



## Film Capacitors

### Metallized Polyester Film Capacitors (MKT)

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

**Date:** August 2004

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### Typical applications

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

### Climatic

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

### Construction

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

### Features

- High pulse strength
- High contact reliability

### Terminals

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

### Marking

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

### Delivery mode

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

### Dimensional drawing



Dimensions in mm

| Lead spacing<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



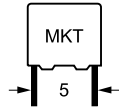
B32520 ... B32529

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 =  $\pm 10\%$

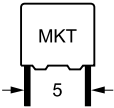
J =  $\pm 5\%$

\*\*\* = 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 =  $\pm 10\%$

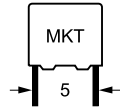
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289 = Ammo pack

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### 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 =  $\pm 10\%$

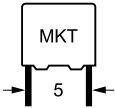
J =  $\pm 5\%$

\*\*\* = 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 =  $\pm 10\%$

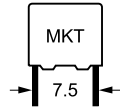
J =  $\pm 5\%$

\*\*\* = 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 =  $\pm 10\%$

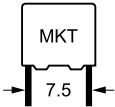
J =  $\pm 5\%$

\*\*\* = 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 =  $\pm 10\%$

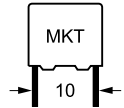
J =  $\pm 5\%$

\*\*\* = 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 =  $\pm 10\%$

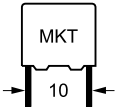
J =  $\pm 5\%$

\*\*\* = 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 =  $\pm 10\%$ 

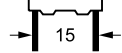
 J =  $\pm 5\%$ 

\*\*\* = 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 ▽            | $6.0 \times 11.0 \times 18.0$                  | B32522Q1105+***                             | 960                       | 1100              | 1000                 |
|       |                                            | 1.5              | $6.0 \times 11.0 \times 18.0$                  | B32522C1155+***                             | 960                       | 1100              | 1000                 |
|       |                                            | 1.5 ▽            | $7.0 \times 12.5 \times 18.0$                  | B32522Q1155+***                             | 830                       | 900               | 1000                 |
|       |                                            | 2.2              | $7.0 \times 12.5 \times 18.0$                  | B32522C1225+***                             | 830                       | 900               | 1000                 |
|       |                                            | 2.2 ▽            | $8.5 \times 14.5 \times 18.0$                  | B32522Q1225+***                             | 680                       | 700               | 500                  |
|       |                                            | 3.3              | $8.5 \times 14.5 \times 18.0$                  | B32522C1335+***                             | 680                       | 700               | 500                  |
|       |                                            | 3.3 ▽            | $9.0 \times 17.5 \times 18.0$                  | B32522Q1335+***                             | 640                       | 700               | 500                  |
|       |                                            | 4.7              | $9.0 \times 17.5 \times 18.0$                  | B32522C1475+***                             | 640                       | 700               | 500                  |
|       |                                            | 4.7 ▽            | $11.0 \times 18.5 \times 18.0$                 | 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 ▽            | $8.5 \times 14.5 \times 18.0$                  | B32522N3105+***                             | 680                       | 700               | 500                  |
|       |                                            | 1.5              | $9.0 \times 17.5 \times 18.0$                  | B32522C3155+***                             | 640                       | 700               | 500                  |
|       |                                            | 1.5 ▽            | $9.0 \times 17.5 \times 18.0$                  | B32522N3155+***                             | 640                       | 700               | 500                  |

▽ Wound capacitor technology

Further E series and intermediate capacitance values on request.

