



## Film Capacitors

### Metallized Polypropylene Film Capacitors (MFP)

**Series/Type:** B32632 ... B32634

**Date:** August 2004

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**High pulse (wound)**

**Typical applications**

- Smoothing
- High-frequency AC loads
- TV (flyback)

**Climatic**

- Max. operating temperature: 110 °C
- Climatic category (IEC 60068-1): 55/100/56

**Construction**

- Dielectric: polypropylene (PP)
- Film metallized on one side and metal foils internally connected in series
- Contact layer of sprayed metal
- Wound capacitor technology
- Epoxy resin coating (UL 94 V-0)

**Features**

- Highest possible contact reliability
- Very high pulse strength
- Self-healing properties

**Terminals**

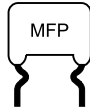
- Crimped wire leads, lead-free tinned, lead length (6 – 1 mm) or min. 20 mm
- Double crimped wire leads, lead-free tinned
- Straight wire leads, lead-free tinned, lead length (17 ±3 mm)
- Different lead spacings (reduced and enlarged) available, lead length (6 – 1 mm)

**Marking**

Manufacturer's logo, style and type (P6xx),  
rated capacitance (coded),  
capacitance tolerance (code letter),  
rated DC voltage, date of manufacture (coded)

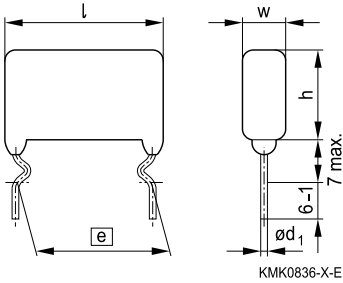
**Delivery mode**

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

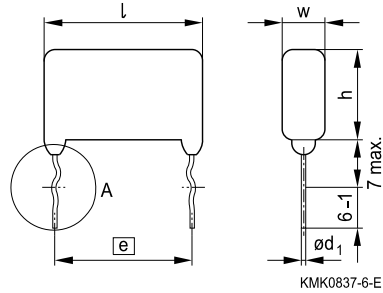


## Dimensional drawings

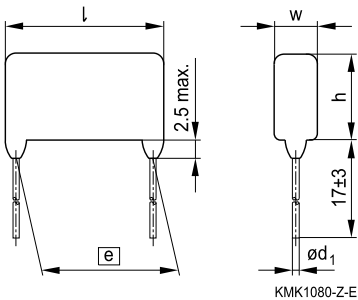
Crimped leads



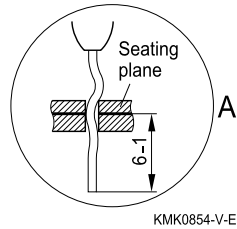
Double crimped leads



Straight leads

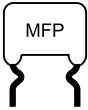


Detail of double crimped version



Dimensions in mm

| Lead spacing | Lead diameter | Type   |
|--------------|---------------|--------|
| $e \pm 0.8$  | $d_1$         |        |
| 15.0         | 0.8           | B32632 |
| 22.5         | 0.8           | B32633 |
| 27.5         | 0.8           | B32634 |



B32632 ... B32634

High pulse (wound)

