



## Film Capacitors

### Metallized Polyester Film Capacitors (MKT)

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

**Date:** August 2004

© EPCOS AG 2004. Reproduction, publication and dissemination of this data sheet, enclosures hereto and the information contained therein without EPCOS' prior express consent is prohibited.

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

### 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

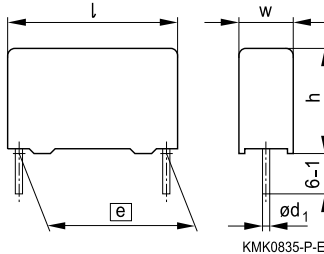
### Marking

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".

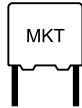
### Dimensional drawing



Dimensions in mm

| Lead spacing<br>$e \pm 0.4$ | Lead diameter<br>$d_1$ | Type   |
|-----------------------------|------------------------|--------|
| 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 |

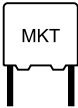
1) 0.5 mm for capacitor width  $w = 4$  mm



## 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   | 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 |
| $C_R$ (μF)      |        |    |     |     |     |     |        |     |     |     |         |     |     |     |     |
| 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



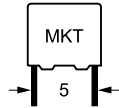
**B32520 ... B32529**

**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   | 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 |   |
| $C_R$ (μF)      |         |     |     |     |     |     |         |     |     |     |     |    |         |     |     |     |   |
| 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)

| $V_R$ | $V_{rms}$<br>$f \leq 60 \text{ Hz}$ | $C_R$   | Max. dimensions<br>$w \times h \times l$<br>mm | Ordering code<br>(composition see<br>below) | Ammo<br>pack<br>pcs./unit | Reel<br>pcs./unit | Untaped<br>pcs./unit |
|-------|-------------------------------------|---------|------------------------------------------------|---------------------------------------------|---------------------------|-------------------|----------------------|
| VDC   | VAC                                 | $\mu F$ |                                                |                                             |                           |                   |                      |
| 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 =  $\pm 10\%$

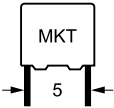
J =  $\pm 5\%$

\*\*\* = 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)**

| $V_R$ | $V_{rms}$<br>$f \leq 60 \text{ Hz}$ | $C_R$   | Max. dimensions<br>$w \times h \times l$<br>mm | Ordering code<br>(composition see<br>below) | Ammo<br>pack<br>pcs./unit | Reel<br>pcs./unit | Untaped<br>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 =  $\pm 10\%$

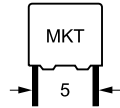
J =  $\pm 5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)



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

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

Further E series and intermediate capacitance values on request.

#### Composition of ordering code

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

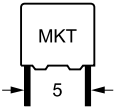
J =  $\pm 5\%$

\*\*\* = 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)**

| $V_R$ | $V_{rms}$<br>$f \leq 60 \text{ Hz}$ | $C_R$   | Max. dimensions<br>$w \times h \times l$<br>mm | Ordering code<br>(composition see<br>below) | Ammo<br>pack<br>pcs./unit | Reel<br>pcs./unit | Untaped<br>pcs./unit |
|-------|-------------------------------------|---------|------------------------------------------------|---------------------------------------------|---------------------------|-------------------|----------------------|
| VDC   | VAC                                 | $\mu F$ |                                                |                                             |                           |                   |                      |
| 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 =  $\pm 5\%$

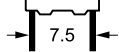
\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)




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

| $V_R$ | $V_{rms}$<br>$f \leq 60 \text{ Hz}$ | $C_R$   | Max. dimensions<br>$w \times h \times l$<br>mm | Ordering code<br>(composition see<br>below) | Ammo<br>pack<br>pcs./unit | Reel<br>pcs./unit | Untaped<br>pcs./unit |
|-------|-------------------------------------|---------|------------------------------------------------|---------------------------------------------|---------------------------|-------------------|----------------------|
| VDC   | VAC                                 | $\mu F$ |                                                |                                             |                           |                   |                      |
| 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 =  $\pm 10\%$

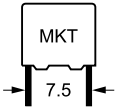
J =  $\pm 5\%$

\*\*\* = 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)**

| $V_R$ | $V_{rms}$<br>$f \leq 60 \text{ Hz}$ | $C_R$   | Max. dimensions<br>$w \times h \times l$<br>mm | Ordering code<br>(composition see<br>below) | Ammo<br>pack<br>pcs./unit | Reel<br>pcs./unit | Untaped<br>pcs./unit |
|-------|-------------------------------------|---------|------------------------------------------------|---------------------------------------------|---------------------------|-------------------|----------------------|
| VDC   | VAC                                 | $\mu F$ |                                                |                                             |                           |                   |                      |
| 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 =  $\pm 10\%$

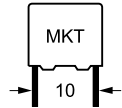
J =  $\pm 5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)



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

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

▽ Wound capacitor technology

Further E series and intermediate capacitance values on request.

