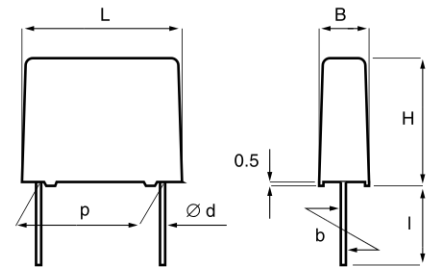


- Metallized polyester
- According to CECC 30401-042, IEC 60384-2, DIN 44122

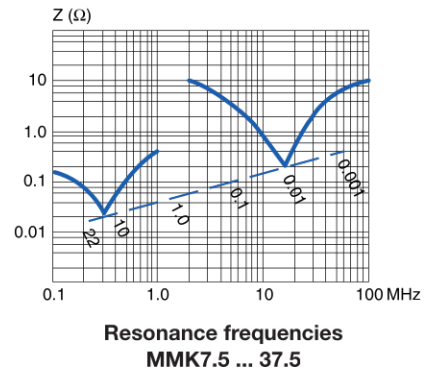
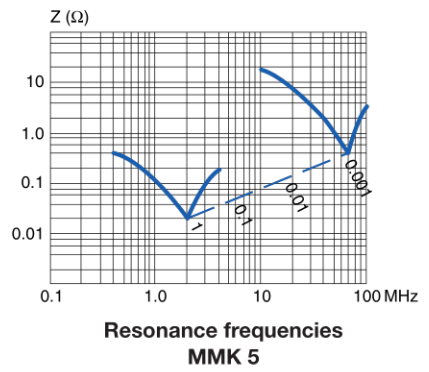


TYPICAL APPLICATIONS	CONSTRUCTION
By-passing, signal coupling. General purpose for highest reliability.	Metallized polyester film capacitor. Radial leads of tinned wire are electrically welded to the contact metal layer on the ends of the capacitor winding. Encapsulation in self-extinguishing material meeting the requirements of UL 94V-0.



TECHNICAL DATA							
Rated voltage U_{R1} , VDC	50	63	100	250	400	630	1000
	30	40	63	160	200	220	250
Rated voltage U_{R2} , VAC	50	63	100	250	400	630	1000
	30	40	63	160	200	220	250
Capacitance, μF	0.001	0.001	0.001	0.001	0.001	0.001	0.001
	-10.0	-82	-82	-39	-18	-6.8	-4.7
Capacitance tolerance	$\pm 20\%$, $\pm 10\%$ standard, $\pm 5\%$.						
Category temperature range	-55 ... +100°C						
Voltage derating	Above +85°C DC and AC voltage derating is 1.25%/°C.						
Rated temperature	+85°C						
Climatic category	IEC 60068-1, 55/100/56 DIN 40040, FME -55 ... +100°C (+125°C) Average relative humidity $\leq 75\%$ RH = 95% for 30 days per year. RH = 85% for further days limited by average value per year, occasional slight condensation permitted.						
Test voltage	1.6 x U_R VDC for 2s						
Capacitance drift	Max. 2% after a 2 year storage period at a temperature of +10 ... +40°C and a relative humidity of 40...60%.						
Reliability	Operational life > 200 000 h. Failure rate < 3 FIT, T = +40°C, U = 0.5 x U_{R1} Failure criteria according to DIN 44122.						
Maximum pulse steepness:	dU/dt according to article table. For peak to peak voltages lower than rated voltage ($U_{PP} < U_R$), the specified dU/dt can be multiplied by the factor U_R/U_{PP}						
Temperature coefficient	+400 (± 200) ppm/°C at 1 kHz						
Self inductance	Approximately 6 nH/cm for the total length of capacitor winding and the leads.						

p	d	std l	max l	b
5.0 ± 0.4	0.5	4 ⁺¹	20	± 0.4
7.5 ± 0.4	0.6	4 ⁺¹	20	± 0.4
10.0 ± 0.4	0.6	4 ⁺¹	30	± 0.4
15.0 ± 0.4	0.8	4 ⁺¹	30	± 0.4
22.5 ± 0.4	0.8	4 ⁺¹	30	± 0.4
27.5 ± 0.4	0.8	4 ⁺¹	30	± 0.4
37.5 ± 0.5	1.0	4 ⁺¹	30	± 0.7



ENVIRONMENTAL TEST DATA		
Damp heat test	Test conditions: Test criteria:	T = +40°C, RH = 93%, t = 56 days. $\Delta C/C \leq \pm 5\%$, $\Delta \tan \delta \leq 0.005$ (1kHz), IR after test 0.5 x IR min.
Endurance test	Test conditions: Test criteria:	T = +100°C, U = 1.25 x (0.8 x U_R), t = 2000 h. $\Delta C/C \leq \pm 5\%$, $\Delta \tan \delta \leq 0.005$ (1kHz) $\Delta \tan \delta \leq 0.010$ (100kHz) IR after test 0.5 x IR min.