### Overview of available types

| Lead spacing    | 15.0 mm |      |      |      |      | 22.5 mm |      |      |      |      |      |
|-----------------|---------|------|------|------|------|---------|------|------|------|------|------|
| Type            | B32632  |      |      |      |      | B32633  |      |      |      |      |      |
| $V_R$ (VDC)     | 630     | 1250 | 1600 | 2000 | 3000 | 630     | 1250 | 1600 | 2000 | 2500 | 3000 |
| $V_{rms}$ (VAC) | 300     | 450  | 450  | 500  | 800  | 300     | 450  | 450  | 500  | 750  | 800  |
| $C_R$ (nF)      |         |      |      |      |      |         |      |      |      |      |      |
| 0.47            |         |      |      |      |      |         |      |      |      |      |      |
| 0.68            |         |      |      |      |      |         |      |      |      |      |      |
| 1.0             |         |      |      |      |      |         |      |      |      |      |      |
| 1.5             |         |      |      |      |      |         |      |      |      |      |      |
| 2.2             |         |      |      |      |      |         |      |      |      |      |      |
| 3.3             |         |      |      |      |      |         |      |      |      |      |      |
| 4.7             |         |      |      |      |      |         |      |      |      |      |      |
| 6.8             |         |      |      |      |      |         |      |      |      |      |      |
| 10              |         |      |      |      |      |         |      |      |      |      |      |
| 15              |         |      |      |      |      |         |      |      |      |      |      |
| 22              |         |      |      |      |      |         |      |      |      |      |      |
| 33              |         |      |      |      |      |         |      |      |      |      |      |
| 47              |         |      |      |      |      |         |      |      |      |      |      |
| 68              |         |      |      |      |      |         |      |      |      |      |      |
| 100             |         |      |      |      |      |         |      |      |      |      |      |

### Lead configurations

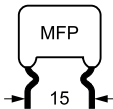
| Series | Standard                                                                            | Reduced                                                                             | Enlarged                                                                            | Straight                                                                            | Double crimped                                                                      |
|--------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|        |  |  |  |  |  |
| B32632 | 15 mm                                                                               | 7.5 / 10 / 12.5 mm                                                                  | 17.5 mm                                                                             | 15 mm                                                                               | 15 mm                                                                               |
| B32633 | 22.5 mm                                                                             | 15 / 17.5 / 20 mm                                                                   | 25 mm                                                                               | 22.5 mm                                                                             | 22.5 mm                                                                             |
| B32634 | 27.5 mm                                                                             | 25 mm                                                                               | —                                                                                   | 27.5 mm                                                                             | 27.5 mm                                                                             |

## Overview of available types

|                 |         |      |      |      |
|-----------------|---------|------|------|------|
| Lead spacing    | 27.5 mm |      |      |      |
| Type            | B32634  |      |      |      |
| $V_R$ (VDC)     | 630     | 1250 | 1600 | 2000 |
| $V_{rms}$ (VAC) | 300     | 450  | 450  | 500  |
| $C_R$ (nF)      |         |      |      |      |
| 10              |         |      |      |      |
| 15              |         |      |      |      |
| 22              |         |      |      |      |
| 33              |         |      |      |      |
| 47              |         |      |      |      |
| 68              |         |      |      |      |
| 100             |         |      |      |      |
| 150             |         |      |      |      |
| 220             |         |      |      |      |
| 330             |         |      |      |      |

## Lead configurations

| Series | Standard                                                                          | Reduced                                                                           | Enlarged                                                                          | Straight                                                                          | Double crimped                                                                    |
|--------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|        |  |  |  |  |  |
| B32632 | 15 mm                                                                             | 7.5 / 10 / 12.5 mm                                                                | 17.5 mm                                                                           | 15 mm                                                                             | 15 mm                                                                             |
| B32633 | 22.5 mm                                                                           | 15 / 17.5 / 20 mm                                                                 | 25 mm                                                                             | 22.5 mm                                                                           | 22.5 mm                                                                           |
| B32634 | 27.5 mm                                                                           | 25 mm                                                                             | —                                                                                 | 27.5 mm                                                                           | 27.5 mm                                                                           |


