



## Film Capacitors

### Metallized Polyester Film Capacitors (MKT)

**Series/Type:** B32520 ... B32529

**Date:** August 2004

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**Typical applications**

- Blocking
- Coupling, decoupling
- Bypassing
- RFI for automotive

**Climatic**

- Max. operating temperature: 125 °C
- Climatic category (IEC 60068-1): 55/125/56

**Construction**

- Dielectric: polyethylene terephthalate (polyester, PET)
- Stacked-film technology for lead spacing 5 to 15 mm  
= code D or C in digit 7 of ordering code
- Wound capacitor technology for lead spacing 10 to 27.5 mm  
= code N, Q or T in digit 7 of ordering code
- Plastic case (UL 94 V-0)
- Epoxy resin sealing (UL 94 V-0)

**Features**

- High pulse strength
- High contact reliability

**Terminals**

- Parallel wire leads, lead-free tinned
- Special lead lengths available on request

**Marking**

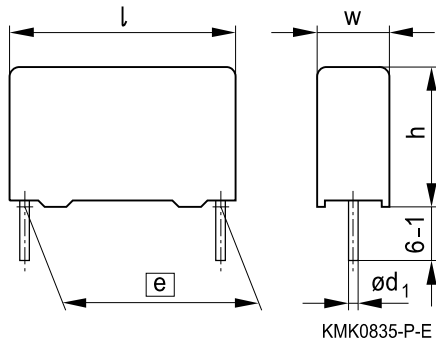
Manufacturer's logo,  
rated capacitance (coded), cap. tolerance (code letter),  
rated DC voltage, date of manufacture (coded),  
coded type ("1") for lead spacing 5 mm,  
series and lot number for lead spacing  $\geq 10$  mm

**Delivery mode**

Bulk (untaped)

Taped (Ammo pack or reel)

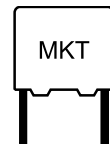
For notes on taping, refer to chapter "Taping and packing".

**Dimensional drawing**


Dimensions in mm

Lead spacing	Lead diameter	Type
$\boxed{e} \pm 0.4$	$d_1$	
5.0	0.5	B32529
7.5	0.5	B32520
10.0	0.6 <sup>1)</sup>	B32521
15.0	0.8	B32522
22.5	0.8	B32523
27.5	0.8	B32524

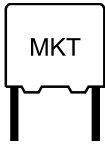
1) 0.5 mm for capacitor width  $w = 4$  mm



Overview of available types

Lead spacing	5.0 mm						7.5 mm				10.0 mm					
Type	B32529						B32520				B32521					
Page	5						9				11					
Technology	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	w
$V_R$ (VDC)	50	63	100	250	400	630	63	100	250	400	63	100	250	400	630	
$V_{rms}$ (VAC)	32	40	63	160	200	400	40	63	160	200	40	63	160	200	200	
$C_R$ ( $\mu$ F)																
0.0010																
0.0015																
0.0022																
0.0033																
0.0047																
0.0068																
0.010																
0.015																
0.022																
0.033																
0.047																
0.068																
0.10																
0.15																
0.22																
0.33																
0.47																
0.68																
1.0																
1.5																
2.2																
3.3																



Technology: s = Stacked-film technology / w = Wound capacitor technology



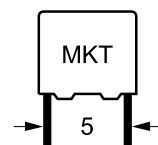
**B32520 ... B32529**

**General purpose (stacked/wound)**

**Overview of available types**

Lead spacing	15.0 mm						22.5 mm						27.5 mm				
Type	B32522						B32523						B32524				
Page	13						15						16				
Technology	s	s/w	s/w	s	w	w	w	w	w	w	w	w	w	w	w	w	
$V_R$ (VDC)	63	100	250	400	450	630	63	100	250	400	630	63	100	250	400	630	
$V_{rms}$ (VAC)	40	63	160	200	200	200	40	63	160	200	200	40	63	160	200	220	
$C_R$ ( $\mu F$ )																	
0.033																	
0.047																	
0.068																	
0.10																	
0.15																	
0.22																	
0.33																	
0.47																	
0.68																	
1.0																	
1.5																	
2.2																	
3.3																	
4.7																	
6.8																	
10																	
15																	
22																	
33																	
47																	
68																	

Technology: s = Stacked-film technology / w = Wound capacitor technology


**Ordering codes and packing units (lead spacing 5 mm)**

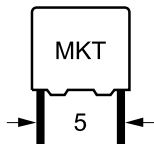
$V_R$ VDC	$V_{rms}$ $f \leq 60$ Hz VAC	$C_R$ $\mu F$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
50	32	0.33	$3.0 \times 6.5 \times 7.2$	B32529C5334+***	2700	2400	2000
		0.47	$3.5 \times 8.0 \times 7.2$	B32529C5474+***	2300	2000	2000
		0.68	$4.5 \times 9.5 \times 7.3$	B32529C5684+***	1800	1500	1500
		1.0	$4.5 \times 9.5 \times 7.3$	B32529C5105+***	1800	1500	1500
		1.5	$6.0 \times 10.5 \times 7.5$	B32529C5155+***	1300	1100	1000
		2.2	$7.8 \times 13.0 \times 7.8$	B32529D5225+***	1000	800	1000
		3.3	$7.8 \times 13.0 \times 7.8$	B32529D5335+***	1000	800	1000
63	40	0.0010	$2.5 \times 6.5 \times 7.2$	B32529C0102+***	3200	2800	2000
		0.0015	$2.5 \times 6.5 \times 7.2$	B32529C0152+***	3200	2800	2000
		0.0022	$2.5 \times 6.5 \times 7.2$	B32529C0222+***	3200	2800	2000
		0.0033	$2.5 \times 6.5 \times 7.2$	B32529C0332+***	3200	2800	2000
		0.0047	$2.5 \times 6.5 \times 7.2$	B32529C0472+***	3200	2800	2000
		0.0068	$2.5 \times 6.5 \times 7.2$	B32529C0682+***	3200	2800	2000
		0.010	$2.5 \times 6.5 \times 7.2$	B32529C0103+***	3200	2800	2000
		0.015	$2.5 \times 6.5 \times 7.2$	B32529C0153+***	3200	2800	2000
		0.022	$2.5 \times 6.5 \times 7.2$	B32529C0223+***	3200	2800	2000
		0.033	$2.5 \times 6.5 \times 7.2$	B32529C0333+***	3200	2800	2000
		0.047	$2.5 \times 6.5 \times 7.2$	B32529C0473+***	3200	2800	2000
		0.068	$2.5 \times 6.5 \times 7.2$	B32529C0683+***	3200	2800	2000
		0.10	$2.5 \times 6.5 \times 7.2$	B32529C0104+***	3200	2800	2000
		0.15	$2.5 \times 6.5 \times 7.2$	B32529C0154+***	3200	2800	2000
		0.22	$2.5 \times 6.5 \times 7.2$	B32529C0224+***	3200	2800	2000
		0.33	$3.0 \times 6.5 \times 7.2$	B32529C0334+***	2700	2400	2000
		0.47	$3.5 \times 8.0 \times 7.2$	B32529C0474+***	2300	2000	2000
0.68	$4.5 \times 9.5 \times 7.3$	B32529C0684+***	1800	1500	1500		
1.0	$4.5 \times 9.5 \times 7.3$	B32529C0105+***	1800	1500	1500		
1.5	$6.0 \times 10.5 \times 7.5$	B32529C0155+***	1300	1100	1000		
2.2	$7.8 \times 13.0 \times 7.8$	B32529D0225+***	1000	800	1000		

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:  
M =  $\pm 20\%$   
K =  $\pm 10\%$   
J =  $\pm 5\%$

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


**B32529**
**General purpose (stacked)**
**Ordering codes and packing units (lead spacing 5 mm)**

$V_R$	$V_{rms}$ $f \leq 60$ Hz	$C_R$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
VDC	VAC	$\mu F$					
100	63	0.0010	$2.5 \times 6.5 \times 7.2$	B32529C1102+***	3200	2800	2000
		0.0015	$2.5 \times 6.5 \times 7.2$	B32529C1152+***	3200	2800	2000
		0.0022	$2.5 \times 6.5 \times 7.2$	B32529C1222+***	3200	2800	2000
		0.0033	$2.5 \times 6.5 \times 7.2$	B32529C1332+***	3200	2800	2000
		0.0047	$2.5 \times 6.5 \times 7.2$	B32529C1472+***	3200	2800	2000
		0.0068	$2.5 \times 6.5 \times 7.2$	B32529C1682+***	3200	2800	2000
		0.010	$2.5 \times 6.5 \times 7.2$	B32529C1103+***	3200	2800	2000
		0.015	$2.5 \times 6.5 \times 7.2$	B32529C1153+***	3200	2800	2000
		0.022	$2.5 \times 6.5 \times 7.2$	B32529C1223+***	3200	2800	2000
		0.033	$2.5 \times 6.5 \times 7.2$	B32529C1333+***	3200	2800	2000
		0.047	$2.5 \times 6.5 \times 7.2$	B32529C1473+***	3200	2800	2000
		0.068	$2.5 \times 6.5 \times 7.2$	B32529C1683+***	3200	2800	2000
		0.10	$2.5 \times 6.5 \times 7.2$	B32529C1104+***	3200	2800	2000
		0.15	$3.0 \times 6.5 \times 7.2$	B32529C1154+***	2700	2400	2000
		0.22	$3.5 \times 8.0 \times 7.2$	B32529C1224+***	2300	2000	2000
		0.33	$3.5 \times 8.0 \times 7.2$	B32529C1334+***	2300	2000	2000
		0.47	$4.5 \times 9.5 \times 7.3$	B32529C1474+***	1800	1500	1500
0.68	$6.0 \times 10.5 \times 7.5$	B32529C1684+***	1300	1100	1000		
1.0	$7.8 \times 13.0 \times 7.8$	B32529D1105+***	1000	800	1000		

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

 M =  $\pm 20\%$ 

 K =  $\pm 10\%$ 

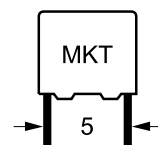
 J =  $\pm 5\%$ 

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)