### Composition of ordering code

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

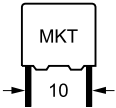
J =  $\pm 5\%$

\*\*\* = 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)**

| $V_R$ | $V_{rms}$<br>$f \leq 60 \text{ Hz}$ | $C_R$    | Max. dimensions<br>$w \times h \times l$<br>mm | Ordering code<br>(composition see<br>below) | Ammo<br>pack<br>pcs./unit | Reel<br>pcs./unit | Untaped<br>pcs./unit |
|-------|-------------------------------------|----------|------------------------------------------------|---------------------------------------------|---------------------------|-------------------|----------------------|
| VDC   | VAC                                 | $\mu F$  |                                                |                                             |                           |                   |                      |
| 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 =  $\pm 10\%$ 

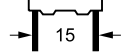
 J =  $\pm 5\%$ 

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)



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

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

$\nabla$  Wound capacitor technology

Further E series and intermediate capacitance values on request.

### Composition of ordering code

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

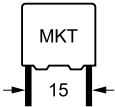
J =  $\pm 5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)


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

| $V_R$ | $V_{rms}$<br>$f \leq 60 \text{ Hz}$ | $C_R$   | Max. dimensions<br>$w \times h \times l$<br>mm | Ordering code<br>(composition see<br>below) | Ammo<br>pack<br>pcs./unit | Reel<br>pcs./unit | Untaped<br>pcs./unit |
|-------|-------------------------------------|---------|------------------------------------------------|---------------------------------------------|---------------------------|-------------------|----------------------|
| VDC   | VAC                                 | $\mu F$ |                                                |                                             |                           |                   |                      |
| 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                  |
|       |                                     | 1.0     | $\nabla$ $11.0 \times 18.5 \times 18.0$        | B32522N6105+***                             | —                         | 550               | 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 =  $\pm 10\%$

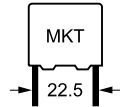
J =  $\pm 5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)



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

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

Further E series and intermediate capacitance values on request.

### Composition of ordering code

+ = Capacitance tolerance code:

M =  $\pm 20\%$

K =  $\pm 10\%$

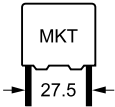
J =  $\pm 5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)


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

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

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

 M =  $\pm 20\%$ 

 K =  $\pm 10\%$ 

 J =  $\pm 5\%$ 

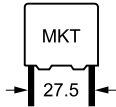
\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)





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

| $V_R$ | $V_{rms}$<br>$f \leq 60 \text{ Hz}$ | $C_R$   | Max. dimensions<br>$w \times h \times l$<br>mm | Ordering code<br>(composition see<br>below) | Ammo<br>pack<br>pcs./unit | Reel<br>pcs./unit | Untaped<br>pcs./unit |
|-------|-------------------------------------|---------|------------------------------------------------|---------------------------------------------|---------------------------|-------------------|----------------------|
| VDC   | VAC                                 | $\mu F$ |                                                |                                             |                           |                   |                      |
| 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 =  $\pm 10\%$