**B32632**
**High pulse (wound)**
**Ordering codes and packing units (lead spacing 15 mm)**

| $V_R$ | $V_{rms}$<br>$f \leq 1 \text{ kHz}$<br>VDC | $C_R$<br>nF | 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 |
|-------|--------------------------------------------|-------------|------------------------------------------------|---------------------------------------------|---------------------------|-------------------|----------------------|
| 630   | 300                                        | 2.2         | $6.0 \times 11.5 \times 19.0$                  | B32632A6222+***                             | 900                       | 1200              | 1000                 |
|       |                                            | 3.3         | $6.0 \times 11.5 \times 19.0$                  | B32632A6332+***                             | 900                       | 1200              | 1000                 |
|       |                                            | 4.7         | $6.0 \times 11.5 \times 19.0$                  | B32632A6472+***                             | 900                       | 1200              | 1000                 |
|       |                                            | 6.8         | $6.0 \times 11.5 \times 19.0$                  | B32632A6682+***                             | 900                       | 1200              | 1000                 |
|       |                                            | 10          | $6.0 \times 11.5 \times 19.0$                  | B32632A6103+***                             | 900                       | 1200              | 1000                 |
|       |                                            | 15          | $7.0 \times 12.0 \times 19.0$                  | B32632A6153+***                             | 800                       | 1000              | 1000                 |
|       |                                            | 22          | $8.0 \times 13.5 \times 19.0$                  | B32632A6223+***                             | 700                       | 900               | 1000                 |
|       |                                            | 33          | $9.5 \times 15.5 \times 19.0$                  | B32632A6333+***                             | 600                       | 800               | 500                  |
| 1250  | 450                                        | 47          | $12.0 \times 17.0 \times 19.0$                 | B32632A6473+***                             | 450                       | 600               | 500                  |
|       |                                            | 1.0         | $6.5 \times 11.5 \times 19.0$                  | B32632A7102+***                             | 850                       | 1100              | 1000                 |
|       |                                            | 1.5         | $6.5 \times 11.5 \times 19.0$                  | B32632A7152+***                             | 850                       | 1100              | 1000                 |
|       |                                            | 2.2         | $6.5 \times 12.0 \times 19.0$                  | B32632A7222+***                             | 850                       | 1100              | 1000                 |
|       |                                            | 3.3         | $7.0 \times 12.5 \times 19.0$                  | B32632A7332+***                             | 800                       | 1000              | 1000                 |
|       |                                            | 4.7         | $7.0 \times 12.5 \times 19.0$                  | B32632A7472+***                             | 800                       | 1000              | 1000                 |
|       |                                            | 6.8         | $7.5 \times 14.0 \times 19.0$                  | B32632A7682+***                             | 750                       | 1000              | 1000                 |
|       |                                            | 10          | $9.0 \times 15.5 \times 19.0$                  | B32632A7103+***                             | 600                       | 800               | 500                  |
| 1600  | 450                                        | 15          | $12.0 \times 16.5 \times 19.0$                 | B32632A7153+***                             | 450                       | 600               | 500                  |
|       |                                            | 1.0         | $6.0 \times 11.5 \times 19.0$                  | B32632A1102+***                             | 900                       | 1200              | 1000                 |
|       |                                            | 1.5         | $6.0 \times 11.5 \times 19.0$                  | B32632A1152+***                             | 900                       | 1200              | 1000                 |
|       |                                            | 2.2         | $7.0 \times 12.0 \times 19.0$                  | B32632A1222+***                             | 800                       | 1000              | 1000                 |
|       |                                            | 3.3         | $8.0 \times 13.5 \times 19.0$                  | B32632A1332+***                             | 700                       | 900               | 1000                 |
|       |                                            | 4.7         | $9.5 \times 15.5 \times 19.0$                  | B32632A1472+***                             | 600                       | 800               | 1000                 |
|       |                                            | 6.8         | $10.5 \times 16.0 \times 19.0$                 | B32632A1682+***                             | 500                       | 700               | 500                  |
|       |                                            | 10          | $12.5 \times 17.5 \times 19.0$                 | B32632A1103+***                             | 450                       | 600               | 500                  |

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

K =  $\pm 10\%$

J =  $\pm 5\%$

A =  $\pm 3.5\%$

on request =  $\pm 2.5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

010 = Untaped crimped (lead length 6 – 1 mm)