### Composition of ordering code

+ = Capacitance tolerance code:

M =  $\pm 20\%$

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>$f \leq 60 \text{ Hz}$<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 |
|-------|--------------------------------------------|------------------|------------------------------------------------|---------------------------------------------|---------------------------|-------------------|----------------------|
| 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 ▽           | $5.0 \times 10.5 \times 18.0$                  | B32522N6104+***                             | 1170                      | 1300              | 1000                 |
|       |                                            | 0.15 ▽           | $5.0 \times 10.5 \times 18.0$                  | B32522N6154+***                             | 1170                      | 1300              | 1000                 |
|       |                                            | 0.22 ▽           | $6.0 \times 11.0 \times 18.0$                  | B32522N6224+***                             | 960                       | 1100              | 1000                 |
|       |                                            | 0.33 ▽           | $7.0 \times 12.5 \times 18.0$                  | B32522N6334+***                             | 830                       | 900               | 1000                 |
|       |                                            | 0.47 ▽           | $8.5 \times 14.5 \times 18.0$                  | B32522N6474+***                             | 680                       | 700               | 500                  |
|       |                                            | 0.47 ▽           | $8.0 \times 14.0 \times 18.0$                  | B32522T6474+***                             | —                         | 750               | 500                  |
|       |                                            | 0.68 ▽           | $9.0 \times 17.5 \times 18.0$                  | B32522N6684+***                             | 640                       | 700               | 500                  |
|       |                                            | 0.68 ▽           | $13.0 \times 14.0 \times 18.0$                 | B32522T6684+***                             | —                         | 500               | 300                  |
|       |                                            | 1.0 ▽            | $11.0 \times 18.5 \times 18.0$                 | B32522N6105+***                             | —                         | 550               | 300                  |
| 630   | 200                                        | 0.033 ▽          | $5.0 \times 10.5 \times 18.0$                  | B32522Q8333+***                             | 1170                      | 1300              | 1000                 |
|       |                                            | 0.047 ▽          | $5.0 \times 10.5 \times 18.0$                  | B32522Q8473+***                             | 1170                      | 1300              | 1000                 |
|       |                                            | 0.068 ▽          | $6.0 \times 11.0 \times 18.0$                  | B32522Q8683+***                             | 960                       | 1100              | 1000                 |
|       |                                            | 0.10 ▽           | $7.0 \times 12.5 \times 18.0$                  | B32522Q8104+***                             | 830                       | 900               | 1000                 |
|       |                                            | 0.15 ▽           | $8.5 \times 14.5 \times 18.0$                  | B32522Q8154+***                             | 680                       | 700               | 500                  |
|       |                                            | 0.15 ▽           | $8.0 \times 14.0 \times 18.0$                  | B32522T8154+***                             | —                         | 750               | 500                  |
|       |                                            | 0.22 ▽           | $9.0 \times 17.5 \times 18.0$                  | B32522Q8224+***                             | 640                       | 700               | 500                  |
|       |                                            | 0.33 ▽           | $11.0 \times 18.5 \times 18.0$                 | B32522Q8334+***                             | —                         | 550               | 300                  |