**Ordering codes and packing units (lead spacing 5 mm)**

$V_R$	$V_{rms}$ $f \leq 60$ Hz	$C_R$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
VDC	VAC	$\mu F$					
250	160	0.0010	2.5 × 6.5 × 7.2	B32529C3102+***	3200	2800	2000
		0.0015	2.5 × 6.5 × 7.2	B32529C3152+***	3200	2800	2000
		0.0022	2.5 × 6.5 × 7.2	B32529C3222+***	3200	2800	2000
		0.0033	2.5 × 6.5 × 7.2	B32529C3332+***	3200	2800	2000
		0.0047	2.5 × 6.5 × 7.2	B32529C3472+***	3200	2800	2000
		0.0068	2.5 × 6.5 × 7.2	B32529C3682+***	3200	2800	2000
		0.010	2.5 × 6.5 × 7.2	B32529C3103+***	3200	2800	2000
		0.015	2.5 × 6.5 × 7.2	B32529C3153+***	3200	2800	2000
		0.022	2.5 × 6.5 × 7.2	B32529C3223+***	3200	2800	2000
		0.033	3.0 × 6.5 × 7.2	B32529C3333+***	2700	2400	2000
		0.047	3.5 × 8.0 × 7.2	B32529C3473+***	2300	2000	2000
		0.068	4.5 × 9.5 × 7.3	B32529C3683+***	1800	1500	1500
		0.10	4.5 × 9.5 × 7.3	B32529C3104+***	1800	1500	1500
		0.15	5.0 × 10.0 × 7.5	B32529C3154+***	1600	1400	1500
		0.22	7.8 × 13.0 × 7.8	B32529D3224+***	1000	800	1000
		0.33	7.8 × 13.0 × 7.8	B32529C3334+***	1000	800	1000
0.47	7.8 × 13.0 × 7.8	B32529C3474+***	1000	800	1000		
400	200	0.0010	2.5 × 6.5 × 7.2	B32529C6102+***	3200	2800	2000
		0.0015	2.5 × 6.5 × 7.2	B32529C6152+***	3200	2800	2000
		0.0022	2.5 × 6.5 × 7.2	B32529C6222+***	3200	2800	2000
		0.0033	2.5 × 6.5 × 7.2	B32529C6332+***	3200	2800	2000
		0.0047	2.5 × 6.5 × 7.2	B32529C6472+***	3200	2800	2000
		0.0068	2.5 × 6.5 × 7.2	B32529C6682+***	3200	2800	2000
		0.010	3.0 × 6.5 × 7.2	B32529C6103+***	2700	2400	2000
		0.015	3.5 × 8.0 × 7.2	B32529C6153+***	2300	2000	2000
		0.022	4.5 × 9.5 × 7.3	B32529C6223+***	1800	1500	1500
		0.033	5.0 × 10.0 × 7.5	B32529C6333+***	1600	1400	1500
		0.047	6.0 × 10.5 × 7.5	B32529C6473+***	1300	1100	1000
		0.068	7.8 × 13.0 × 7.8	B32529D6683+***	1000	800	1000
		0.10	7.8 × 13.0 × 7.8	B32529D6104+***	1000	800	1000

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

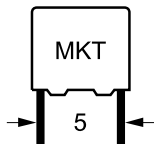
J = ±5%

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)



**B32529**

**General purpose (stacked)**

**Ordering codes and packing units (lead spacing 5 mm)**

$V_R$	$V_{rms}$ $f \leq 60 \text{ Hz}$	$C_R$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
VDC	VAC	$\mu\text{F}$					
630	400	0.0010	$2.5 \times 6.5 \times 7.2$	B32529C8102+***	3200	2800	2000
		0.0015	$2.5 \times 6.5 \times 7.2$	B32529C8152+***	3200	2800	2000
		0.0022	$2.5 \times 6.5 \times 7.2$	B32529C8222+***	3200	2800	2000
		0.0033	$3.5 \times 8.0 \times 7.2$	B32529C8332+***	2300	2000	2000
		0.0047	$3.5 \times 8.0 \times 7.2$	B32529C8472+***	2300	2000	2000
		0.0068	$3.5 \times 8.0 \times 7.2$	B32529C8682+***	2300	2000	2000
		0.010	$5.0 \times 10.0 \times 7.5$	B32529C8103+***	1600	1400	1500

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

J =  $\pm 5\%$

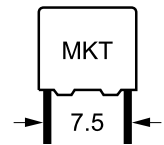
\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)




**Ordering codes and packing units (lead spacing 7.5 mm)**

$V_R$ VDC	$V_{rms}$ $f \leq 60$ Hz VAC	$C_R$ $\mu F$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
63	40	0.068	$2.5 \times 7.0 \times 10.0$	B32520C0683+***	3200	2800	2500
		0.10	$2.5 \times 7.0 \times 10.0$	B32520C0104+***	3200	2800	2500
		0.15	$2.5 \times 7.0 \times 10.0$	B32520C0154+***	3200	2800	2500
		0.22	$2.5 \times 7.0 \times 10.0$	B32520C0224+***	3200	2800	2500
		0.33	$2.5 \times 7.0 \times 10.0$	B32520C0334+***	3200	2800	2500
		0.47	$3.0 \times 8.0 \times 10.0$	B32520C0474+***	2600	2400	2000
		0.68	$4.0 \times 8.5 \times 10.0$	B32520C0684+***	2000	1800	1500
		1.0	$5.0 \times 10.5 \times 10.0$	B32520C0105+***	1600	1400	1000
		1.5	$5.0 \times 10.5 \times 10.0$	B32520C0155+***	1600	1400	1000
	2.2	$6.0 \times 12.0 \times 10.3$	B32520C0225+***	1300	1100	750	
100	63	0.047	$2.5 \times 7.0 \times 10.0$	B32520C1473+***	3200	2800	2500
		0.068	$2.5 \times 7.0 \times 10.0$	B32520C1683+***	3200	2800	2500
		0.10	$2.5 \times 7.0 \times 10.0$	B32520C1104+***	3200	2800	2500
		0.15	$3.0 \times 8.0 \times 10.0$	B32520C1154+***	2600	2400	2000
		0.22	$3.0 \times 8.0 \times 10.0$	B32520C1224+***	2600	2400	2000
		0.33	$4.0 \times 8.5 \times 10.0$	B32520C1334+***	2000	1800	1500
		0.47	$5.0 \times 10.5 \times 10.0$	B32520C1474+***	1600	1400	1000
		0.68	$6.0 \times 12.0 \times 10.3$	B32520C1684+***	1300	1100	750
		1.0	$6.0 \times 12.0 \times 10.3$	B32520C1105+***	1300	1100	750
250	160	0.015	$2.5 \times 7.0 \times 10.0$	B32520C3153+***	3200	2800	2500
		0.022	$2.5 \times 7.0 \times 10.0$	B32520C3223+***	3200	2800	2500
		0.033	$2.5 \times 7.0 \times 10.0$	B32520C3333+***	3200	2800	2500
		0.047	$2.5 \times 7.0 \times 10.0$	B32520C3473+***	3200	2800	2500
		0.068	$3.0 \times 8.0 \times 10.0$	B32520C3683+***	2600	2400	2000
		0.10	$4.0 \times 8.5 \times 10.0$	B32520C3104+***	2000	1800	1500
		0.15	$5.0 \times 10.5 \times 10.0$	B32520C3154+***	1600	1400	1000
		0.22	$6.0 \times 12.0 \times 10.3$	B32520C3224+***	1300	1100	750

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

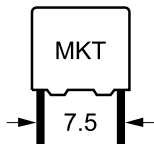
J =  $\pm 5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)


**B32520**
**General purpose (stacked)**
**Ordering codes and packing units (lead spacing 7.5 mm)**

$V_R$	$V_{rms}$ $f \leq 60 \text{ Hz}$	$C_R$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
VDC	VAC	$\mu\text{F}$					
400	200	0.0010	$2.5 \times 7.0 \times 10.0$	B32520C6102+***	3200	2800	2500
		0.0015	$2.5 \times 7.0 \times 10.0$	B32520C6152+***	3200	2800	2500
		0.0022	$2.5 \times 7.0 \times 10.0$	B32520C6222+***	3200	2800	2500
		0.0033	$2.5 \times 7.0 \times 10.0$	B32520C6332+***	3200	2800	2500
		0.0047	$2.5 \times 7.0 \times 10.0$	B32520C6472+***	3200	2800	2500
		0.0068	$2.5 \times 7.0 \times 10.0$	B32520C6682+***	3200	2800	2500
		0.010	$2.5 \times 7.0 \times 10.0$	B32520C6103+***	3200	2800	2500
		0.015	$3.0 \times 8.0 \times 10.0$	B32520C6153+***	2600	2400	2000
		0.022	$4.0 \times 8.5 \times 10.0$	B32520C6223+***	2000	1800	1500
		0.033	$5.0 \times 10.5 \times 10.0$	B32520C6333+***	1600	1400	1000
		0.047	$5.0 \times 10.5 \times 10.0$	B32520C6473+***	1600	1400	1000
		0.068	$6.0 \times 12.0 \times 10.3$	B32520C6683+***	1300	1100	750

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

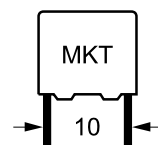
J =  $\pm 5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)


**Ordering codes and packing units (lead spacing 10 mm)**

$V_R$ VDC	$V_{rms}$ $f \leq 60$ Hz VAC	$C_R$ $\mu F$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
63	40	0.47	4.0 × 7.0 × 13.0	B32521C0474+***	1000	1700	1000
		0.68	4.0 × 7.0 × 13.0	B32521C0684+***	1000	1700	1000
		1.0	4.0 × 9.0 × 13.0	B32521C0105+***	1000	1700	1000
		1.5	5.0 × 11.0 × 13.0	B32521C0155+***	830	1300	1000
		2.2	5.0 × 11.0 × 13.0	B32521C0225+***	830	1300	1000
		3.3	6.0 × 12.0 × 13.0	B32521C0335+***	680	1100	1000
100	63	0.10	4.0 × 7.0 × 13.0	B32521C1104+***	1000	1700	1000
		0.15	4.0 × 7.0 × 13.0	B32521C1154+***	1000	1700	1000
		0.22	4.0 × 7.0 × 13.0	B32521C1224+***	1000	1700	1000
		0.33	4.0 × 7.0 × 13.0	B32521C1334+***	1000	1700	1000
		0.47	4.0 × 9.0 × 13.0	B32521C1474+***	1000	1700	1000
		0.68	5.0 × 11.0 × 13.0	B32521C1684+***	830	1300	1000
		1.0	6.0 × 12.0 × 13.0	B32521C1105+***	680	1100	1000
250	160	0.033	4.0 × 7.0 × 13.0	B32521C3333+***	1000	1700	1000
		0.047	4.0 × 7.0 × 13.0	B32521C3473+***	1000	1700	1000
		0.068	4.0 × 7.0 × 13.0	B32521C3683+***	1000	1700	1000
		0.10	4.0 × 7.0 × 13.0	B32521C3104+***	1000	1700	1000
		0.15	4.0 × 9.0 × 13.0	B32521C3154+***	1000	1700	1000
		0.22	5.0 × 11.0 × 13.0	B32521C3224+***	830	1300	1000
		0.33	5.0 × 11.0 × 13.0	B32521C3334+***	830	1300	1000
		0.47	6.0 × 12.0 × 13.0	B32521C3474+***	680	1100	1000
400	200	0.010	4.0 × 7.0 × 13.0	B32521C6103+***	1000	1700	1000
		0.015	4.0 × 7.0 × 13.0	B32521C6153+***	1000	1700	1000
		0.022	4.0 × 7.0 × 13.0	B32521C6223+***	1000	1700	1000
		0.033	4.0 × 9.0 × 13.0	B32521C6333+***	1000	1700	1000
		0.047	5.0 × 11.0 × 13.0	B32521C6473+***	830	1300	1000
		0.068	5.0 × 11.0 × 13.0	B32521C6683+***	830	1300	1000
		0.10	6.0 × 12.0 × 13.0	B32521C6104+***	680	1100	1000