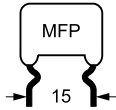
011 = Untaped crimped (lead length min. 20 mm)

008 = Untaped (straight, lead length  $17 \pm 3$  mm)

020 = Double crimped (lead length 6 – 1 mm)

Packaging codes for further lead configurations (untaped):

| Lead configuration (lead length 6 – 1 mm) | Reduced | Reduced | Reduced | Enlarged |
|-------------------------------------------|---------|---------|---------|----------|
| Lead spacing (mm)                         | 7.5 mm  | 10 mm   | 12.5 mm | 17.5 mm  |
| Packaging code                            | 030     | 040     | 050     | 060      |



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

| $V_R$ | $V_{rms}$<br>$f \leq 1 \text{ kHz}$ | $C_R$ | 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                                 | nF    |                                                |                                             |                           |                   |                      |
| 2000  | 500                                 | 0.47  | $6.5 \times 11.5 \times 19.0$                  | B32632A2471M***                             | 850                       | 1100              | 1000                 |
|       |                                     | 0.47  | $6.5 \times 11.5 \times 19.0$                  | B32632A2471K***                             | 850                       | 1100              | 1000                 |
|       |                                     | 0.68  | $6.5 \times 12.5 \times 19.0$                  | B32632A2681M***                             | 850                       | 1100              | 1000                 |
|       |                                     | 0.68  | $6.5 \times 12.5 \times 19.0$                  | B32632A2681K***                             | 850                       | 1100              | 1000                 |
|       |                                     | 1.0   | $6.5 \times 12.5 \times 19.0$                  | B32632A2102+***                             | 850                       | 1100              | 1000                 |
|       |                                     | 1.5   | $6.5 \times 12.5 \times 19.0$                  | B32632A2152+***                             | 850                       | 1100              | 1000                 |
|       |                                     | 2.2   | $7.0 \times 13.5 \times 19.0$                  | B32632A2222+***                             | 800                       | 1000              | 500                  |
|       |                                     | 3.3   | $8.5 \times 15.0 \times 19.0$                  | B32632A2332+***                             | 650                       | 850               | 500                  |
|       |                                     | 4.7   | $10.5 \times 16.0 \times 19.0$                 | B32632A2472+***                             | 500                       | 700               | 500                  |
|       |                                     | 6.8   | $12.5 \times 17.5 \times 19.0$                 | B32632A2682+***                             | 450                       | 600               | 500                  |
| 3000  | 800                                 | 0.47  | $5.5 \times 11.0 \times 19.0$                  | B32632S4471+***                             | 1000                      | 1300              | 1000                 |
|       |                                     | 0.68  | $6.0 \times 12.0 \times 19.0$                  | B32632S4681+***                             | 900                       | 1200              | 1000                 |
|       |                                     | 1.0   | $7.5 \times 13.0 \times 19.0$                  | B32632S4102+***                             | 750                       | 1000              | 500                  |
|       |                                     | 1.5   | $8.5 \times 14.5 \times 19.0$                  | B32632S4152+***                             | 650                       | 850               | 500                  |
|       |                                     | 2.2   | $10.5 \times 16.0 \times 19.0$                 | B32632S4222+***                             | 500                       | 700               | 500                  |
|       |                                     | 3.3   | $12.5 \times 18.0 \times 19.0$                 | B32632S4332+***                             | 450                       | 600               | 500                  |

Further E series and intermediate capacitance values on request.