▽ Wound capacitor technology

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

 M =  $\pm 20\%$ 

 K =  $\pm 10\%$ 

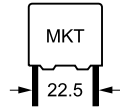
 J =  $\pm 5\%$ 

\*\*\* = 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 × 21.0 × 31.5                             | B32524Q0475+***                             | —                         | 350               | 320                  |
|              |                                    | 6.8              | 11.0 × 21.0 × 31.5                             | B32524Q0685+***                             | —                         | 350               | 320                  |
|              |                                    | 10               | 11.0 × 21.0 × 31.5                             | B32524Q0106+***                             | —                         | 350               | 320                  |
|              |                                    | 15               | 11.0 × 21.0 × 31.5                             | B32524Q0156+***                             | —                         | 300               | 280                  |
|              |                                    | 22               | 14.0 × 24.5 × 31.5                             | B32524Q0226+***                             | —                         | 350               | 320                  |
|              |                                    | 33               | 18.0 × 27.5 × 31.5                             | B32524Q0336+***                             | —                         | —                 | 200                  |
|              |                                    | 47               | 21.0 × 31.0 × 31.5                             | B32524Q0476+***                             | —                         | —                 | 180                  |
|              |                                    | 68               | 22.0 × 36.5 × 31.5                             | B32524Q0686+***                             | —                         | —                 | 160                  |
| 100          | 63                                 | 4.7              | 11.0 × 21.0 × 31.5                             | B32524Q1475+***                             | —                         | 350               | 320                  |
|              |                                    | 6.8              | 11.0 × 21.0 × 31.5                             | B32524Q1685+***                             | —                         | 350               | 320                  |
|              |                                    | 10               | 11.0 × 21.0 × 31.5                             | B32524Q1106+***                             | —                         | 350               | 320                  |
|              |                                    | 15               | 11.0 × 21.0 × 31.5                             | B32524Q1156+***                             | —                         | 300               | 280                  |
|              |                                    | 22               | 14.0 × 24.5 × 31.5                             | B32524Q1226+***                             | —                         | 350               | 320                  |
|              |                                    | 33               | 18.0 × 27.5 × 31.5                             | B32524Q1336+***                             | —                         | —                 | 200                  |
|              |                                    | 47               | 21.0 × 31.0 × 31.5                             | B32524Q1476+***                             | —                         | —                 | 180                  |
|              |                                    | 68               | 22.0 × 36.5 × 31.5                             | B32524Q1686+***                             | —                         | —                 | 160                  |
| 250          | 160                                | 1.5              | 11.0 × 21.0 × 31.5                             | B32524Q3155+***                             | —                         | 350               | 320                  |
|              |                                    | 2.2              | 11.0 × 21.0 × 31.5                             | B32524Q3225+***                             | —                         | 350               | 320                  |
|              |                                    | 3.3              | 11.0 × 21.0 × 31.5                             | B32524Q3335+***                             | —                         | 350               | 320                  |
|              |                                    | 4.7              | 11.0 × 21.0 × 31.5                             | B32524Q3475+***                             | —                         | 350               | 320                  |
|              |                                    | 6.8              | 14.0 × 24.5 × 31.5                             | B32524Q3685+***                             | —                         | 250               | 260                  |
|              |                                    | 10               | 18.0 × 27.5 × 31.5                             | B32524Q3106+***                             | —                         | —                 | 200                  |
|              |                                    | 15               | 19.0 × 30.0 × 31.5                             | B32524Q3156+***                             | —                         | —                 | 180                  |
| 400          | 200                                | 0.68             | 11.0 × 19.0 × 31.5                             | B32524Q6684+***                             | —                         | 350               | 320                  |
|              |                                    | 1.0              | 11.0 × 19.0 × 31.5                             | B32524Q6105+***                             | —                         | 350               | 320                  |
|              |                                    | 1.5              | 11.0 × 19.0 × 31.5                             | B32524Q6155+***                             | —                         | 350               | 320                  |
|              |                                    | 2.2              | 12.5 × 21.5 × 31.5                             | B32524Q6225+***                             | —                         | 300               | 280                  |
|              |                                    | 3.3              | 15.0 × 24.5 × 31.5                             | B32524Q6335+***                             | —                         | —                 | 240                  |
|              |                                    | 4.7              | 18.0 × 27.5 × 31.5                             | B32524Q6475+***                             | —                         | —                 | 200                  |
|              |                                    | 6.8              | 21.0 × 31.0 × 31.5                             | B32524Q6685+***                             | —                         | —                 | 180                  |

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

M = ±20%

K = ±10%

J = ±5%

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

000 = Untaped (lead length 6 – 1 mm)



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

| $V_R$ | $V_{rms}$<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 =  $\pm 10\%$

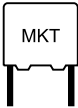
J =  $\pm 5\%$

\*\*\* = 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                                                                                                                               | Capacitance change $ \Delta C/C $ $> 10\%$                                                                                                                                       |                                    |                                |                                            |
| of parameters                                                                                                                                          | 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)**