**▽ Wound capacitor technology**

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

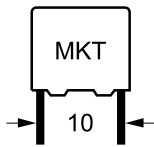
J = ±5%

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)



**B32521**

**General purpose (stacked/wound)**

**Ordering codes and packing units (lead spacing 10 mm)**

$V_R$	$V_{rms}$ $f \leq 60 \text{ Hz}$	$C_R$		Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
VDC	VAC	$\mu\text{F}$						
630	200	0.0068	∇	$4.0 \times 9.0 \times 13.0$	B32521N8682+***	1000	1700	1000
		0.010	∇	$4.0 \times 9.0 \times 13.0$	B32521N8103+***	1000	1700	1000
		0.015	∇	$5.0 \times 11.0 \times 13.0$	B32521N8153+***	830	1300	1000
		0.022	∇	$5.0 \times 11.0 \times 13.0$	B32521N8223+***	830	1300	1000
		0.033	∇	$6.0 \times 12.0 \times 13.0$	B32521N8333+***	680	1100	1000

∇ Wound capacitor technology

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

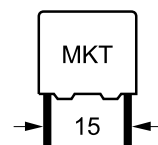
J =  $\pm 5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)


**Ordering codes and packing units (lead spacing 15 mm)**

$V_R$	$V_{rms}$ $f \leq 60$ Hz VAC	$C_R$ $\mu F$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
63	40	0.68	5.0 × 10.5 × 18.0	B32522C0684+***	1170	1300	1000
		1.0	5.0 × 10.5 × 18.0	B32522C0105+***	1170	1300	1000
		1.5	5.0 × 10.5 × 18.0	B32522C0155+***	1170	1300	1000
		2.2	5.0 × 10.5 × 18.0	B32522C0225+***	1170	1300	1000
		3.3	6.0 × 11.0 × 18.0	B32522C0335+***	960	1100	1000
		4.7	7.0 × 12.5 × 18.0	B32522C0475+***	830	900	1000
		6.8	8.5 × 14.5 × 18.0	B32522C0685+***	680	700	500
		10	9.0 × 17.5 × 18.0	B32522C0106+***	640	700	500
100	63	0.33	5.0 × 10.5 × 18.0	B32522C1334+***	1170	1300	1000
		0.47	5.0 × 10.5 × 18.0	B32522C1474+***	1170	1300	1000
		0.68	5.0 × 10.5 × 18.0	B32522C1684+***	1170	1300	1000
		1.0	5.0 × 10.5 × 18.0	B32522C1105+***	1170	1300	1000
		1.0 ▽	6.0 × 11.0 × 18.0	B32522Q1105+***	960	1100	1000
		1.5	6.0 × 11.0 × 18.0	B32522C1155+***	960	1100	1000
		1.5 ▽	7.0 × 12.5 × 18.0	B32522Q1155+***	830	900	1000
		2.2	7.0 × 12.5 × 18.0	B32522C1225+***	830	900	1000
		2.2 ▽	8.5 × 14.5 × 18.0	B32522Q1225+***	680	700	500
		3.3	8.5 × 14.5 × 18.0	B32522C1335+***	680	700	500
		3.3 ▽	9.0 × 17.5 × 18.0	B32522Q1335+***	640	700	500
		4.7	9.0 × 17.5 × 18.0	B32522C1475+***	640	700	500
		4.7 ▽	11.0 × 18.5 × 18.0	B32522Q1475+***	–	550	300
250	160	0.10	5.0 × 10.5 × 18.0	B32522C3104+***	1170	1300	1000
		0.15	5.0 × 10.5 × 18.0	B32522C3154+***	1170	1300	1000
		0.22	5.0 × 10.5 × 18.0	B32522C3224+***	1170	1300	1000
		0.33	5.0 × 10.5 × 18.0	B32522C3334+***	1170	1300	1000
		0.47	6.0 × 11.0 × 18.0	B32522C3474+***	960	1100	1000
		0.68	7.0 × 12.5 × 18.0	B32522C3684+***	830	900	1000
		1.0	8.5 × 14.5 × 18.0	B32522C3105+***	680	700	500
		1.0 ▽	8.5 × 14.5 × 18.0	B32522N3105+***	680	700	500
		1.5	9.0 × 17.5 × 18.0	B32522C3155+***	640	700	500
		1.5 ▽	9.0 × 17.5 × 18.0	B32522N3155+***	640	700	500

▽ Wound capacitor technology

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

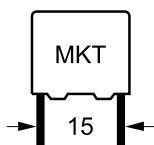
J = ±5%

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)


**B32522**
**General purpose (stacked/wound)**
**Ordering codes and packing units (lead spacing 15 mm)**

$V_R$	$V_{rms}$ $f \leq 60 \text{ Hz}$	$C_R$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
VDC	VAC	$\mu\text{F}$					
400	200	0.047	$5.0 \times 10.5 \times 18.0$	B32522C6473+***	1170	1300	1000
		0.068	$5.0 \times 10.5 \times 18.0$	B32522C6683+***	1170	1300	1000
		0.10	$5.0 \times 10.5 \times 18.0$	B32522C6104+***	1170	1300	1000
		0.15	$6.0 \times 11.0 \times 18.0$	B32522C6154+***	960	1100	1000
		0.22	$7.0 \times 12.5 \times 18.0$	B32522C6224+***	830	900	1000
		0.33	$8.5 \times 14.5 \times 18.0$	B32522C6334+***	680	700	500
450	200	0.10	$\nabla$ $5.0 \times 10.5 \times 18.0$	B32522N6104+***	1170	1300	1000
		0.15	$\nabla$ $5.0 \times 10.5 \times 18.0$	B32522N6154+***	1170	1300	1000
		0.22	$\nabla$ $6.0 \times 11.0 \times 18.0$	B32522N6224+***	960	1100	1000
		0.33	$\nabla$ $7.0 \times 12.5 \times 18.0$	B32522N6334+***	830	900	1000
		0.47	$\nabla$ $8.5 \times 14.5 \times 18.0$	B32522N6474+***	680	700	500
		0.47	$\nabla$ $8.0 \times 14.0 \times 18.0$	B32522T6474+***	–	750	500
		0.68	$\nabla$ $9.0 \times 17.5 \times 18.0$	B32522N6684+***	640	700	500
		0.68	$\nabla$ $13.0 \times 14.0 \times 18.0$	B32522T6684+***	–	500	300
630	200	0.033	$\nabla$ $5.0 \times 10.5 \times 18.0$	B32522Q8333+***	1170	1300	1000
		0.047	$\nabla$ $5.0 \times 10.5 \times 18.0$	B32522Q8473+***	1170	1300	1000
		0.068	$\nabla$ $6.0 \times 11.0 \times 18.0$	B32522Q8683+***	960	1100	1000
		0.10	$\nabla$ $7.0 \times 12.5 \times 18.0$	B32522Q8104+***	830	900	1000
		0.15	$\nabla$ $8.5 \times 14.5 \times 18.0$	B32522Q8154+***	680	700	500
		0.15	$\nabla$ $8.0 \times 14.0 \times 18.0$	B32522T8154+***	–	750	500
		0.22	$\nabla$ $9.0 \times 17.5 \times 18.0$	B32522Q8224+***	640	700	500
		0.33	$\nabla$ $11.0 \times 18.5 \times 18.0$	B32522Q8334+***	–	550	300

$\nabla$  Wound capacitor technology

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

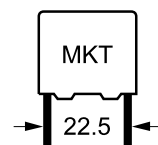
J =  $\pm 5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)


**Ordering codes and packing units (lead spacing 22.5 mm)**

$V_R$ VDC	$V_{rms}$ $f \leq 60$ Hz VAC	$C_R$ $\mu F$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
63	40	3.3	6.0 × 15.0 × 26.5	B32523Q0335+***	680	700	720
		4.7	7.0 × 16.0 × 26.5	B32523Q0475+***	580	600	630
		6.8	8.5 × 16.5 × 26.5	B32523Q0685+***	480	500	510
		10	10.5 × 18.5 × 26.5	B32523Q0106+***	390	400	540
		15	12.0 × 22.0 × 26.5	B32523Q0156+***	–	–	450
100	63	1.5	6.0 × 15.0 × 26.5	B32523Q1155+***	680	700	720
		2.2	6.0 × 15.0 × 26.5	B32523Q1225+***	680	700	720
		3.3	6.0 × 15.0 × 26.5	B32523Q1335+***	680	700	720
		4.7	7.0 × 16.0 × 26.5	B32523Q1475+***	580	600	630
		6.8	8.5 × 16.5 × 26.5	B32523Q1685+***	480	500	510
		10	10.5 × 18.5 × 26.5	B32523Q1106+***	390	400	540
		15	12.0 × 22.0 × 26.5	B32523Q1156+***	–	–	450
250	160	0.47	6.0 × 15.0 × 26.5	B32523Q3474+***	680	700	720
		0.68	6.0 × 15.0 × 26.5	B32523Q3684+***	680	700	720
		1.0	6.0 × 15.0 × 26.5	B32523Q3105+***	680	700	720
		1.5	7.0 × 16.0 × 26.5	B32523Q3155+***	580	600	630
		2.2	10.5 × 16.5 × 26.5	B32523Q3225+***	390	400	540
		3.3	11.0 × 20.5 × 26.5	B32523Q3335+***	370	350	510
400	200	0.22	6.0 × 15.0 × 26.5	B32523Q6224+***	680	700	720
		0.33	6.0 × 15.0 × 26.5	B32523Q6334+***	680	700	720
		0.47	7.0 × 16.0 × 26.5	B32523Q6474+***	580	600	630
		0.68	8.5 × 16.5 × 26.5	B32523Q6684+***	480	500	510
		1.0	10.5 × 16.5 × 26.5	B32523Q6105+***	390	400	540
		1.5	11.0 × 20.5 × 26.5	B32523Q6155+***	370	350	510
630	200	0.10	6.0 × 15.0 × 26.5	B32523Q8104+***	680	700	720
		0.15	6.0 × 15.0 × 26.5	B32523Q8154+***	680	700	720
		0.22	7.0 × 16.0 × 26.5	B32523Q8224+***	580	600	630
		0.33	10.5 × 16.5 × 26.5	B32523Q8334+***	390	400	540
		0.47	10.5 × 20.5 × 26.5	B32523Q8474+***	390	400	540
		0.68	12.0 × 22.0 × 26.5	B32523Q8684+***	–	–	450