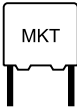
J =  $\pm 5\%$

\*\*\* = 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<br>Upper category temperature $T_{max}$ +125 °C<br>Lower category temperature $T_{min}$ -55 °C<br>Rated temperature $T_R$ +85 °C |                                    |                                |                                            |
| Dissipation factor $\tan \delta$ (in $10^{-3}$ )<br>at 20 °C<br>(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 $R_{ins}$<br>or time constant $\tau = C_R \cdot R_{ins}$<br>at 20 °C, rel. humidity $\leq 65\%$<br>(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 · $V_R$ , 2 s                                                                                                                                                                |                                    |                                |                                            |
| Category voltage $V_C$<br>(continuous operation with $V_{DC}$<br>or $V_{AC}$ at $f \leq 60$ Hz)                                                        | $T_A$ (°C)                                                                                                                                                                       | DC voltage derating                |                                | AC voltage derating                        |
|                                                                                                                                                        | $T_A \leq 85$                                                                                                                                                                    | $V_C = V_R$                        |                                | $V_{C,rms} = V_{rms}$                      |
|                                                                                                                                                        | $85 < T_A \leq 125$                                                                                                                                                              | $V_C = V_R \cdot (165 - T_A)/80$   |                                | $V_{C,rms} = V_{rms} \cdot (165 - T_A)/80$ |
| Operating voltage $V_{op}$ for<br>short operating periods<br>( $V_{DC}$ or $V_{AC}$ at $f \leq 60$ Hz)                                                 | $T_A$ (°C)                                                                                                                                                                       | DC voltage (max. hours)            |                                | AC voltage (max. hours)                    |
|                                                                                                                                                        | $T_A \leq 100$                                                                                                                                                                   | $V_{op} = 1.25 \cdot V_C$ (2000 h) |                                | $V_{op} = 1.0 \cdot V_{C,rms}$ (2000 h)    |
|                                                                                                                                                        | $100 < T_A \leq 125$                                                                                                                                                             | $V_{op} = 1.25 \cdot V_C$ (1000 h) |                                | $V_{op} = 1.0 \cdot V_{C,rms}$ (1000 h)    |
| Damp heat test                                                                                                                                         | 56 days/40 °C/93% relative humidity                                                                                                                                              |                                    |                                |                                            |
| Limit values after damp                                                                                                                                | Capacitance change $ \Delta C/C $ $\leq 5\%$                                                                                                                                     |                                    |                                |                                            |
| heat test                                                                                                                                              | 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 $\lambda$                                                                                                                                 | 1 fit ( $\leq 1 \cdot 10^{-9}/h$ ) at 0.5 · $V_R$ , 40 °C                                                                                                                        |                                    |                                |                                            |
| Service life $t_{SL}$                                                                                                                                  | 200 000 h at 1.0 · $V_R$ , 40 °C                                                                                                                                                 |                                    |                                |                                            |
|                                                                                                                                                        | For conversion to other operating conditions and temperatures,<br>refer to chapter "Quality assurance", page .                                                                   |                                    |                                |                                            |
| Failure criteria:                                                                                                                                      |                                                                                                                                                                                  |                                    |                                |                                            |
| Total failure                                                                                                                                          | Short circuit or open circuit                                                                                                                                                    |                                    |                                |                                            |
| Failure due to variation<br>of parameters                                                                                                              | 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:

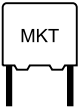
The values of dV/dt and k<sub>0</sub> provided below must not be exceeded in order to avoid damaging the capacitor.

### 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> | V <sub>rms</sub> | dV/dt in V/ $\mu$ s |         |         |       |         |       |         |         |
| VDC            | VAC              |                     |         |         |       |         |       |         |         |
| 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> | V <sub>rms</sub> | k <sub>0</sub> in V <sup>2</sup> / $\mu$ s |         |         |        |         |        |         |         |
| VDC            | VAC              |                                            |         |         |        |         |        |         |         |
| 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  |

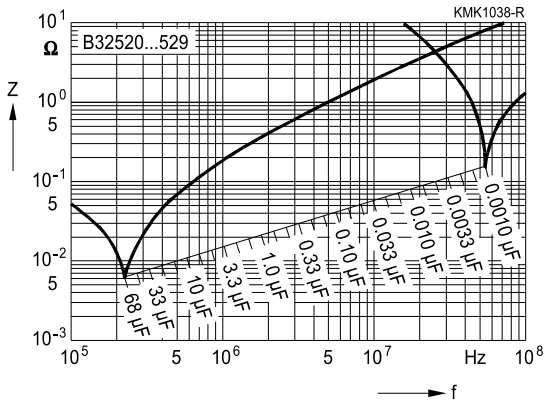


**B32520 ... B32529**

**General purpose (stacked/wound)**

### Impedance $Z$ versus frequency $f$

(typical values)

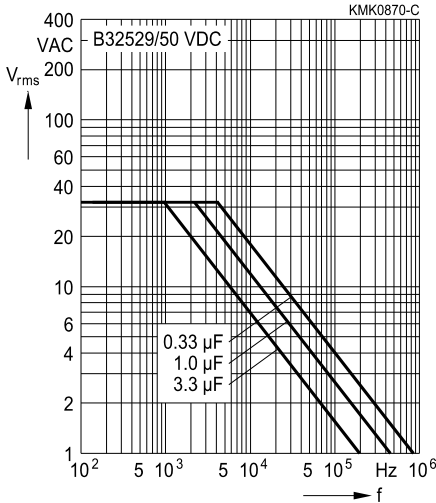


# Permissible AC voltage $V_{rms}$ versus frequency $f$ (for sinusoidal waveforms, $T_A \leq 55^\circ\text{C}$ )

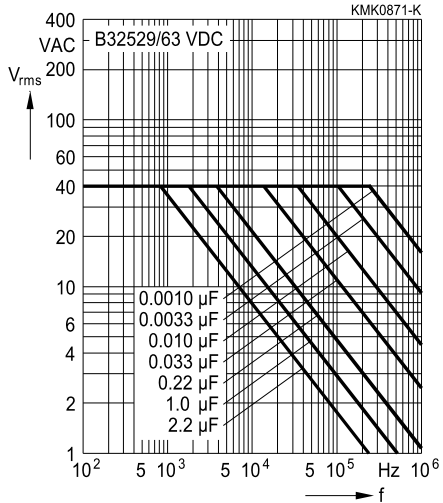
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