TECHNICAL DATA

Dissipation factor $\tan\delta$

Maximum values at +23°C
 $C \leq 0.1 \mu\text{F}$ $0.1 \mu\text{F} < C \leq 1.0 \mu\text{F}$ $C > 1.0 \mu\text{F}$

MMK5	1 kHz	0.8%	0.8%	0.8%
	10 kHz	1.2%	1.2%	1.5%
	100 kHz	2.5%	3.0%	
MMK7.5 ... 37.5	1 kHz	0.8%	0.8%	1.0%
	10 kHz	1.5%	1.5%	
	100 kHz	3.0%		

Insulation resistance

Minimum values between terminals.
 Measured at +20°C, according to IEC 60384-2.
 $C \leq 0.33 \mu\text{F}$ $C > 0.33 \mu\text{F}$

$U_R \leq 100\text{V}$	15000 MΩ	5000 s
$U_R > 100\text{V}$	30000 MΩ	10000 s

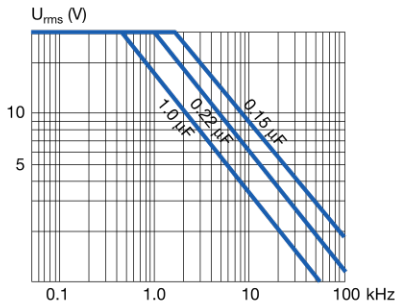
ORDERING INFORMATION

See article table and pages 10 to 14 for options and article code construction.

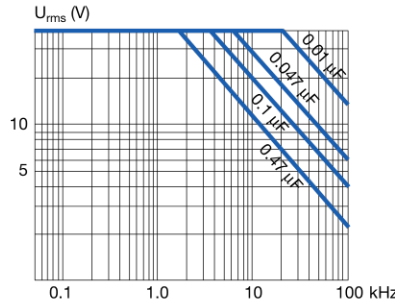
MARKING

- Capacitance
- Tolerance code
- Rated voltage
- Capacitor family code MMK
- Manufacturing date code