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

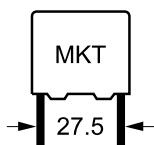
J = ±5%

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)


**B32524**
**General purpose (wound)**
**Ordering codes and packing units (lead spacing 27.5 mm)**

$V_R$	$V_{rms}$ $f \leq 60$ Hz	$C_R$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
VDC	VAC	$\mu F$					
63	40	4.7	11.0 × 21.0 × 31.5	B32524Q0475+***	–	350	320
		6.8	11.0 × 21.0 × 31.5	B32524Q0685+***	–	350	320
		10	11.0 × 21.0 × 31.5	B32524Q0106+***	–	350	320
		15	11.0 × 21.0 × 31.5	B32524Q0156+***	–	300	280
		22	14.0 × 24.5 × 31.5	B32524Q0226+***	–	350	320
		33	18.0 × 27.5 × 31.5	B32524Q0336+***	–	–	200
		47	21.0 × 31.0 × 31.5	B32524Q0476+***	–	–	180
		68	22.0 × 36.5 × 31.5	B32524Q0686+***	–	–	160
100	63	4.7	11.0 × 21.0 × 31.5	B32524Q1475+***	–	350	320
		6.8	11.0 × 21.0 × 31.5	B32524Q1685+***	–	350	320
		10	11.0 × 21.0 × 31.5	B32524Q1106+***	–	350	320
		15	11.0 × 21.0 × 31.5	B32524Q1156+***	–	300	280
		22	14.0 × 24.5 × 31.5	B32524Q1226+***	–	350	320
		33	18.0 × 27.5 × 31.5	B32524Q1336+***	–	–	200
		47	21.0 × 31.0 × 31.5	B32524Q1476+***	–	–	180
		68	22.0 × 36.5 × 31.5	B32524Q1686+***	–	–	160
250	160	1.5	11.0 × 21.0 × 31.5	B32524Q3155+***	–	350	320
		2.2	11.0 × 21.0 × 31.5	B32524Q3225+***	–	350	320
		3.3	11.0 × 21.0 × 31.5	B32524Q3335+***	–	350	320
		4.7	11.0 × 21.0 × 31.5	B32524Q3475+***	–	350	320
		6.8	14.0 × 24.5 × 31.5	B32524Q3685+***	–	250	260
		10	18.0 × 27.5 × 31.5	B32524Q3106+***	–	–	200
		15	19.0 × 30.0 × 31.5	B32524Q3156+***	–	–	180
400	200	0.68	11.0 × 19.0 × 31.5	B32524Q6684+***	–	350	320
		1.0	11.0 × 19.0 × 31.5	B32524Q6105+***	–	350	320
		1.5	11.0 × 19.0 × 31.5	B32524Q6155+***	–	350	320
		2.2	12.5 × 21.5 × 31.5	B32524Q6225+***	–	300	280
		3.3	15.0 × 24.5 × 31.5	B32524Q6335+***	–	–	240
		4.7	18.0 × 27.5 × 31.5	B32524Q6475+***	–	–	200
		6.8	21.0 × 31.0 × 31.5	B32524Q6685+***	–	–	180

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

J = ±5%

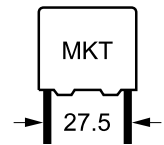
\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)




**Ordering codes and packing units (lead spacing 27.5 mm)**

$V_R$	$V_{rms}$ $f \leq 60 \text{ Hz}$	$C_R$	Max. dimensions $w \times h \times l$ mm	Ordering code (composition see below)	Ammo pack pcs./unit	Reel pcs./unit	Untaped pcs./unit
VDC	VAC	$\mu\text{F}$					
630	220	0.33	$11.0 \times 21.0 \times 31.5$	B32524Q8334+***	—	350	320
		0.47	$11.0 \times 21.0 \times 31.5$	B32524Q8474+***	—	350	320
		0.68	$11.0 \times 21.0 \times 31.5$	B32524Q8684+***	—	350	320
		1.0	$14.0 \times 24.5 \times 31.5$	B32524Q8105+***	—	250	260
		1.5	$18.0 \times 27.5 \times 31.5$	B32524Q8155+***	—	—	200
		2.2	$21.0 \times 31.0 \times 31.5$	B32524Q8225+***	—	—	180

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

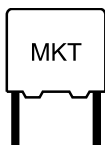
J =  $\pm 5\%$

\*\*\* = Packaging code:

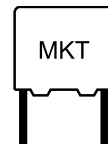
289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)


**B32520 ... B32529**
**General purpose (stacked/wound)**
**Technical data**

Operating temperature range	Max. operating temperature $T_{op,max}$ +125 °C Upper category temperature $T_{max}$ +125 °C Lower category temperature $T_{min}$ -55 °C Rated temperature $T_R$ +85 °C			
Dissipation factor $\tan \delta$ (in $10^{-3}$ ) at 20 °C (upper limit values)	at	$C_R \leq 0.1 \mu F$	$0.1 \mu F < C_R \leq 1 \mu F$	$C_R > 1 \mu F$
	1 kHz	8	8	10
	10 kHz	15	15	—
	100 kHz	30	—	—
Insulation resistance $R_{ins}$ or time constant $\tau = C_R \cdot R_{ins}$ at 20 °C, rel. humidity $\leq 65\%$ (minimum as-delivered values)	$V_R$	$C_R \leq 0.33 \mu F$		$C_R > 0.33 \mu F$
	$\leq 100$ VDC	3750 M $\Omega$		1250 s
	$\geq 250$ VDC	7500 M $\Omega$		2500 s
DC test voltage	$1.4 \cdot V_R$ , 2 s			
Category voltage $V_C$ (continuous operation with $V_{DC}$ or $V_{AC}$ at $f \leq 60$ Hz)	$T_A$ (°C)	DC voltage derating	AC voltage derating	
	$T_A \leq 85$ $85 < T_A \leq 125$	$V_C = V_R$ $V_C = V_R \cdot (165 - T_A)/80$	$V_{C,rms} = V_{rms}$ $V_{C,rms} = V_{rms} \cdot (165 - T_A)/80$	
Operating voltage $V_{op}$ for short operating periods ( $V_{DC}$ or $V_{AC}$ at $f \leq 60$ Hz)	$T_A$ (°C)	DC voltage (max. hours)	AC voltage (max. hours)	
	$T_A \leq 100$ $100 < T_A \leq 125$	$V_{op} = 1.25 \cdot V_C$ (2000 h) $V_{op} = 1.25 \cdot V_C$ (1000 h)	$V_{op} = 1.0 \cdot V_{C,rms}$ (2000 h) $V_{op} = 1.0 \cdot V_{C,rms}$ (1000 h)	
Damp heat test Limit values after damp heat test	56 days/40 °C/93% relative humidity 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			
Reliability: Failure rate $\lambda$ Service life $t_{SL}$	1 fit ( $\leq 1 \cdot 10^{-9}/h$ ) at $0.5 \cdot V_R$ , 40 °C 200 000 h at $1.0 \cdot V_R$ , 40 °C For conversion to other operating conditions and temperatures, refer to chapter "Quality assurance", page .			
Failure criteria: Total failure Failure due to variation of parameters	Short circuit or open circuit Capacitance change $ \Delta C/C  > 10\%$ Dissipation factor $\tan \delta > 2 \cdot$ upper limit value Insulation resistance $R_{ins} < 150$ M $\Omega$ ( $C_R \leq 0.33 \mu F$ ) or time constant $\tau = C_R \cdot R_{ins} < 50$ s ( $C_R > 0.33 \mu F$ )			


**Pulse handling capability**

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

"k<sub>0</sub>" represents the maximum permissible pulse characteristic of the waveform applied to the capacitor, expressed in V<sup>2</sup>/ $\mu$ s.

Note:

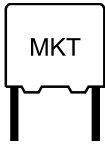
The values of dV/dt and k<sub>0</sub> provided below must not be exceeded in order to avoid damaging the capacitor.

**dV/dt values**

Lead spacing		5 mm	7.5 mm	10 mm		15 mm		22.5 mm	27.5 mm
Technology		Stacked	Stacked	Stacked	Wound	Stacked	Wound	Wound	Wound
V <sub>R</sub> VDC	V <sub>rms</sub> VAC	dV/dt in V/ $\mu$ s							
50	32	200	–	–	–	–	–	–	–
63	40	250	120	50	–	30	–	3	1
100	63	300	150	75	–	50	5	4	3
250	160	400	200	150	–	100	10	6	4.5
400	200	600	275	175	–	125	–	10	7.5
450	200	–	–	–	–	–	20	–	–
630	400	800	–	–	20	–	25	15	12

**k<sub>0</sub> values**

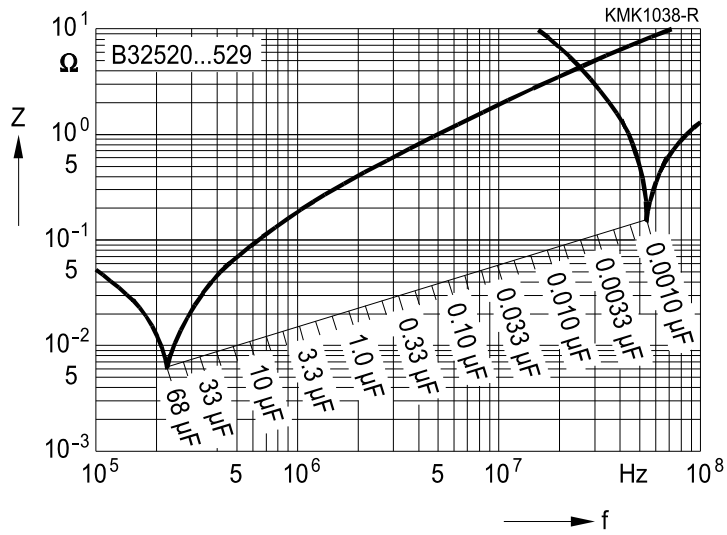
Lead spacing		5 mm	7.5 mm	10 mm		15 mm		22.5 mm	27.5 mm
Technology		Stacked	Stacked	Stacked	Wound	Stacked	Wound	Wound	Wound
V <sub>R</sub> VDC	V <sub>rms</sub> VAC	k <sub>0</sub> in V <sup>2</sup> / $\mu$ s							
50	32	20 000	–	–	–	–	–	–	–
63	40	30 000	15 000	6 300	–	3 800	–	375	130
100	63	60 000	30 000	15 000	–	10 000	850	750	600
250	160	200 000	100 000	75 000	–	50 000	5 000	3 000	2 250
400	200	500 000	220 000	140 000	–	100 000	–	8 000	6 000
450	200	–	–	–	–	–	15 000	–	–
630	400	1 000 000	–	–	25 000	–	30 000	18 000	15 000