### Composition of ordering code

+ = Capacitance tolerance code:

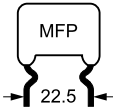
K =  $\pm 10\%$   
J =  $\pm 5\%$   
A =  $\pm 3.5\%$   
on request =  $\pm 2.5\%$

\*\*\* = Packaging code:

289 = Ammo pack  
189 = Reel  
010 = Untaped crimped (lead length 6 – 1 mm)  
011 = Untaped crimped (lead length min. 20 mm)  
008 = Untaped (straight, lead length  $17 \pm 3$  mm)  
020 = Double crimped (lead length 6 – 1 mm)

Packaging codes for further lead configurations (untaped):

| Lead configuration (lead length 6 – 1 mm) | Reduced | Reduced | Reduced | Enlarged |
|-------------------------------------------|---------|---------|---------|----------|
| Lead spacing (mm)                         | 7.5 mm  | 10 mm   | 12.5 mm | 17.5 mm  |
| Packaging code                            | 030     | 040     | 050     | 060      |


**B32633**
**High pulse (wound)**
**Ordering codes and packing units (lead spacing 22.5 mm)**

| $V_R$ | $V_{rms}$<br>$f \leq 1$ kHz<br>VDC | $C_R$<br>nF | 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 |
|-------|------------------------------------|-------------|------------------------------------------------|---------------------------------------------|---------------------------|-------------------|----------------------|
| 630   | 300                                | 22          | $6.5 \times 12.5 \times 27.5$                  | B32633A6223+***                             | 550                       | 750               | 1000                 |
|       |                                    | 33          | $7.0 \times 15.0 \times 27.5$                  | B32633A6333+***                             | 500                       | 700               | 500                  |
|       |                                    | 47          | $8.0 \times 17.0 \times 27.5$                  | B32633A6473+***                             | 450                       | 600               | 500                  |
|       |                                    | 68          | $9.5 \times 17.5 \times 27.5$                  | B32633A6683+***                             | 350                       | 500               | 500                  |
|       |                                    | 100         | $11.5 \times 19.5 \times 27.5$                 | B32633A6104+***                             | 300                       | 400               | 250                  |
| 1250  | 450                                | 10          | $7.0 \times 15.0 \times 27.5$                  | B32633A7103+***                             | 500                       | 700               | 500                  |
|       |                                    | 15          | $8.0 \times 16.0 \times 27.5$                  | B32633A7153+***                             | 450                       | 600               | 500                  |
|       |                                    | 22          | $10.0 \times 17.5 \times 27.5$                 | B32633A7223+***                             | 350                       | 500               | 500                  |
|       |                                    | 33          | $12.0 \times 19.5 \times 27.5$                 | B32633A7333+***                             | 300                       | 400               | 250                  |
|       |                                    | 47          | $14.0 \times 21.0 \times 27.5$                 | B32633A7473+***                             | 250                       | 350               | 250                  |
| 1600  | 450                                | 3.3         | $7.0 \times 13.0 \times 27.5$                  | B32633A1332+***                             | 500                       | 700               | 1000                 |
|       |                                    | 4.7         | $7.0 \times 13.0 \times 27.5$                  | B32633A1472+***                             | 500                       | 700               | 1000                 |
|       |                                    | 6.8         | $7.0 \times 16.0 \times 27.5$                  | B32633A1682+***                             | 500                       | 700               | 500                  |
|       |                                    | 10          | $8.0 \times 17.0 \times 27.5$                  | B32633A1103+***                             | 450                       | 650               | 500                  |
|       |                                    | 15          | $9.5 \times 17.5 \times 27.5$                  | B32633A1153+***                             | 350                       | 500               | 250                  |
|       |                                    | 22          | $11.5 \times 19.5 \times 27.5$                 | B32633A1223+***                             | 300                       | 400               | 250                  |
|       |                                    | 33          | $15.5 \times 22.5 \times 27.5$                 | B32633A1333+***                             | 250                       | 300               | 250                  |
| 2000  | 500                                | 2.2         | $7.0 \times 14.0 \times 27.5$                  | B32633A2222+***                             | 500                       | 700               | 1000                 |
|       |                                    | 3.3         | $7.0 \times 14.0 \times 27.5$                  | B32633A2332+***                             | 500                       | 700               | 1000                 |
|       |                                    | 4.7         | $7.0 \times 15.5 \times 27.5$                  | B32633A2472+***                             | 500                       | 700               | 500                  |
|       |                                    | 6.8         | $9.0 \times 16.5 \times 27.5$                  | B32633A2682+***                             | 400                       | 550               | 500                  |
|       |                                    | 10          | $10.5 \times 17.5 \times 27.5$                 | B32633A2103+***                             | 350                       | 450               | 250                  |
|       |                                    | 15          | $13.0 \times 20.5 \times 27.5$                 | B32633A2153+***                             | 250                       | 350               | 250                  |
|       |                                    | 22          | $15.5 \times 22.5 \times 27.5$                 | B32633A2223+***                             | 200                       | 300               | 250                  |