## Lead spacing 5 mm

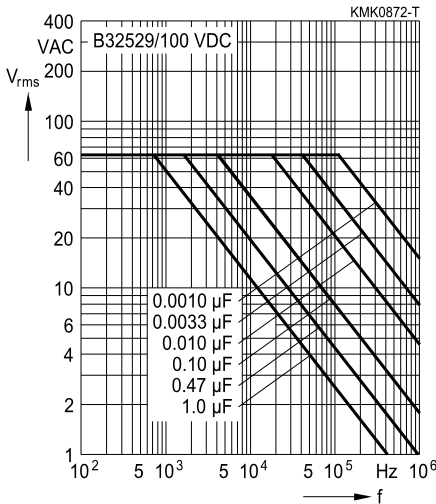
### 50 VDC/32 VAC



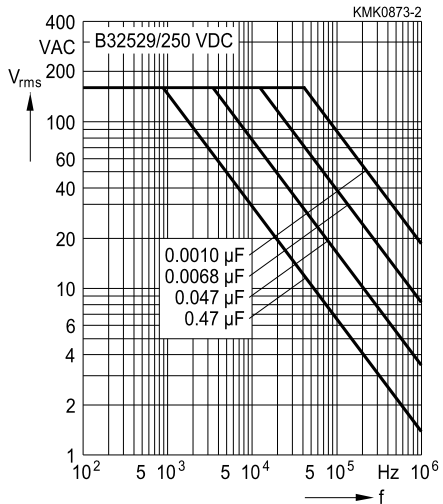
### 63 VDC/40 VAC

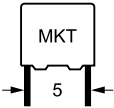


### 100 VDC/63 VAC



### 250 VDC/160 VAC





**B32529**

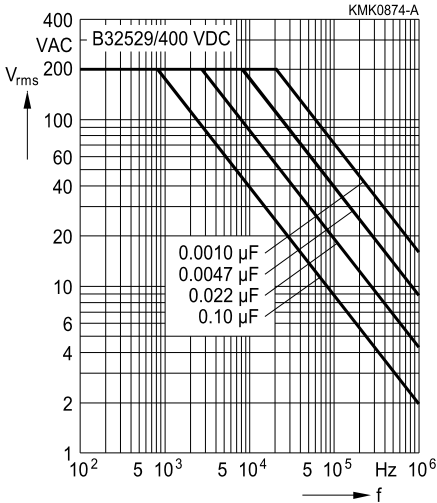
**General purpose (stacked)**

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

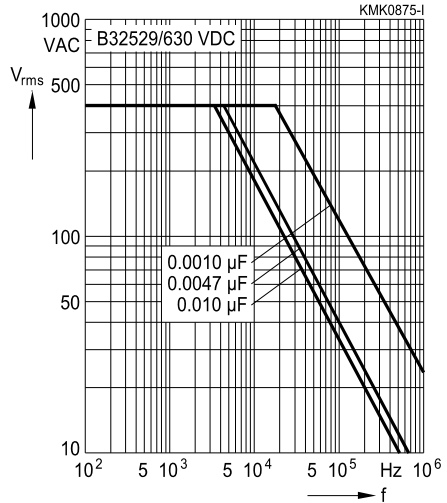
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 5 mm**