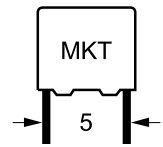


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General purpose (stacked/wound)

**Impedance Z versus frequency f**  
(typical values)



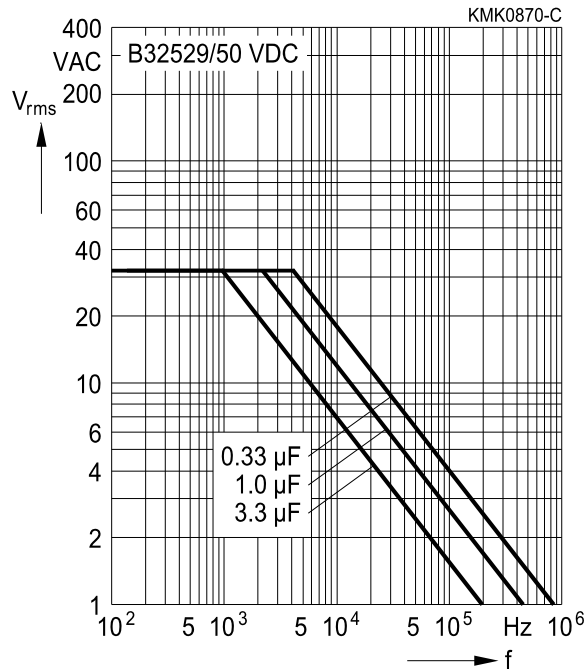


**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ C$ )**

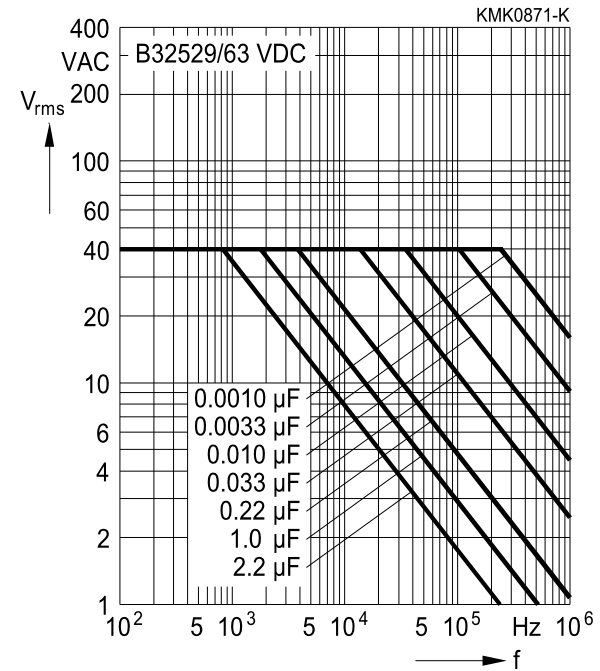
For  $T_A > 55^\circ C$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 5 mm**

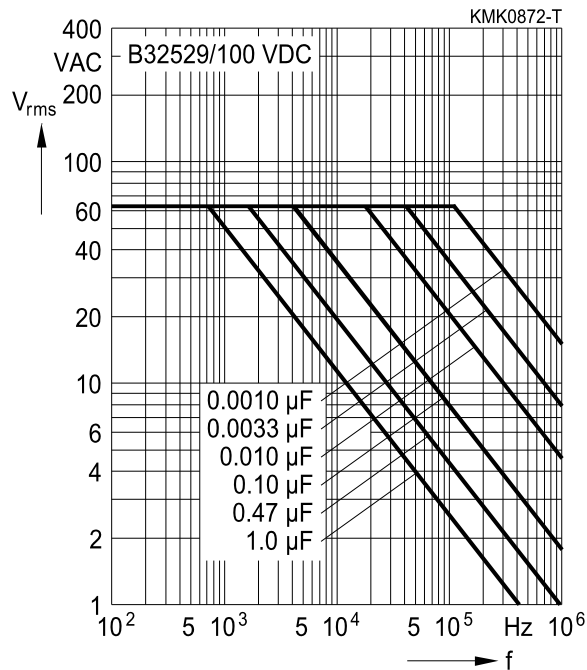
**50 VDC/32 VAC**



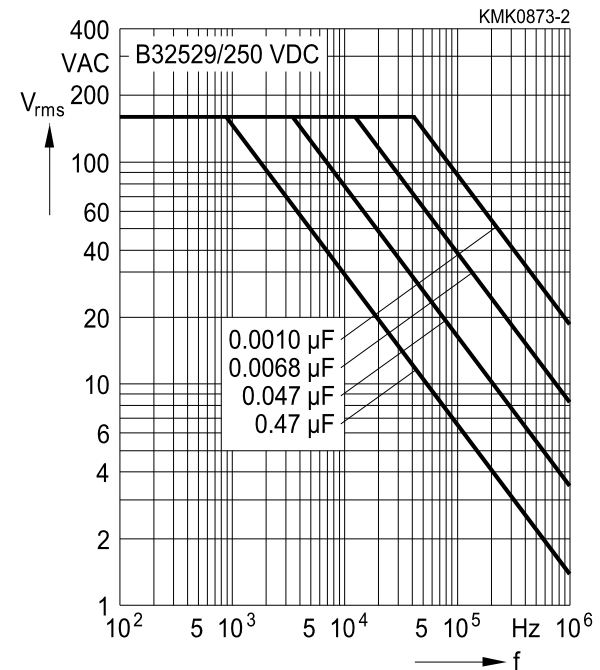
**63 VDC/40 VAC**

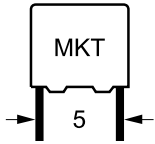


**100 VDC/63 VAC**



**250 VDC/160 VAC**





**B32529**

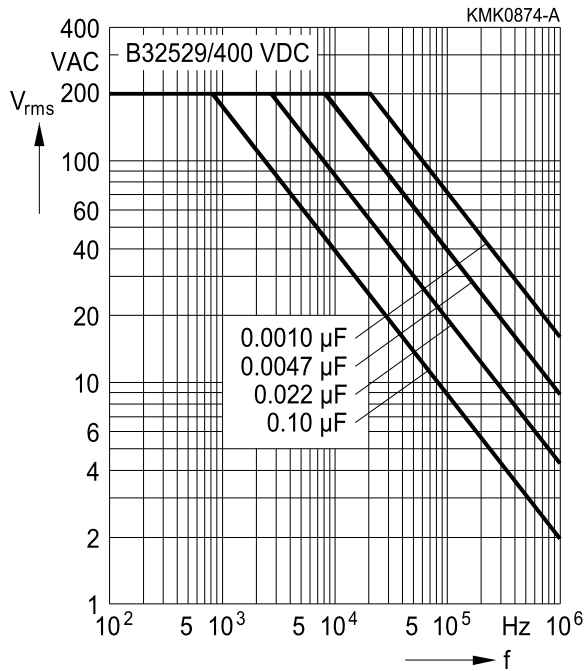
**General purpose (stacked)**

**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

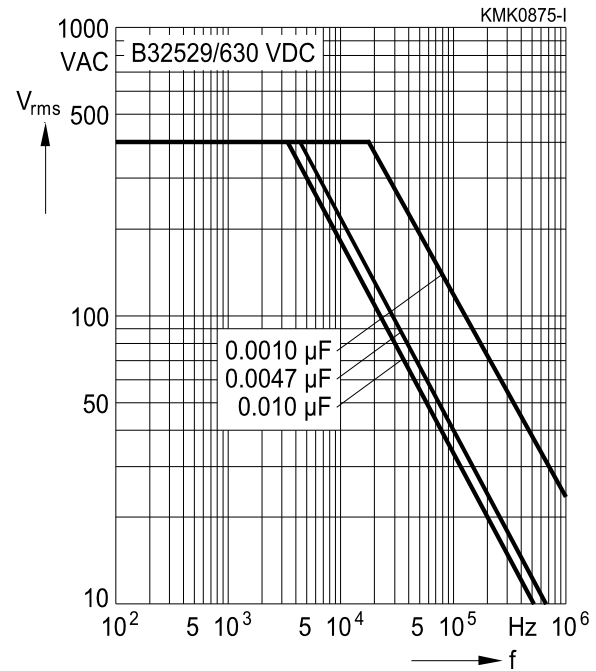
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