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

K =  $\pm 10\%$   
 J =  $\pm 5\%$   
 A =  $\pm 3.5\%$   
 on request =  $\pm 2.5\%$

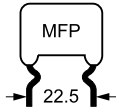
\*\*\* = Packaging code:

289 = Ammo pack  
 189 = Reel  
 010 = Untaped crimped (lead length 6 – 1 mm)  
 011 = Untaped crimped (lead length min. 20 mm)  
 008 = Untaped (straight, lead length  $17 \pm 3$  mm)  
 020 = Double crimped (lead length 6 – 1 mm)

Packaging codes for further lead configurations (untaped):

| Lead configuration (lead length 6 – 1 mm) | Reduced | Reduced | Reduced | Enlarged |
|-------------------------------------------|---------|---------|---------|----------|
| Lead spacing (mm)                         | 15 mm   | 17.5 mm | 20 mm   | 25 mm    |
| Packaging code                            | 055     | 060     | 070     | 080      |





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

| $V_R$ | $V_{rms}$<br>$f \leq 1 \text{ kHz}$ | $C_R$ | 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                                 | nF    |                                                |                                             |                           |                   |                      |
| 2500  | 750                                 | 1.0   | $7.5 \times 14.0 \times 27.5$                  | B32633A3102+***                             | 450                       | 650               | 1000                 |
|       |                                     | 1.5   | $7.5 \times 15.0 \times 27.5$                  | B32633A3152+***                             | 450                       | 650               | 1000                 |
|       |                                     | 2.2   | $8.0 \times 16.0 \times 27.5$                  | B32633A3222+***                             | 450                       | 600               | 500                  |
|       |                                     | 3.3   | $9.5 \times 16.0 \times 27.5$                  | B32633A3332+***                             | 350                       | 500               | 500                  |
|       |                                     | 4.7   | $10.0 \times 18.5 \times 27.5$                 | B32633A3472+***                             | 350                       | 500               | 500                  |
|       |                                     | 6.8   | $12.0 \times 20.5 \times 27.5$                 | B32633A3682+***                             | 300                       | 400               | 250                  |
|       |                                     | 10    | $14.0 \times 23.0 \times 27.5$                 | B32633A3103+***                             | 250                       | 350               | 250                  |
| 3000  | 800                                 | 15    | $17.0 \times 26.0 \times 27.5$                 | B32633A3153+***                             | 200                       | 300               | 200                  |
|       |                                     | 1.0   | $5.5 \times 12.0 \times 27.5$                  | B32633S4102+***                             | 650                       | 900               | 500                  |
|       |                                     | 1.5   | $6.5 \times 12.5 \times 27.5$                  | B32633S4152+***                             | 550                       | 750               | 500                  |
|       |                                     | 2.2   | $7.5 \times 14.0 \times 27.5$                  | B32633S4222+***                             | 450                       | 650               | 500                  |
|       |                                     | 3.3   | $9.0 \times 15.5 \times 27.5$                  | B32633S4332+***                             | 400                       | 550               | 500                  |
|       |                                     | 4.7   | $11.0 \times 17.0 \times 27.5$                 | B32633S4472+***                             | 300                       | 450               | 500                  |
|       |                                     | 6.8   | $13.0 \times 19.0 \times 27.5$                 | B32633S4682+***                             | 250                       | 350               | 200                  |

Further E series and intermediate capacitance values on request.