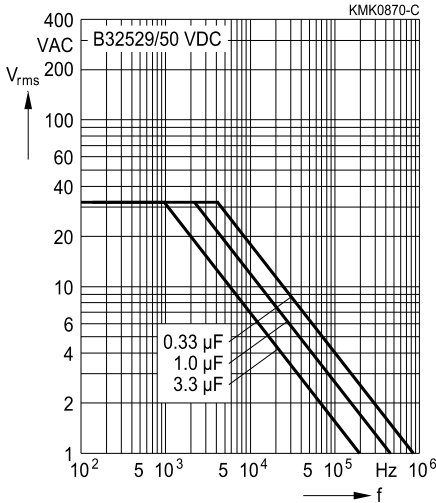
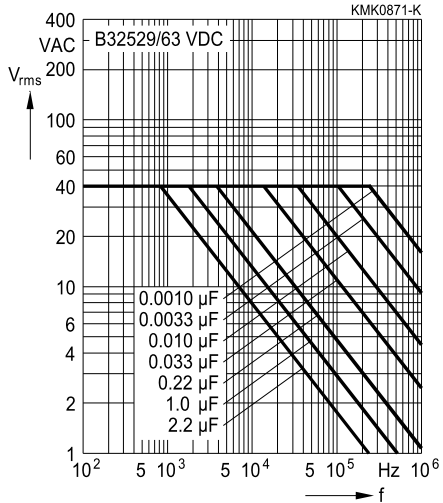
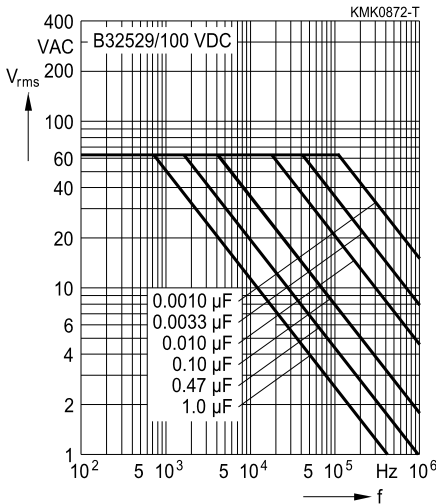
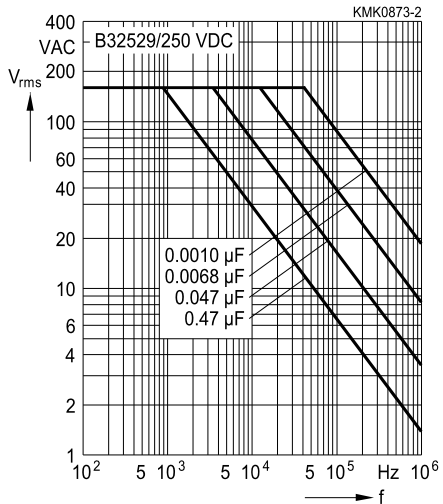
### Impedance $Z$ versus frequency $f$

(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**

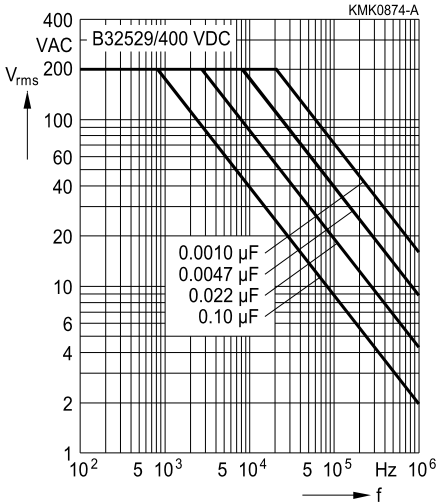
**General purpose (stacked)**

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

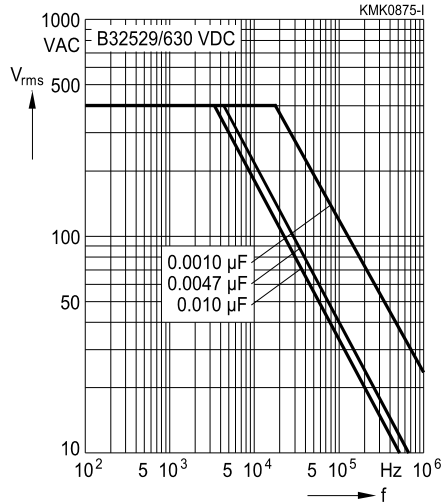
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**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**

