 1 kHz	1.0	1.0
	100 kHz	5.0	–
Insulation resistance R_{ins} or time constant $\tau = C_R \cdot R_{ins}$ at 20 °C, rel. humidity $\leq 65\%$ (minimum as-delivered values)	30 000 M Ω		
DC test voltage	2700 V, 2 s ($\varnothing \geq 15$ mm) 2500 V, 2 s ($\varnothing = 10$ mm)		
Passive flammability category to IEC 40 (CO) 752	C		
Maximum continuous AC voltage (V_{AC})	405 V (50/60 Hz) ($\varnothing \geq 15$ mm) 305 V (50/60 Hz) ($\varnothing = 10$ mm)		
Rated AC voltage (IEC 60384-14)	250 V (50/60 Hz)		
Maximum continuous DC voltage (V_{DC})	1000 V ($\varnothing \geq 15$ mm) 1200 V ($\varnothing = 10$ mm)		
Operating AC voltage V_{op} at high temperature	$T_A \leq 100$ °C	$V_{op} = V_{AC}$	(continuously)
	$T_A \leq 100$ °C	$V_{op} = 1.25 \cdot V_{AC}$	(1000 h)
Damp heat test	21 days / 40 °C / 93% relative humidity		
Limit values after damp heat test	Capacitance change $ \Delta C/C \leq 5\%$		
	Dissipation factor change $\Delta \tan \delta \leq 0.5 \cdot 10^{-3}$ (at 1 kHz)		
	Insulation resistance $R_{ins} \leq 1.0 \cdot 10^{-3}$ (at 10 kHz)		
	or time constant $\tau = C_R \cdot R_{ins} \geq 50\%$ of minimum as-delivered values		



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Y2 / 250 VAC

Pulse handling capability

"dV/dt" represents the maximum permissible voltage change per unit of time for non-sinusoidal voltages, expressed in V/μs.

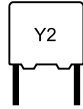
"k₀" represents the maximum permissible pulse characteristic of the waveform applied to the capacitor, expressed in V²/μs.

Note:

The values of dV/dt and k₀ provided below must not be exceeded in order to avoid damaging the capacitor.

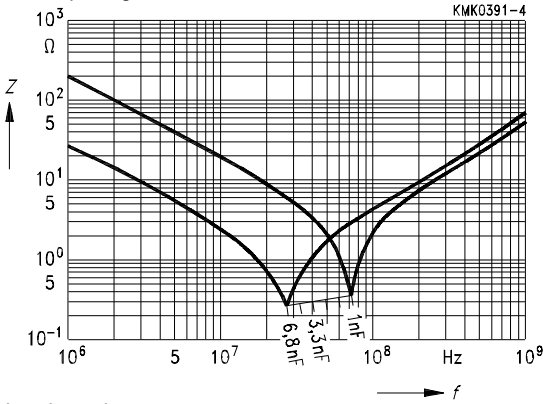
dV/dt and k₀ values

Lead spacing	10 mm	15 mm	22.5 mm	27.5 mm
dV/dt in V/μs	550	400	200	150
k ₀ in V ² /μs	388 000	282 000	141 000	106 000



Impedance Z versus frequency f (typical values)

Lead spacing = 10 mm



Lead spacing ≥ 15 mm