**400 VDC/200 VAC**

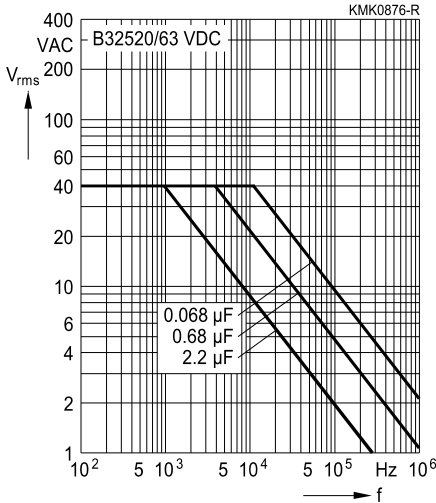
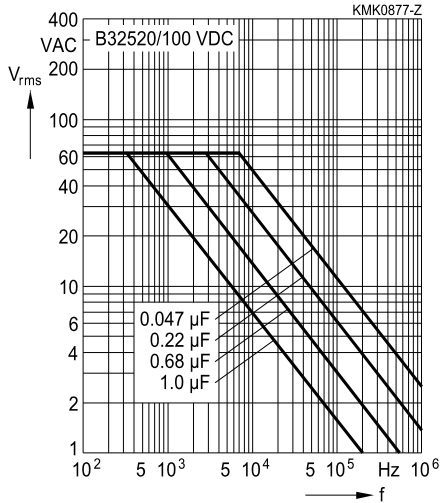
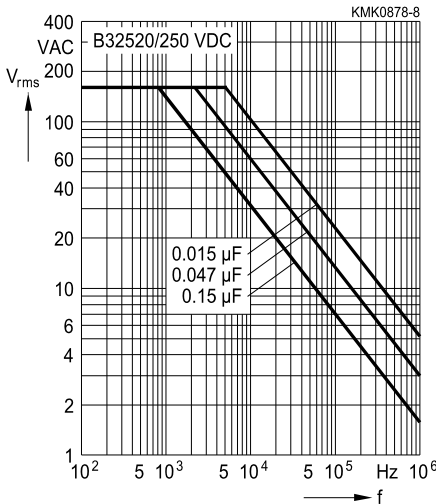
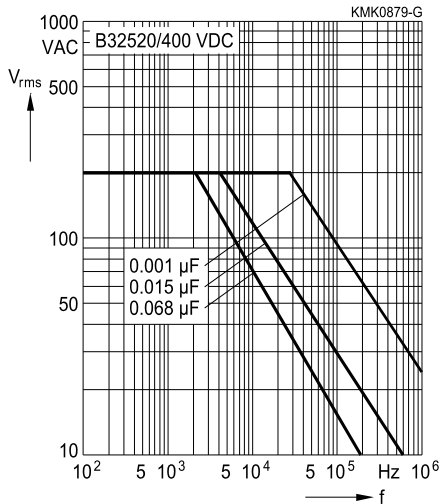


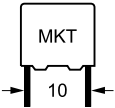
**630 VDC/400 VAC**



**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**

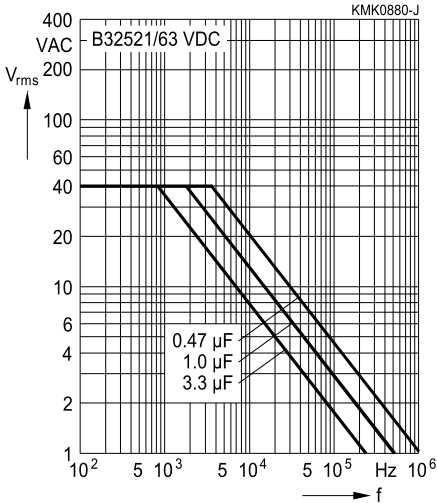
**General purpose (stacked/wound)**

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

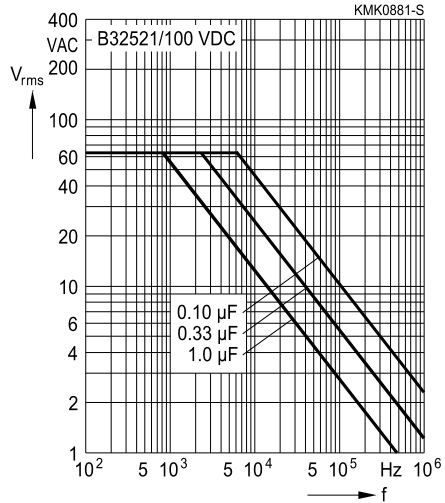
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 10 mm**