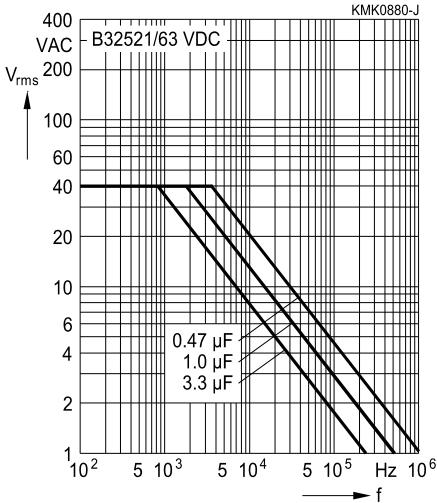
**General purpose (stacked/wound)**

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

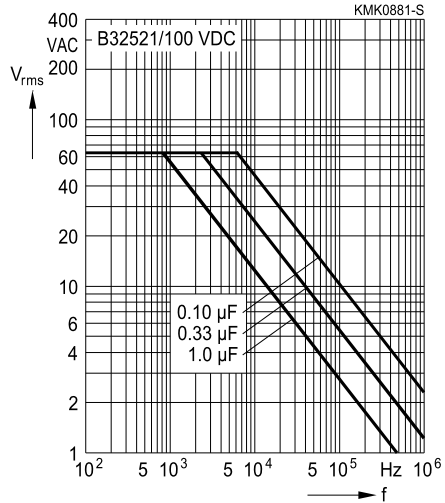
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 10 mm**