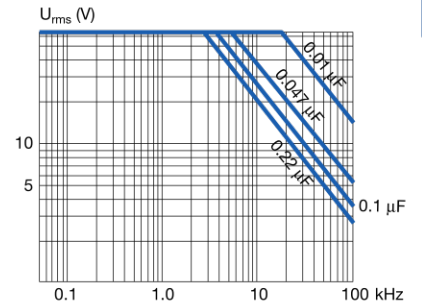
RATED AC VOLTAGE VS. FREQUENCY



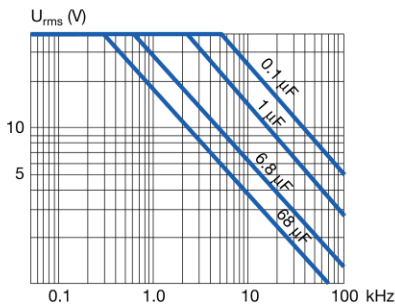
MMK5 50/30



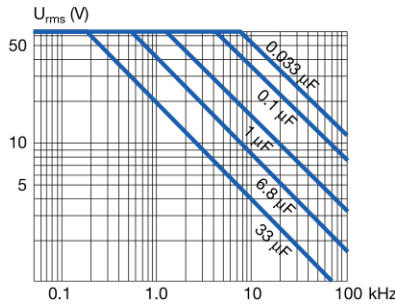
MMK5 63/40



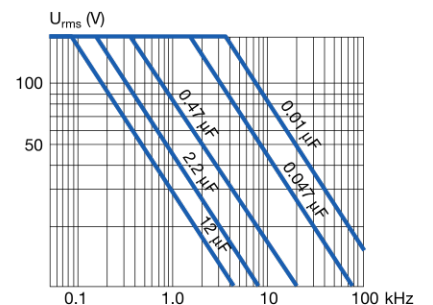
MMK5 100/63



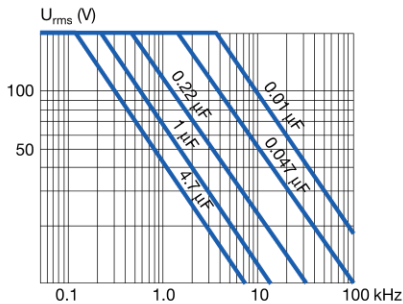
MMK7.5 ... 37.5 63/40



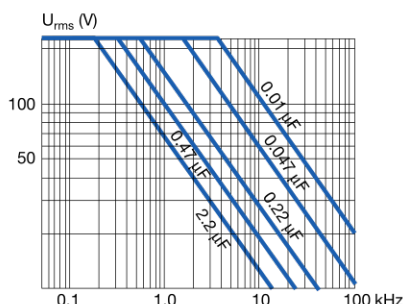
MMK7.5 ... 37.5 100/63



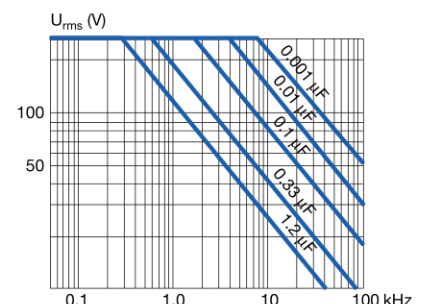
MMK7.5 ... 37.5 250/160



MMK7.5 ... 37.5 400/200



MMK7.5 ... 37.5 630/220



MMK7.5 ... 37.5 1000/250

ARTICLE TABLE

Capacitance μF Box code Max dimensions in mm B H L Max dU/dt $\text{V}/\mu\text{s}$ Article code

63 VDC/40 VAC

LEAD SPACING 10 MM

0.56	A01	4.0	9.0	13.0	8	MMK10 564K63A01L4 BULK
0.68	A01	4.0	9.0	13.0	8	MMK10 684K63A01L4 BULK
0.82	A01	4.0	9.0	13.0	8	MMK10 824K63A01L4 BULK
1.0	A02	4.5	10.5	13.0	8	MMK10 105K63A02L4 BULK
1.2	A02	4.5	10.5	13.0	8	MMK10 125K63A02L4 BULK
1.5	A03	5.0	11.0	13.0	8	MMK10 155K63A03L4 BULK
1.8	A04	6.0	12.0	13.0	8	MMK10 185K63A04L4 BULK
2.2	A04	6.0	12.0	13.0	8	MMK10 225K63A04L4 BULK

LEAD SPACING 15 MM

0.68	B04	5.5	10.5	18.0	5	MMK15 684K63B04L4 BULK
0.82	B04	5.5	10.5	18.0	5	MMK15 824K63B04L4 BULK
1.0	B04	5.5	10.5	18.0	5	MMK15 105K63B04L4 BULK
1.2	B04	5.5	10.5	18.0	5	MMK15 125K63B04L4 BULK
1.5	B04	5.5	10.5	18.0	5	MMK15 155K63B04L4 BULK
1.8	B04	5.5	10.5	18.0	5	MMK15 185K63B04L4 BULK
2.0	B05	5.5	12.5	18.0	5	MMK15 205K63B05L4 BULK
2.2	B05	5.5	12.5	18.0	5	MMK15 225K63B05L4 BULK
2.7	B10	6.5	12.5	18.0	5	MMK15 275K63B10L4 BULK
3.3	B10	6.5	12.5	18.0	5	MMK15 335K63B10L4 BULK
3.9	B06	7.5	14.5	18.0	5	MMK15 395K63B06L4 BULK
4.7	B06	7.5	14.5	18.0	5	MMK15 475K63B06L4 BULK
5.6	B11	8.5	16.0	18.0	5	MMK15 565K63B11L4 BULK
6.8	B14	9.5	17.5	18.0	5	MMK15 685K63B14L4 BULK

LEAD SPACING 22.5 MM

3.3	D13	6.5	14.5	26.0	3	MMK22.5 335K63D13L4 TRAY
3.9	D13	6.5	14.5	26.0	3	MMK22.5 395K63D13L4 TRAY
4.7	D13	6.5	14.5	26.0	3	MMK22.5 475K63D13L4 TRAY
5.6	D17	7.0	16.5	26.0	3	MMK22.5 565K63D17L4 TRAY
6.8	D17	7.0	16.5	26.0	3	MMK22.5 685K63D17L4 TRAY
8.2	D14	8.0	16.0	26.0	3	MMK22.5 825K63D14L4 TRAY
10	D15	9.0	18.5	26.0	3	MMK22.5 106K63D15L4 TRAY
12	D18	10.5	19.0	26.0	3	MMK22.5 126K63D18L4 TRAY
15	D16	11.0	21.5	26.0	3	MMK22.5 156K63D16L4 TRAY
18	D20	13.5	23.0	26.0	3	MMK22.5 186K63D20L4 TRAY
22	D19	15.5	24.5	26.0	3	MMK22.5 226K63D19L4 TRAY