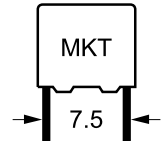
**Lead spacing 5 mm**

400 VDC/200 VAC



630 VDC/400 VAC



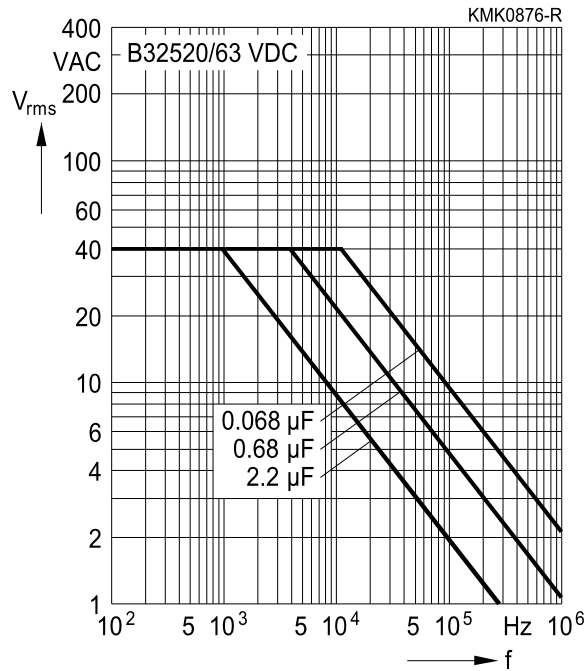


**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

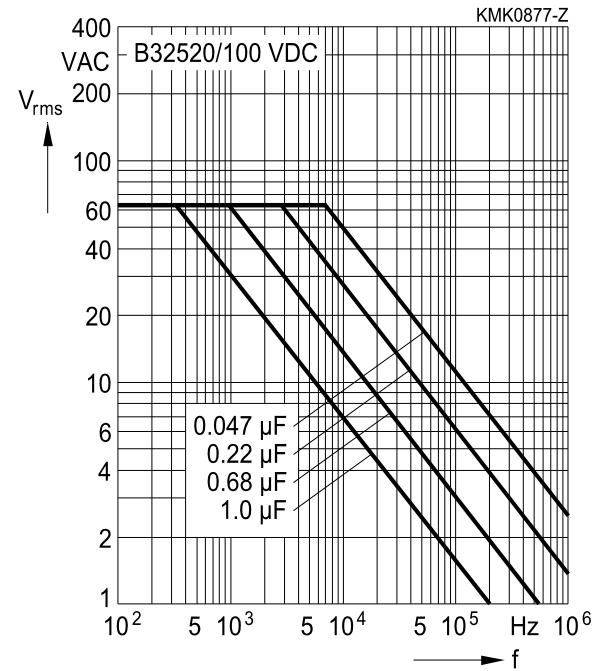
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 7.5 mm**

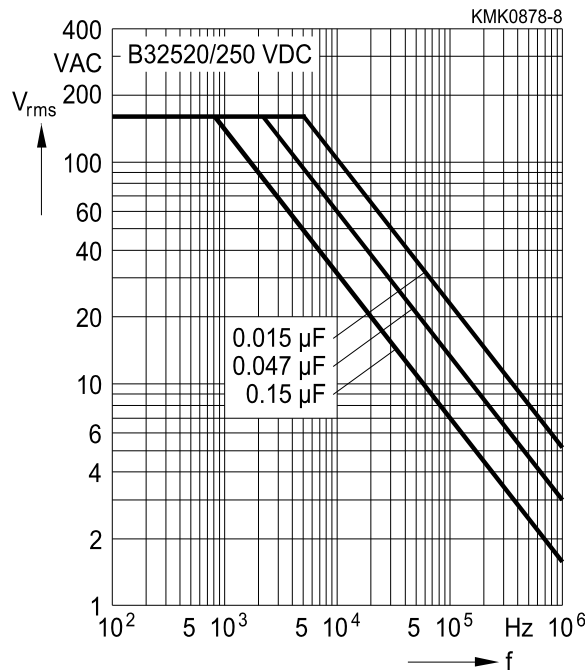
**63 VDC/40 VAC**



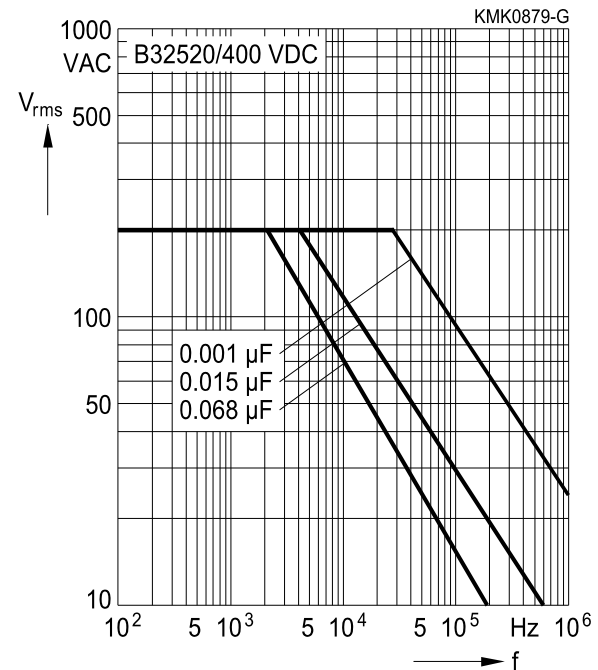
**100 VDC/63 VAC**

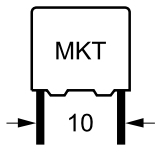


**250 VDC/160 VAC**



**400 VDC/200 VAC**





**B32521**

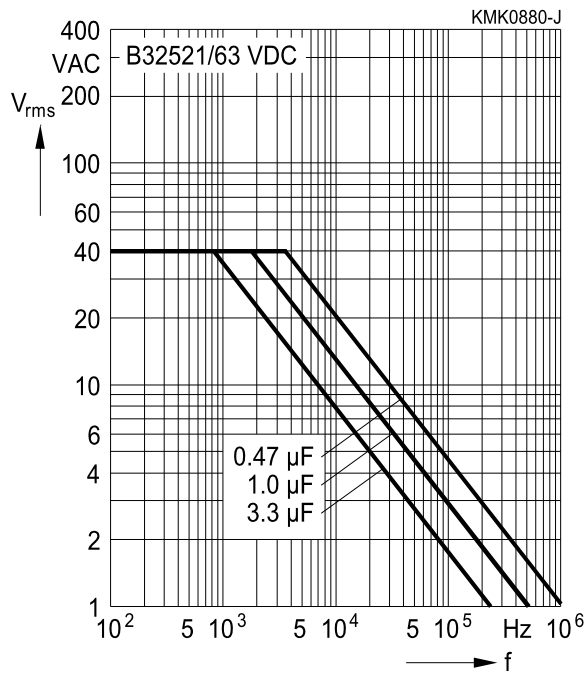
**General purpose (stacked/wound)**

**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

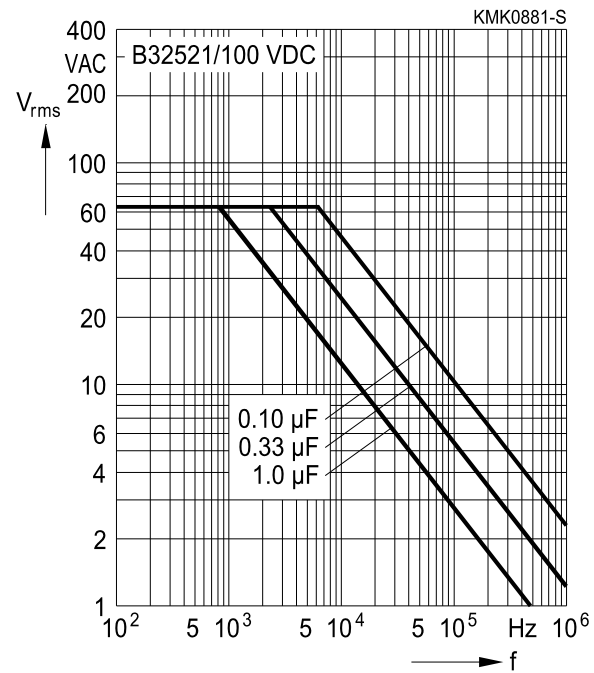
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 10 mm**

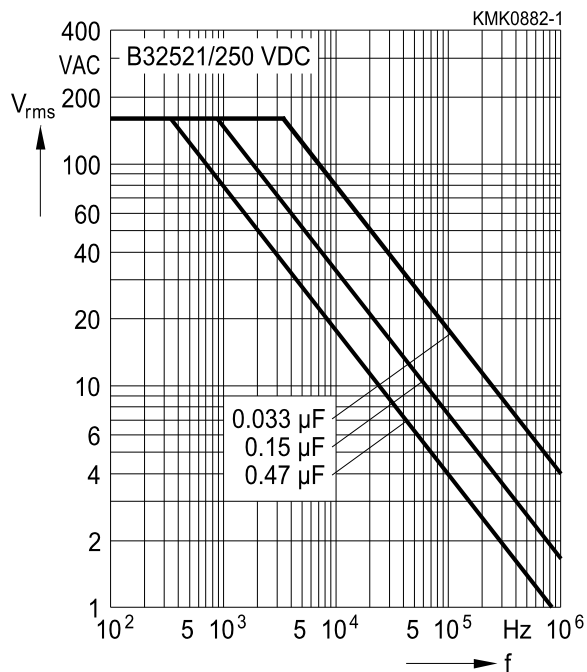
**63 VDC/40 VAC**



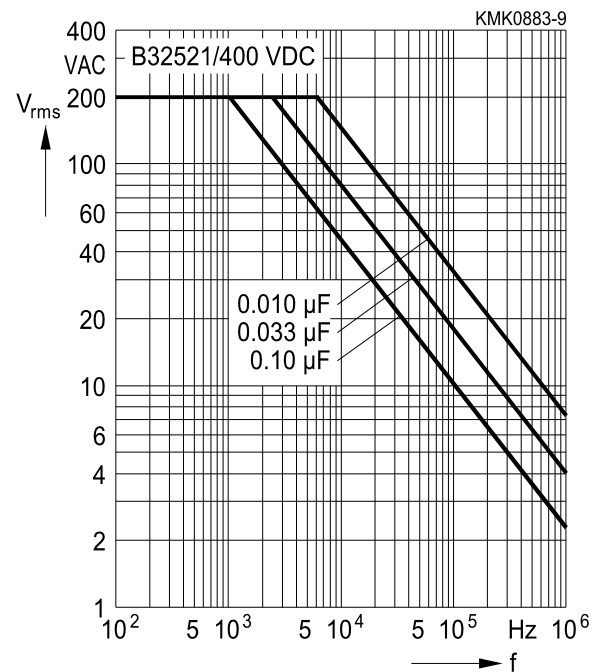
**100 VDC/63 VAC**



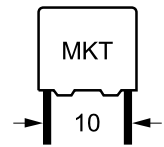
**250 VDC/160 VAC**



**400 VDC/200 VAC**





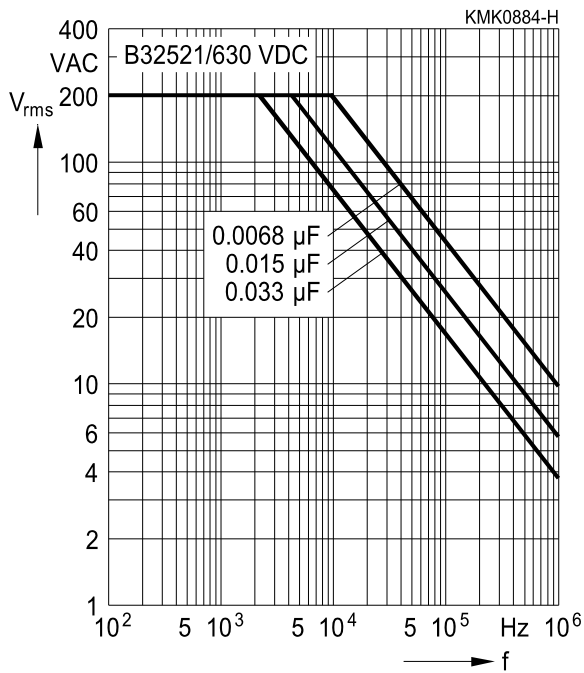


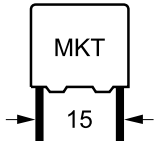
**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 10 mm**