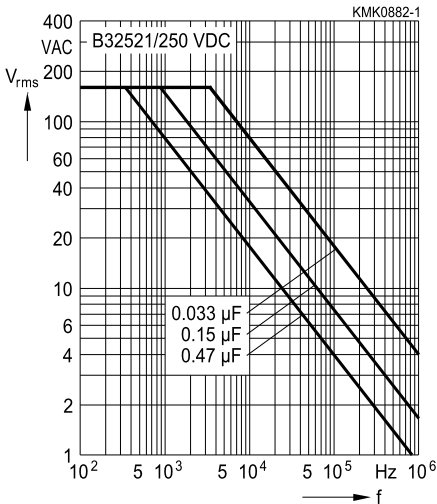
**63 VDC/40 VAC**



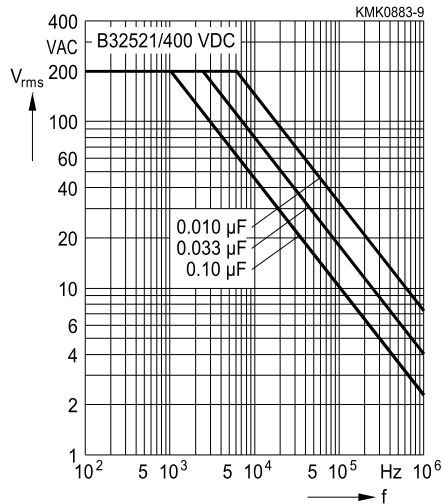
**100 VDC/63 VAC**

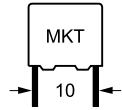


**250 VDC/160 VAC**



**400 VDC/200 VAC**



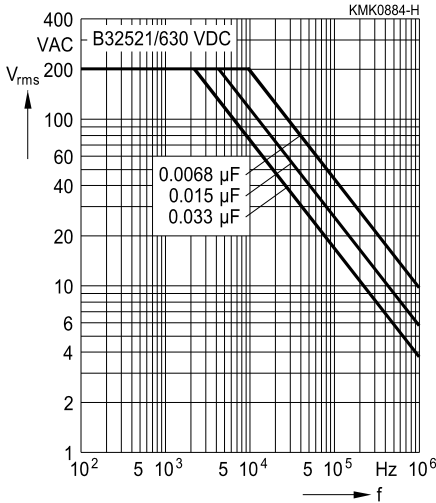


**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

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**

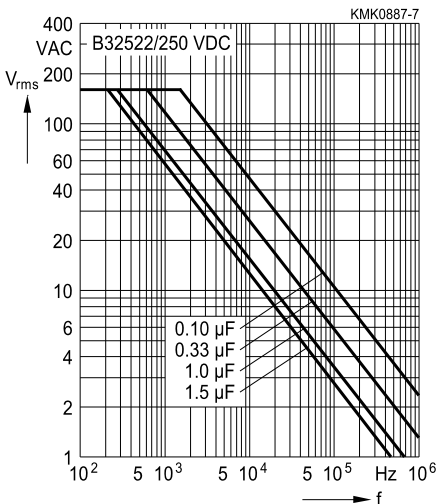
**63 VDC/40 VAC**



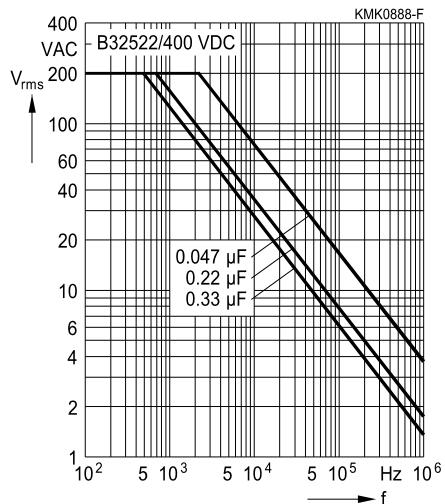
**100 VDC/63 VAC**

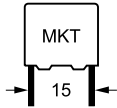


**250 VDC/160 VAC**



**400 VDC/200 VAC**



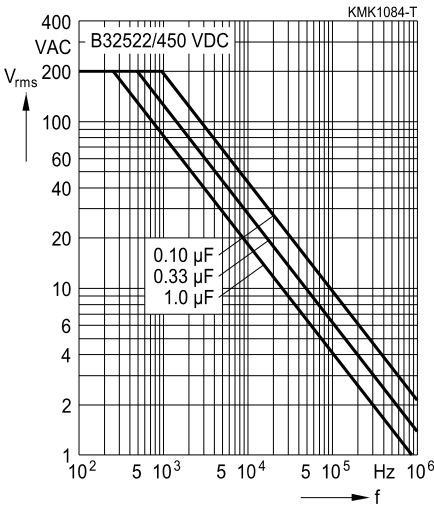


**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

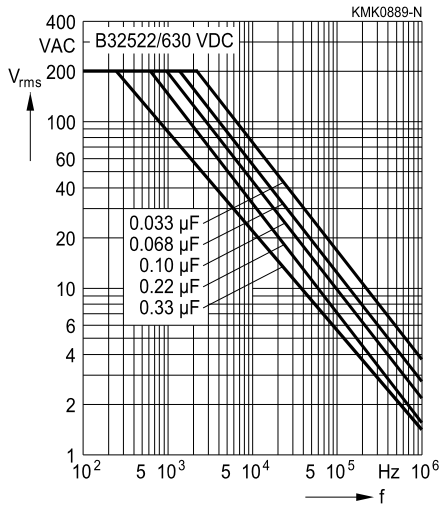
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