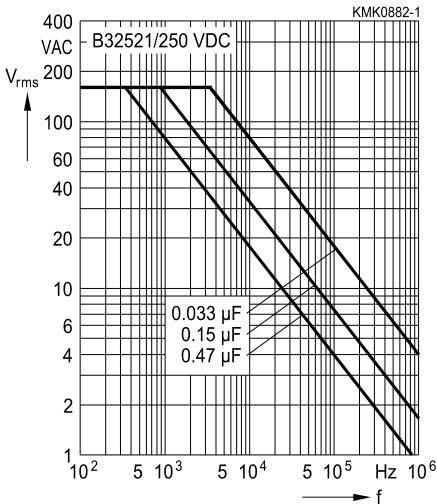
**63 VDC/40 VAC**



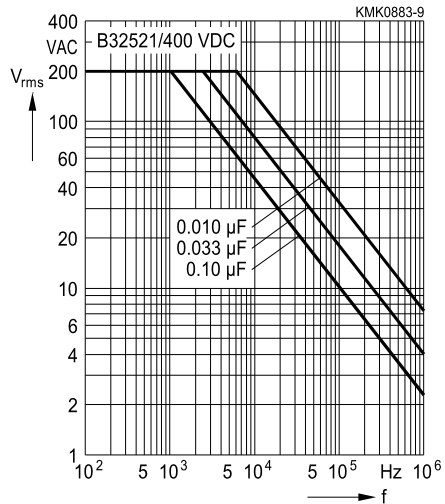
**100 VDC/63 VAC**



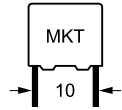
**250 VDC/160 VAC**



**400 VDC/200 VAC**





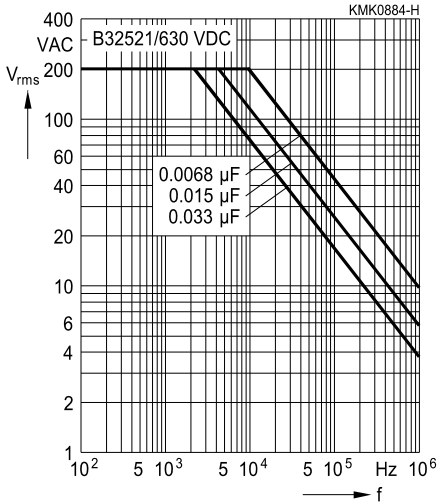


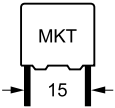
**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

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**

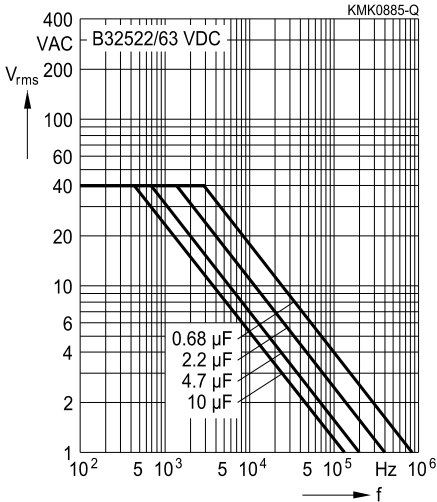
**General purpose (stacked/wound)**

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

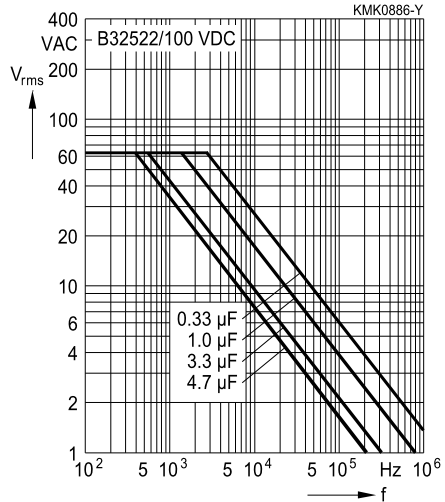
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 15 mm**

