



Film Capacitors

EMI Suppression Capacitors (MKT)

Series/Type: **B81141**
Date: August 2004

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Typical applications

- X1 class for interference suppression
- "Across the line" applications

Climatic

- Max. operating temperature: 85 °C
- Climatic category (IEC 60068-1): 40/085/21

Construction

- Dielectric: polyester (MKT)
- Internal series connection
- Plastic case (UL 94 V-0)
- Epoxy resin sealing (UL 94 V-0)

Features

- 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 (X1), dielectric code (MKT), climatic category, passive flammability category, approvals.

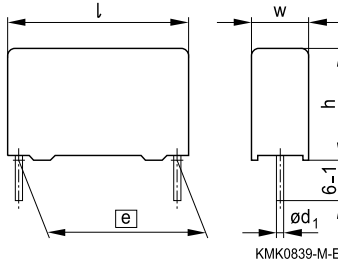
Delivery mode

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	138583
	UL 1414	E97863
	CSA C22.2 No.1	E97863

Dimensional drawing



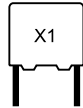
Dimensions in mm

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

Marking example



KMK0816-I



Overview of available types

Lead spacing	15 mm	22.5 mm	27.5 mm
C_R (μF)			
0.010			
0.022			
0.033			
0.047			
0.068			
0.10			
0.15			
0.22			
0.33			
0.47			

Ordering codes and packing units

Lead spacing	C_R	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
mm	μF					
15	0.010	$5.0 \times 10.5 \times 18.0$	B81141C1103M***	1170	1300	1000
	0.022	$7.0 \times 12.5 \times 18.0$	B81141C1223M***	830	900	1000
	0.033	$8.5 \times 14.5 \times 18.0$	B81141C1333M***	680	700	500
	0.047	$9.0 \times 17.5 \times 18.0$	B81141C1473M***	640	700	500
22.5	0.068	$8.5 \times 16.5 \times 26.5$	B81141C1683+***	480	500	510
	0.10	$10.5 \times 16.5 \times 26.5$	B81141C1104+***	390	400	540
	0.15	$11.0 \times 20.5 \times 26.5$	B81141C1154+***	370	350	510
27.5	0.22	$12.5 \times 21.5 \times 31.5$	B81141C1224+***	—	300	280
	0.33	$14.0 \times 24.5 \times 31.5$	B81141C1334+***	—	—	260
	0.47	$18.0 \times 27.5 \times 31.5$	B81141C1474+***	—	—	200

Further E series and intermediate capacitance values on request.

Composition of ordering code

+ = Capacitance tolerance code:

M = $\pm 20\%$

K = $\pm 10\%$

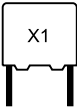
*** = Packaging code:

289 = Ammo pack

189 = Reel

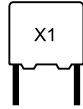
000 = Untaped (lead length 6 – 1 mm)

(Closer tolerances on request)


B81141
X1 / 440 VAC

Technical data

Max. operating temperature $T_{op,max}$	+85 °C	
Dissipation factor $\tan \delta$ (in 10^{-3}) at 20 °C (upper limit values)	at 1 kHz	8.0
	100 kHz	15.0
Insulation resistance R_{ins} or time constant $\tau = C_R \cdot R_{ins}$ at 20 °C, rel. humidity $\leq 65\%$ (minimum as-delivered values)	$C_R \leq 0.33 \mu F$	$C_R > 0.33 \mu F$
	30 000 M Ω	10 000 s
DC test voltage	2500 V, 2 s	
Passive flammability category to IEC 40 (CO) 752	C	
Maximum continuous AC voltage (V_{AC})	440 V (50/60 Hz)	
Rated AC voltage (IEC 60384-14)	440 V (50/60 Hz)	
Maximum continuous DC voltage (V_{DC})	1000 V	
Operating AC voltage V_{op} at high temperature	$T_A \leq 85 \text{ °C}$	$V_{op} = V_{AC}$ (continuously)
	$T_A \leq 85 \text{ °C}$	$V_{op} = 1.25 \cdot V_{AC}$ (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 ($\Delta \tan \delta$)	$\leq 5 \cdot 10^{-3}$ (at 1 kHz)
	Insulation resistance R_{ins}	$\geq 50\%$ of minimum
	or time constant $\tau = C_R \cdot R_{ins}$	as-delivered values



Pulse handling capability

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

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

Note:

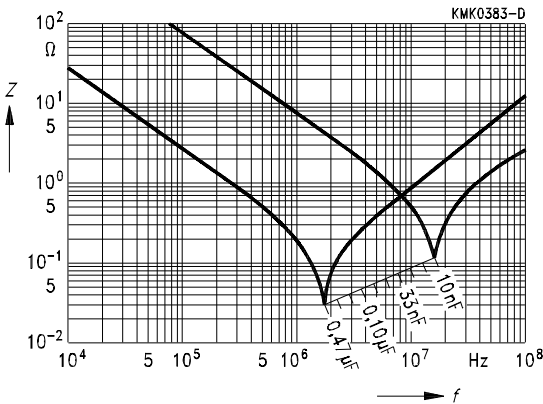
The values of dV/dt and k₀ provided below must not be exceeded in order to avoid damaging the capacitor.

dV/dt and k₀ values

Lead spacing	15 mm	22.5 mm	27.5 mm
dV/dt in V/ μ s	400	200	150
k ₀ in V ² / μ s	500 000	250 000	187 500

Impedance Z versus frequency f

(typical values)



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EPCOS / TDK:

<u>B81141C1103M189</u>	<u>B81141C1103M</u>	<u>B81141C1104M</u>	<u>B81141C1104M189</u>	<u>B81141C1104M289</u>
<u>B81141C1223M189</u>	<u>B81141C1683K289</u>	<u>B81141C1683M289</u>	<u>B81141C1154M289</u>	<u>B81141C1224M189</u>
<u>B81141C1223M000</u>	<u>B81141C1333M000</u>	<u>B81141C1473M000</u>	<u>B81141C1683K000</u>	<u>B81141C1104K000</u>
<u>B81141C1334K000</u>	<u>B81141C1683M000</u>	<u>B81141C1154M000</u>	<u>B81141C1224M000</u>	<u>B81141C1334M000</u>
<u>B81141C1474M000</u>	<u>B81141C1684M000</u>			