### Composition of ordering code

+ = Capacitance tolerance code:

K =  $\pm 10\%$

J =  $\pm 5\%$

A =  $\pm 3.5\%$

on request =  $\pm 2.5\%$

\*\*\* = Packaging code:

289 = Ammo pack

189 = Reel

010 = Untaped crimped (lead length 6 – 1 mm)

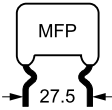
011 = Untaped crimped (lead length min. 20 mm)

008 = Untaped (straight, lead length  $17 \pm 3$  mm)

020 = Double crimped (lead length 6 – 1 mm)

Packaging codes for further lead configurations (untaped):

| Lead configuration (lead length 6 – 1 mm) | Reduced | Reduced | Reduced | Enlarged |
|-------------------------------------------|---------|---------|---------|----------|
| Lead spacing (mm)                         | 15 mm   | 17.5 mm | 20 mm   | 25 mm    |
| Packaging code                            | 055     | 060     | 070     | 080      |


**B32634**
**High pulse (wound)**
**Ordering codes and packing units (lead spacing 27.5 mm)**

| $V_R$ | $V_{rms}$<br>$f \leq 1 \text{ kHz}$ | $C_R$ | Max. dimensions<br>$w \times h \times l$<br>mm | Ordering code<br>(composition see<br>below) | Untaped<br>pcs./unit |
|-------|-------------------------------------|-------|------------------------------------------------|---------------------------------------------|----------------------|
| VDC   | VAC                                 | nF    |                                                |                                             |                      |
| 630   | 300                                 | 100   | $9.5 \times 18.0 \times 32.5$                  | B32634A6104+***                             | 250                  |
|       |                                     | 150   | $12.0 \times 22.0 \times 32.5$                 | B32634A6154+***                             | 200                  |
|       |                                     | 220   | $13.5 \times 22.5 \times 32.5$                 | B32634A6224+***                             | 200                  |
|       |                                     | 330   | $16.0 \times 25.5 \times 32.5$                 | B32634A6334+***                             | 150                  |
| 1250  | 450                                 | 33    | $9.5 \times 18.0 \times 32.5$                  | B32634A7333+***                             | 250                  |
|       |                                     | 47    | $11.5 \times 20.0 \times 32.5$                 | B32634A7473+***                             | 250                  |
|       |                                     | 68    | $13.0 \times 23.0 \times 32.5$                 | B32634A7683+***                             | 200                  |
|       |                                     | 100   | $16.0 \times 26.0 \times 32.5$                 | B32634A7104+***                             | 150                  |
| 1600  | 450                                 | 15    | $8.5 \times 17.0 \times 32.5$                  | B32634A1153+***                             | 500                  |
|       |                                     | 22    | $10.0 \times 18.5 \times 32.5$                 | B32634A1223+***                             | 250                  |
|       |                                     | 33    | $12.0 \times 22.0 \times 32.5$                 | B32634A1333+***                             | 250                  |
|       |                                     | 47    | $14.0 \times 22.5 \times 32.5$                 | B32634A1473+***                             | 200                  |
|       |                                     | 68    | $16.0 \times 25.5 \times 32.5$                 | B32634A1683+***                             | 150                  |
| 2000  | 500                                 | 10    | $8.5 \times 17.0 \times 32.5$                  | B32634A2103+***                             | 500                  |
|       |                                     | 15    | $10.0 \times 20.0 \times 32.5$                 | B32634A2153+***                             | 250                  |
|       |                                     | 22    | $12.0 \times 22.0 \times 32.5$                 | B32634A2223+***                             | 250                  |
|       |                                     | 33    | $15.0 \times 25.0 \times 32.5$                 | B32634A2333+***                             | 200                  |

Further E series and intermediate capacitance values on request.