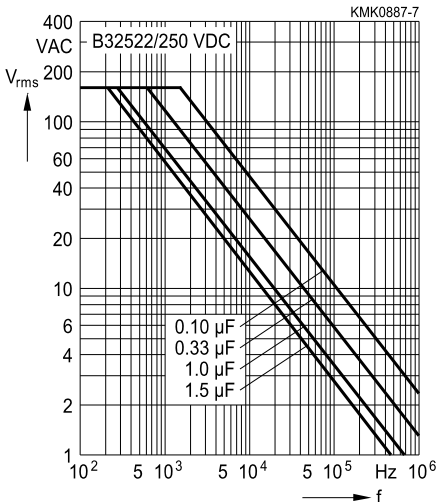
**63 VDC/40 VAC**



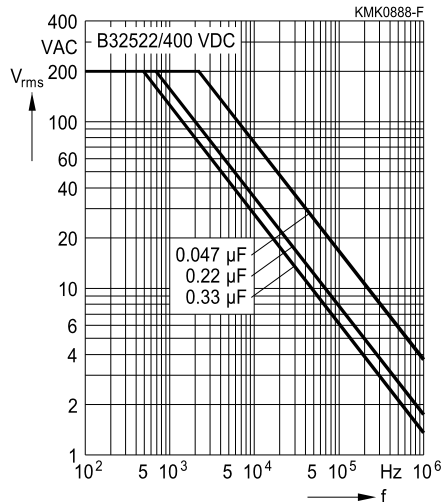
**100 VDC/63 VAC**

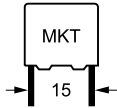


**250 VDC/160 VAC**



**400 VDC/200 VAC**



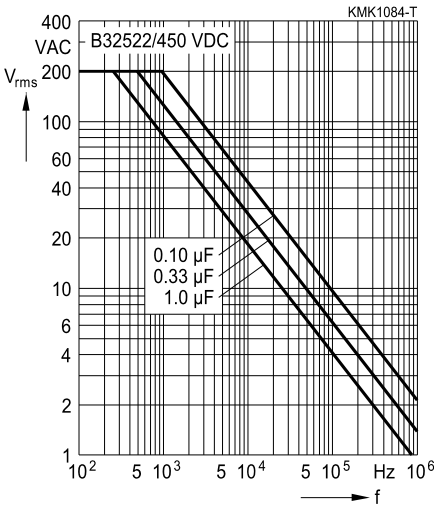


**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

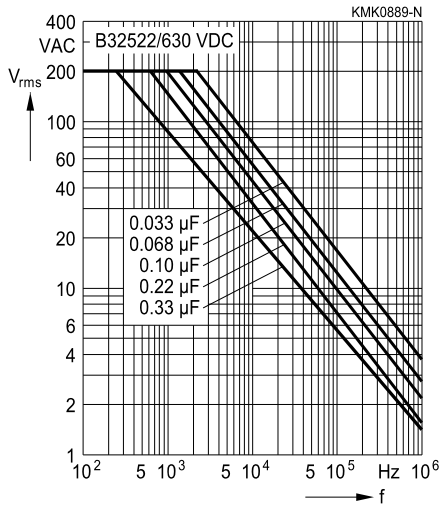
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

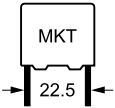
**Lead spacing 15 mm**

450 VDC/200 VAC



630 VDC/200 VAC





**B32523**

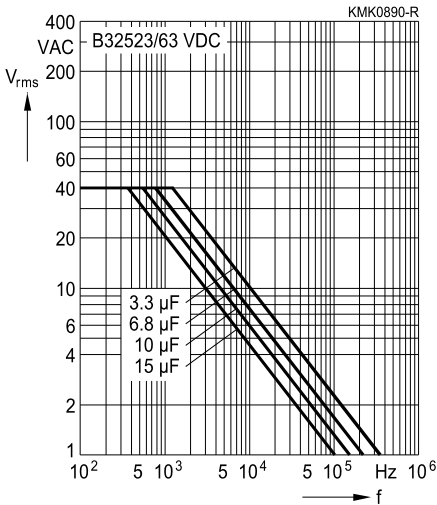
**General purpose (wound)**

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

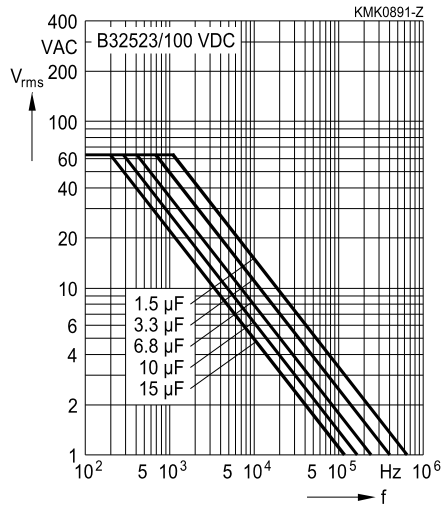
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 22.5 mm**