LEAD SPACING 27.5 MM

8.2	F11	10.5	20.5	31.5	2	MMK27.5 825K63F11L4 TRAY
10	F11	10.5	20.5	31.5	2	MMK27.5 106K63F11L4 TRAY
12	F11	10.5	20.5	31.5	2	MMK27.5 126K63F11L4 TRAY
15	F12	11.5	22.5	31.5	2	MMK27.5 156K63F12L4 TRAY
15	F17	21.0	12.5	31.5	2	MMK27.5 156K63F17L4 TRAY
18	F12	11.5	22.5	31.5	2	MMK27.5 186K63F12L4 TRAY
22	F13	14.5	24.5	31.5	2	MMK27.5 226K63F13L4 TRAY
27	F14	17.5	28.0	31.5	2	MMK27.5 276K63F14L4 TRAY
33	F14	17.5	28.0	31.5	2	MMK27.5 336K63F14L4 TRAY
33	F19	27.5	16.0	31.5	2	MMK27.5 336K63F19L4 TRAY
39	F15	19.0	29.0	31.5	2	MMK27.5 396K63F15L4 TRAY
47	F16	21.0	30.0	31.5	2	MMK27.5 476K63F16L4 TRAY
47	F18	31.0	19.0	31.5	2	MMK27.5 476K63F18L4 TRAY

Capacitance μF Box code Max dimensions in mm B H L Max dU/dt $\text{V}/\mu\text{s}$ Article code

63 VDC/40 VAC

LEAD SPACING 37.5 MM

27	R05	13.0	24.0	41.0	1	MMK37.5 276K63R05L4 TRAY
33	R04	15.0	26.0	41.0	1	MMK37.5 336K63R04L4 TRAY
39	R04	15.0	26.0	41.0	1	MMK37.5 396K63R04L4 TRAY
47	R02	16.5	32.0	41.0	1	MMK37.5 476K63R02L4 TRAY
56	R03	19.0	36.0	41.0	1	MMK37.5 566K63R03L4 TRAY
68	R03	19.0	36.0	41.0	1	MMK37.5 686K63R03L4 TRAY
82	R06	21.0	38.0	41.0	1	MMK37.5 826K63R06L4 TRAY

100 VDC/63 VAC

LEAD SPACING 5 MM

0.0010	J01	2.5	6.5	7.2	30	MMK5 102K100J01L4 BULK
0.0012	J01	2.5	6.5	7.2	30	MMK5 122K100J01L4 BULK
0.0015	J01	2.5	6.5	7.2	30	MMK5 152K100J01L4 BULK
0.0018	J01	2.5	6.5	7.2	30	MMK5 182K100J01L4 BULK
0.0022	J01	2.5	6.5	7.2	30	MMK5 222K100J01L4 BULK
0.0027	J01	2.5	6.5	7.2	30	MMK5 272K100J01L4 BULK
0.0033	J01	2.5	6.5	7.2	30	MMK5 332K100J01L4 BULK
0.0039	J01	2.5	6.5	7.2	30	MMK5 392K100J01L4 BULK
0.0047	J01	2.5	6.5	7.2	30	MMK5 472K100J01L4 BULK
0.0056	J01	2.5	6.5	7.2	30	MMK5 562K100J01L4 BULK
0.0068	J01	2.5	6.5	7.2	30	MMK5 682K100J01L4 BULK
0.0082	J01	2.5	6.5	7.2	30	MMK5 822K100J01L4 BULK
0.010	J01	2.5	6.5	7.2	30	MMK5 103K100J01L4 BULK
0.012	J01	2.5	6.5	7.2	30	MMK5 123K100J01L4 BULK
0.015	J01	2.5	6.5	7.2	30	MMK5 153K100J01L4 BULK
0.018	J01	2.5	6.5	7.2	30	MMK5 183K100J01L4 BULK
0.022	J01	2.5	6.5	7.2	30	MMK5 223K100J01L4 BULK
0.027	J01	2.5	6.5	7.2	30	MMK5 273K100J01L4 BULK
0.033	J01	2.5	6.5	7.2	30	MMK5 333K100J01L4 BULK
0.039	J01	2.5	6.5	7.2	30	MMK5 393K100J01L4 BULK
0.047	J01	2.5	6.5	7.2	30	MMK5 473K100J01L4 BULK
0.056	J01	2.5	6.5	7.2	30	MMK5 563K100J01L4 BULK
0.068	J01	2.5	6.5	7.2	30	MMK5 683K100J01L4 BULK
0.082	J01	2.5	6.5	7.2	30	MMK5 823K100J01L4 BULK
0.10	J01	2.5	6.5	7.2	30	MMK5 104K100J01L4 BULK
0.12	J02	3.5	8.0	7.2	30	MMK5 124K100J02L4 BULK
0.15	J02	3.5	8.0	7.2	30	MMK5 154K100J02L4 BULK
0.18	J02	3.5	8.0	7.2	30	MMK5 184K100J02L4 BULK
0.22	J02	3.5	8.0	7.2	30	MMK5 224K100J02L4 BULK
0.27	J03	4.5	9.0	7.2	30	MMK5 274K100J03L4 BULK
0.33	J03	4.5	9.0	7.2	30	MMK5 334K100J03L4 BULK
0.39	J04	5.0	10.0	7.2	30	MMK5 394K100J04L4 BULK
0.47	J04	5.0	10.0	7.2	30	MMK5 474K100J04L4 BULK
0.56	J05	6.0	11.0	7.2	30	MMK5 564K100J05L4 BULK
0.68	J05	6.0	11.0	7.2	30	MMK5 684K100J05L4 BULK
0.82	J06	7.2	13.0	7.2	30	MMK5 824K100J06L4 BULK
1.0	J06	7.2	13.0	7.2	30	MMK5 105K100J06L4 BULK