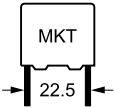
**Lead spacing 15 mm**

**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**

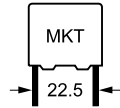


**250 VDC/160 VAC**



**400 VDC/200 VAC**



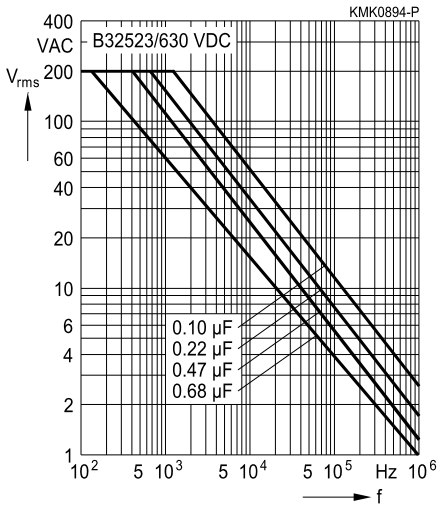


**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 55^\circ\text{C}$ )**

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**

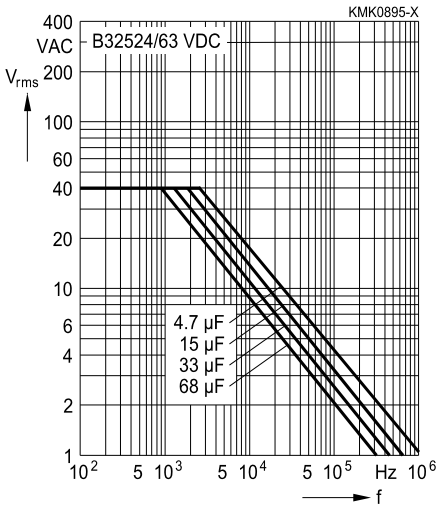
**General purpose (wound)**

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

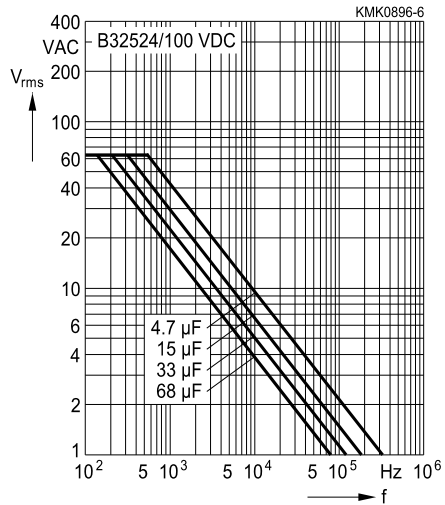
For  $T_A > 55^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 27.5 mm**

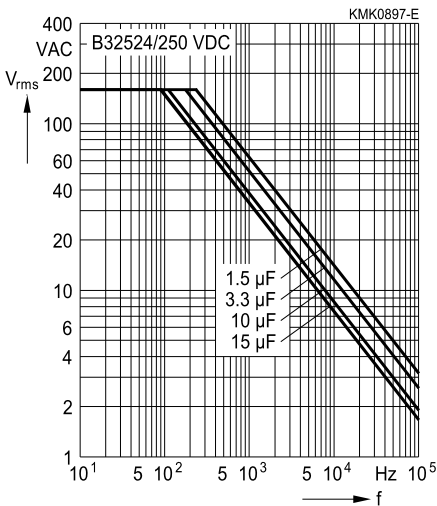
**63 VDC/40 VAC**



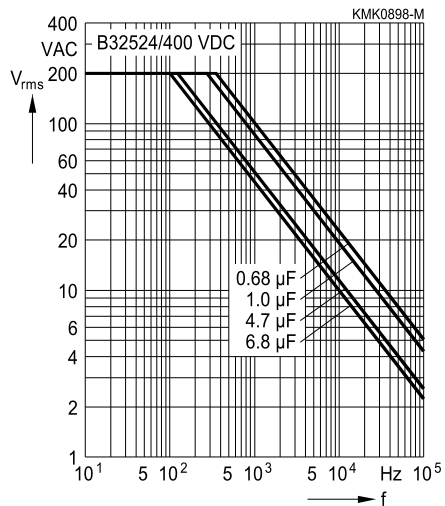
**100 VDC/63 VAC**

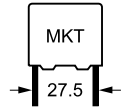


**250 VDC/160 VAC**



**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