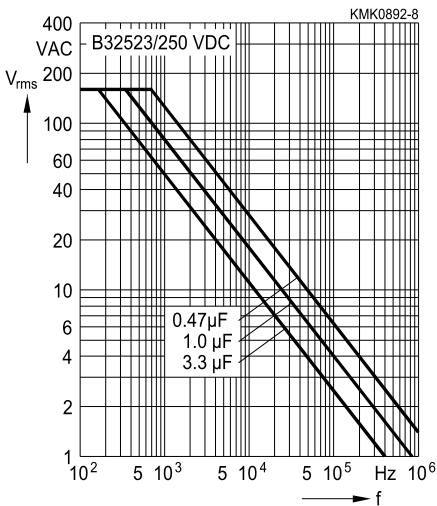
**63 VDC/40 VAC**



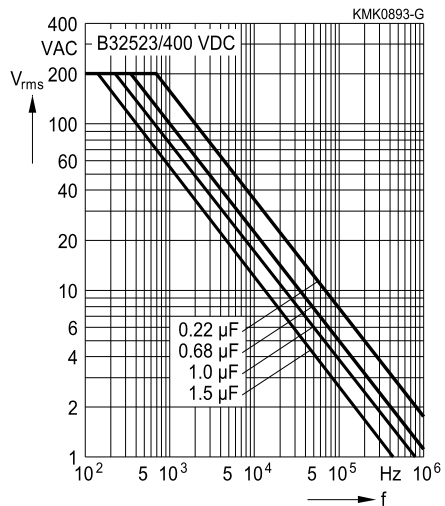
**100 VDC/63 VAC**

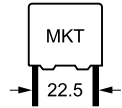


**250 VDC/160 VAC**



**400 VDC/200 VAC**



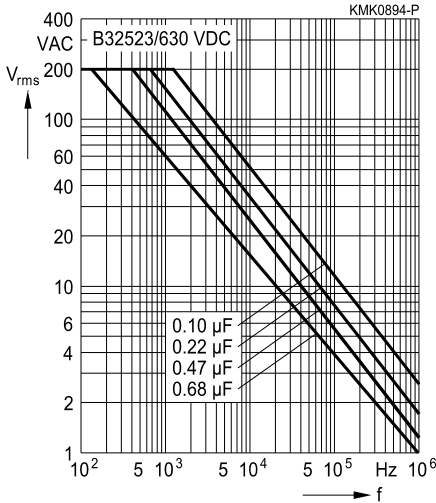


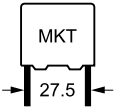
**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

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**

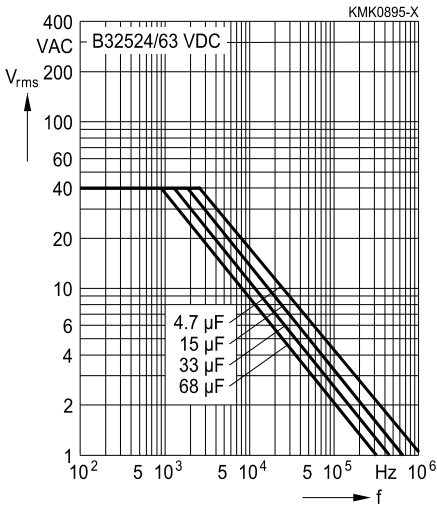
**General purpose (wound)**

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

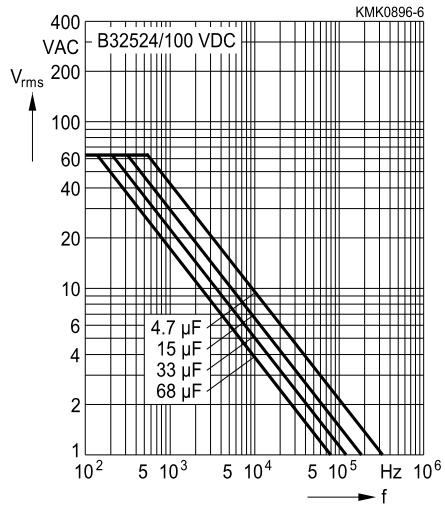
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 27.5 mm**

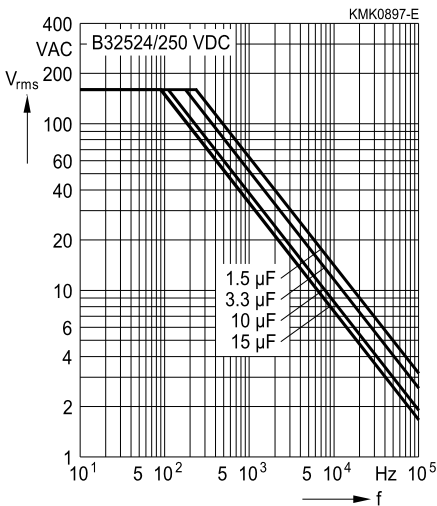
**63 VDC/40 VAC**



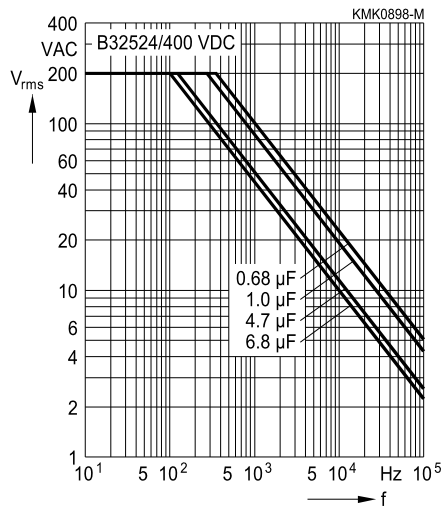
**100 VDC/63 VAC**

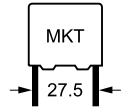


**250 VDC/160 VAC**



**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