LEAD SPACING 7.5 MM

0.0010	K00	2.5	6.0	10.0	20	MMK7.5 102K100K00L4 BULK
0.0012	K00	2.5	6.0	10.0	20	MMK7.5 122K100K00L4 BULK
0.0015	K00	2.5	6.0	10.0	20	MMK7.5 152K100K00L4 BULK
0.0018	K00	2.5	6.0	10.0	20	MMK7.5 182K100K00L4 BULK
0.0022	K00	2.5	6.0	10.0	20	MMK7.5 222K100K00L4 BULK
0.0027	K00	2.5	6.0	10.0	20	MMK7.5 272K100K00L4 BULK
0.0033	K00	2.5	6.0	10.0	20	MMK7.5 332K100K00L4 BULK
0.0039	K00	2.5	6.0	10.0	20	MMK7.5 392K100K00L4 BULK
0.0047	K00	2.5	6.0	10.0	20	MMK7.5 472K100K00L4 BULK
0.0056	K00	2.5	6.0	10.0	20	MMK7.5 562K100K00L4 BULK

ARTICLE TABLE

Capaci- Box Max dimen- Max
tance code sions in mm dU/dt
µF B H L V/µs Article code

Capaci- Box Max dimen- Max
tance code sions in mm dU/dt
µF B H L V/µs Article code

250 VDC/160 VA

400 VDC/200 VAC

LEAD SPACING 15 MM

LEAD SPACING 5 MM

Table with 7 columns: Capacitance, Box code, B, H, L, Max dU/dt, Article code. Contains rows for capacitors with 15mm lead spacing.

Table with 7 columns: Capacitance, Box code, B, H, L, Max dU/dt, Article code. Contains rows for capacitors with 5mm lead spacing.

LEAD SPACING 22.5 MM

Table with 7 columns: Capacitance, Box code, B, H, L, Max dU/dt, Article code. Contains rows for capacitors with 22.5mm lead spacing.

LEAD SPACING 7.5 MM

Table with 7 columns: Capacitance, Box code, B, H, L, Max dU/dt, Article code. Contains rows for capacitors with 7.5mm lead spacing.

LEAD SPACING 27.5 MM

Table with 7 columns: Capacitance, Box code, B, H, L, Max dU/dt, Article code. Contains rows for capacitors with 27.5mm lead spacing.

LEAD SPACING 37.5 MM

Table with 7 columns: Capacitance, Box code, B, H, L, Max dU/dt, Article code. Contains rows for capacitors with 37.5mm lead spacing.

LEAD SPACING 10 MM

Table with 7 columns: Capacitance, Box code, B, H, L, Max dU/dt, Article code. Contains rows for capacitors with 10mm lead spacing.

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Other KEMET Resources

Tools	
Resource	Location
Configure A Part: CapEdge	http://capacitoredge.kemet.com
SPICE & FIT Software	http://www.kemet.com/spice
Search Our FAQs: KnowledgeEdge	http://www.kemet.com/keask

Product Information	
Resource	Location
Products	http://www.kemet.com/products
Technical Resources (Including Soldering Techniques)	http://www.kemet.com/technicalpapers
RoHS Statement	http://www.kemet.com/rohs
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Resource	Location
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