630 VDC/200 VAC





**B32522**

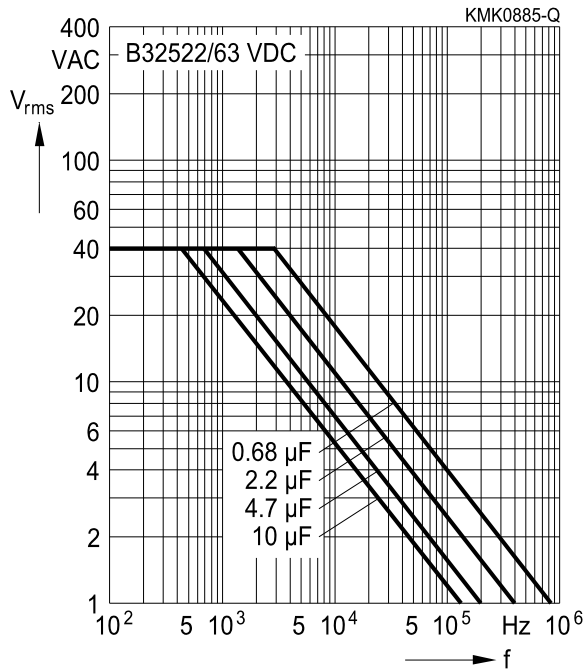
**General purpose (stacked/wound)**

**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

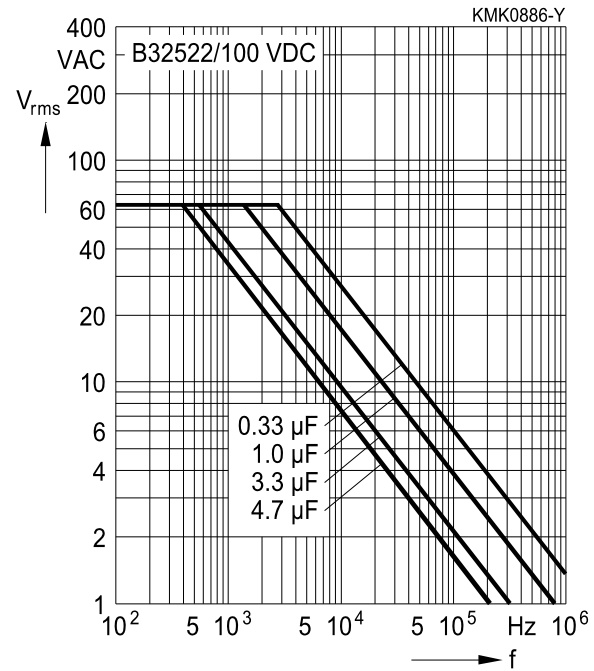
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 15 mm**

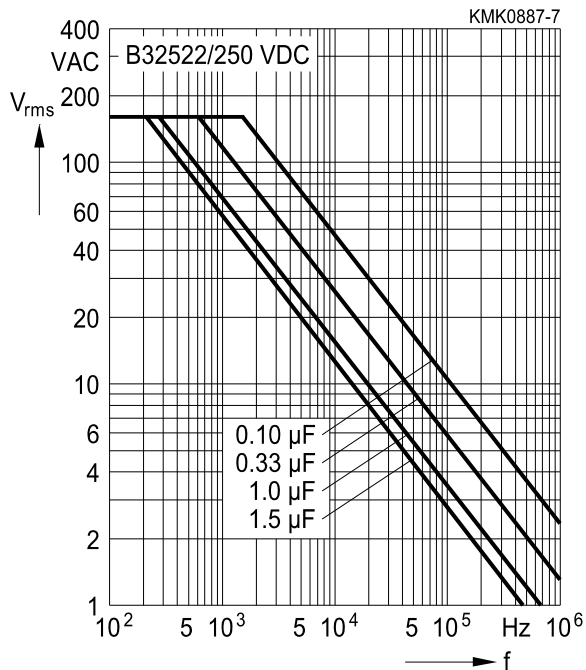
**63 VDC/40 VAC**



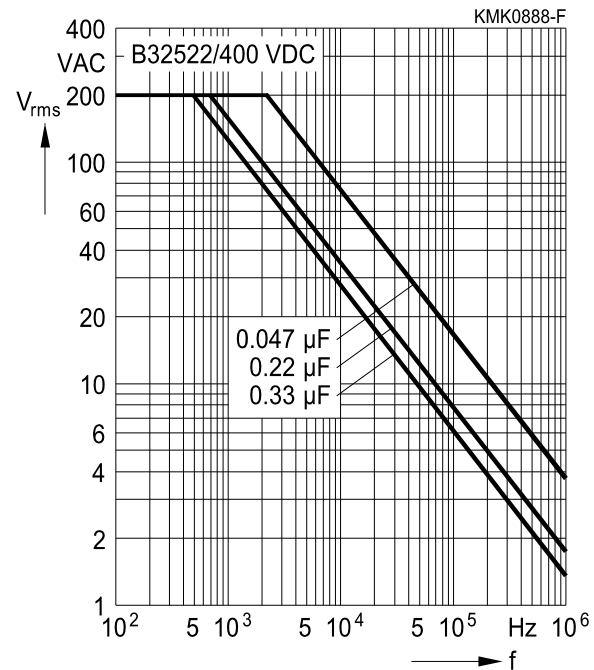
**100 VDC/63 VAC**

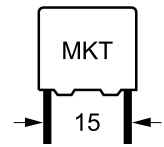


**250 VDC/160 VAC**



**400 VDC/200 VAC**



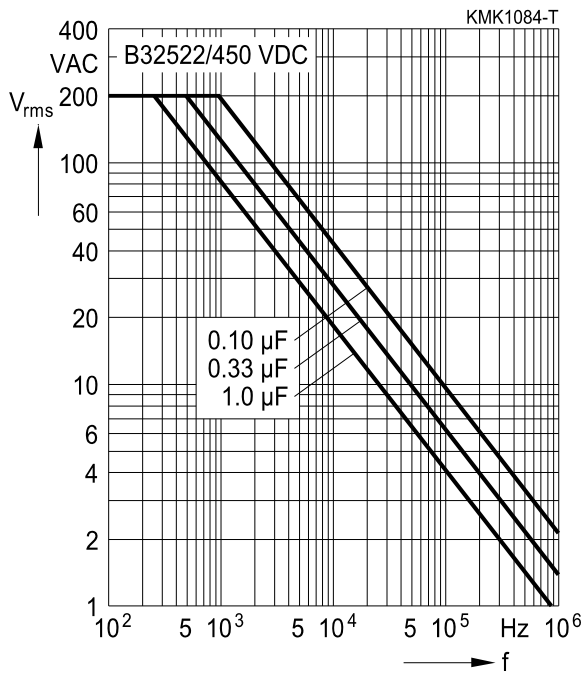


**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

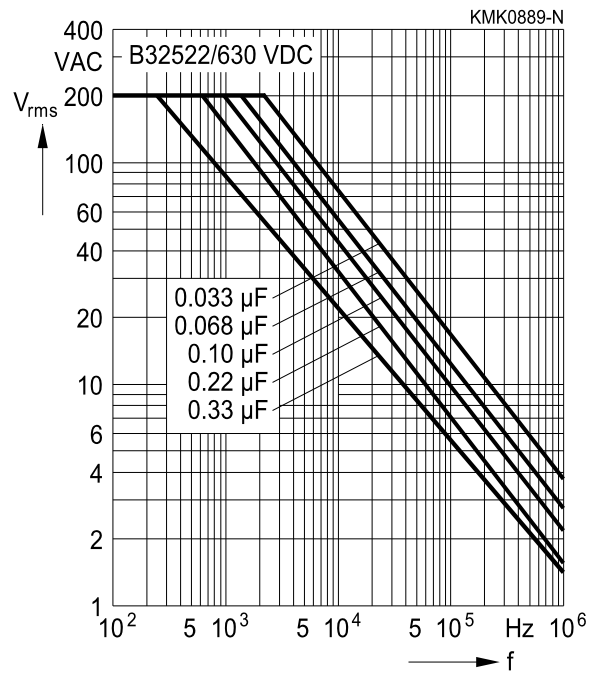
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

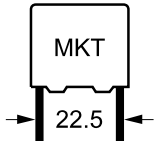
**Lead spacing 15 mm**

**450 VDC/200 VAC**



**630 VDC/200 VAC**





**B32523**

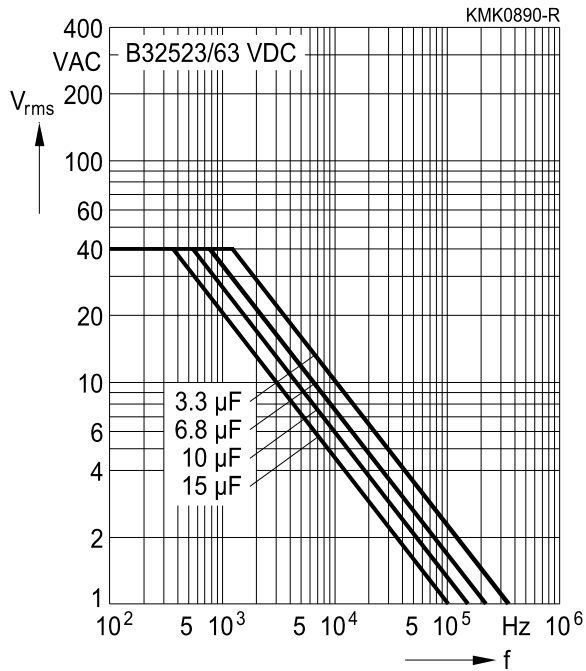
**General purpose (wound)**

**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

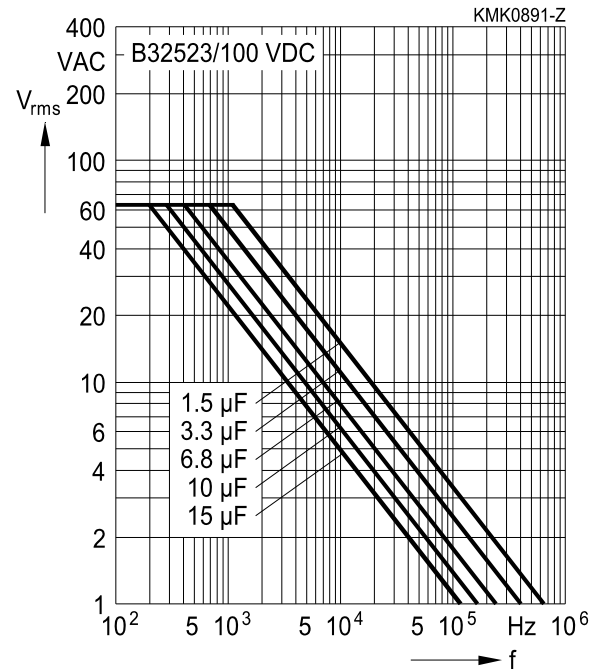
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 22.5 mm**

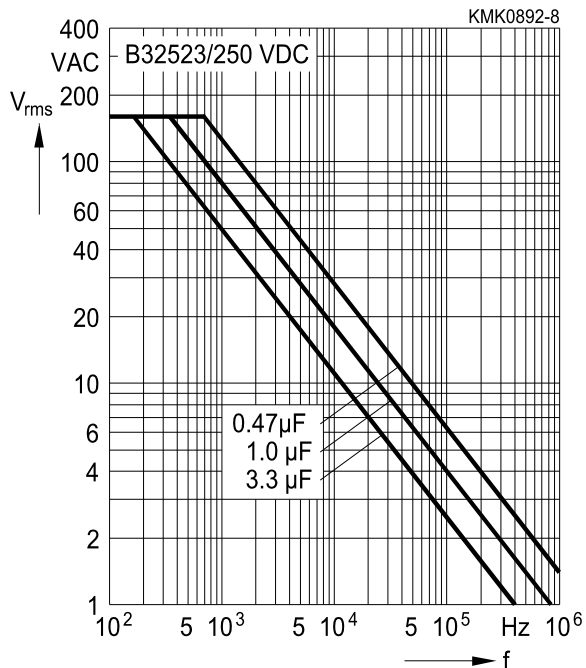
**63 VDC/40 VAC**



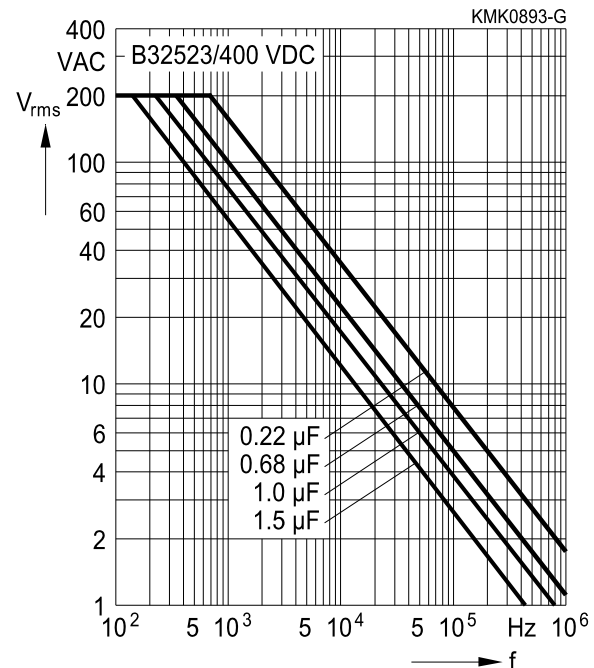
**100 VDC/63 VAC**

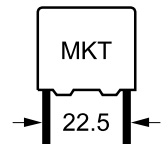


**250 VDC/160 VAC**



**400 VDC/200 VAC**



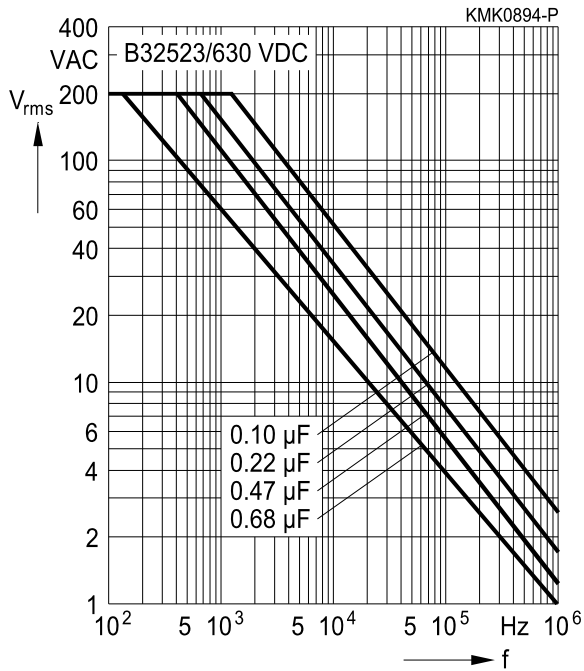


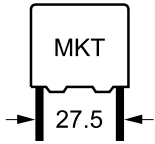
**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 22.5 mm**

630 VDC/200 VAC





**B32524**

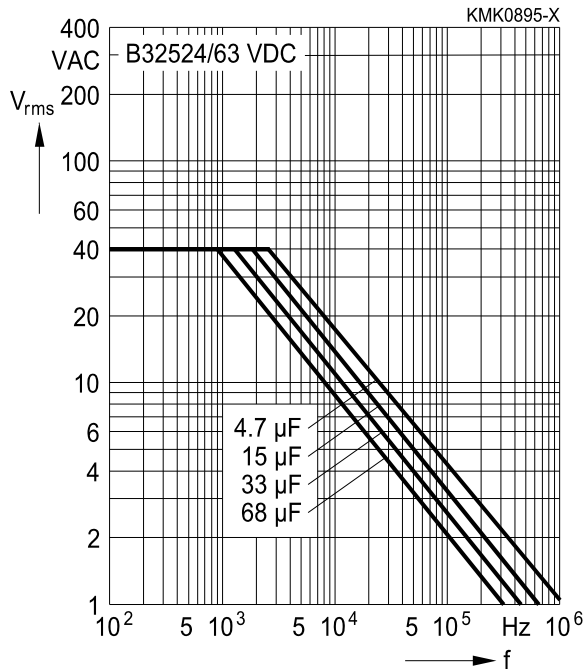
**General purpose (wound)**

**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

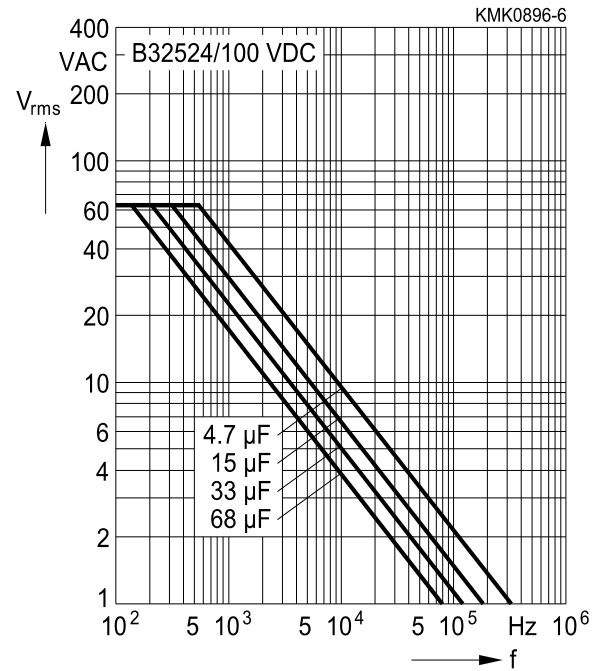
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 27.5 mm**

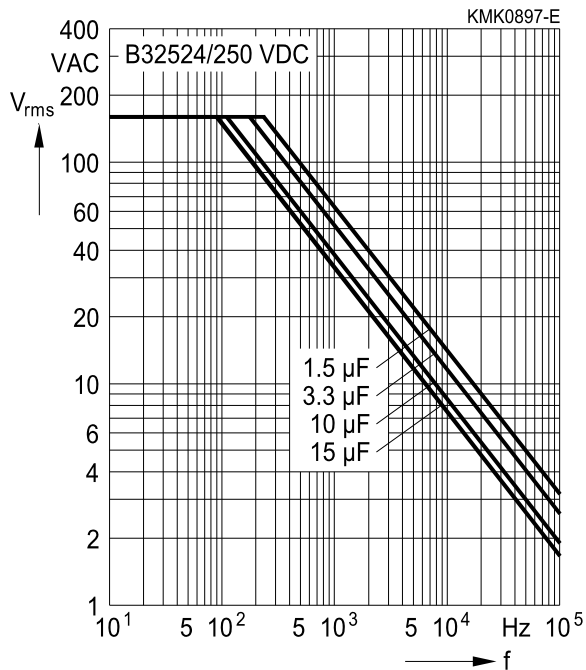
**63 VDC/40 VAC**



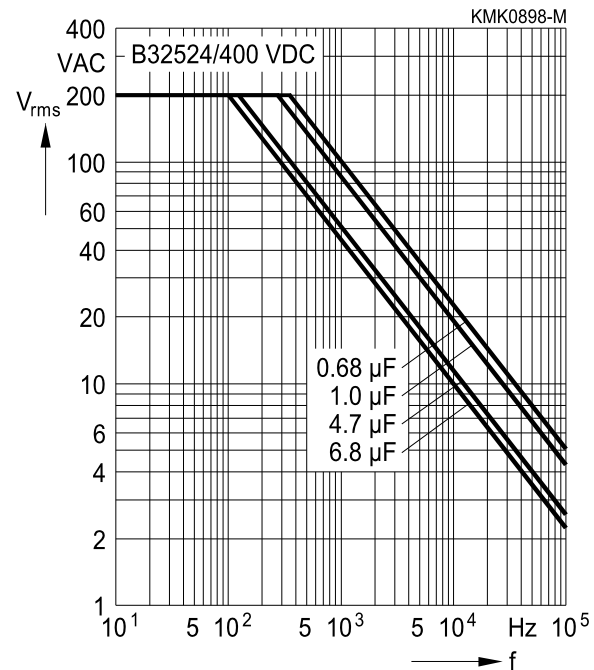
**100 VDC/63 VAC**

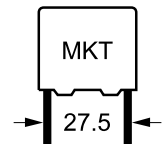


**250 VDC/160 VAC**



**400 VDC/200 VAC**





**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 27.5 mm**

630 VDC/220 VAC