**Composition of ordering code**

+ = Capacitance tolerance code:

K =  $\pm 10\%$

J =  $\pm 5\%$

A =  $\pm 3.5\%$

on request =  $\pm 2.5\%$

\*\*\* = Packaging code:

010 = Untaped crimped (lead length 6 – 1 mm)

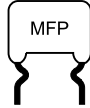
011 = Untaped crimped (lead length min. 20 mm)

008 = Untaped (straight, lead length  $17 \pm 3$  mm)

020 = Double crimped (lead length 6 – 1 mm)

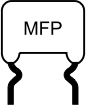
Packaging codes for further lead configurations (untaped):

|                                           |         |
|-------------------------------------------|---------|
| Lead configuration (lead length 6 – 1 mm) | Reduced |
| Lead spacing (mm)                         | 25 mm   |
| Packaging code                            | 090     |



## Technical data

|                                                                                                         |                                                                                                                                                                                                                                                             |                                                                        |                                                                                  |
|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Operating temperature range                                                                             | Max. operating temperature $T_{op,max}$ +110 °C<br>Upper category temperature $T_{max}$ +100 °C<br>Lower category temperature $T_{min}$ -55 °C<br>Rated temperature $T_R$ +85 °C                                                                            |                                                                        |                                                                                  |
| Dissipation factor $\tan \delta$<br>at 20 °C<br>(upper limit values)                                    | $1.0 \cdot 10^{-3}$ (at 10 kHz)<br>$2.0 \cdot 10^{-3}$ (at 100 kHz)                                                                                                                                                                                         |                                                                        |                                                                                  |
| Insulation resistance $R_{ins}$<br>at 20 °C, rel. humidity $\leq 65\%$<br>(minimum as-delivered values) | 100 GΩ                                                                                                                                                                                                                                                      |                                                                        |                                                                                  |
| DC test voltage                                                                                         | $2.0 \cdot V_R$ , 2 s                                                                                                                                                                                                                                       |                                                                        |                                                                                  |
| Category voltage $V_C$<br>(continuous operation with $V_{DC}$<br>or $V_{AC}$ at $f \leq 1$ kHz)         | $T_A$ (°C)                                                                                                                                                                                                                                                  | DC voltage derating                                                    | AC voltage derating                                                              |
|                                                                                                         | $T_A \leq 85$<br>$85 < T_A \leq 100$                                                                                                                                                                                                                        | $V_C = V_R$<br>$V_C = V_R \cdot (165 - T_A)/80$                        | $V_{C,rms} = V_{rms}$<br>$V_{C,rms} = V_{rms} \cdot (165 - T_A)/80$              |
| Operating voltage $V_{op}$ for<br>short operating periods<br>( $V_{DC}$ or $V_{AC}$ at $f \leq 1$ kHz)  | $T_A$ (°C)                                                                                                                                                                                                                                                  | DC voltage (max. hours)                                                | AC voltage (max. hours)                                                          |
|                                                                                                         | $T_A \leq 85$<br>$85 < T_A \leq 100$                                                                                                                                                                                                                        | $V_{op} = 1.25 \cdot V_C$ (2000h)<br>$V_{op} = 1.25 \cdot V_C$ (1000h) | $V_{op} = 1.0 \cdot V_{C,rms}$ (2000h)<br>$V_{op} = 1.0 \cdot V_{C,rms}$ (1000h) |
| Damp heat test<br>Limit values after damp<br>heat test                                                  | 56 days/40 °C/93% relative humidity<br>Capacitance change $ \Delta C/C $ $\leq 2\%$<br>Dissipation factor change $\Delta \tan \delta$ $\leq 1.0 \cdot 10^{-3}$ (at 10 kHz)<br>Insulation resistance $R_{ins}$ $\geq 50\%$ of minimum<br>as-delivered values |                                                                        |                                                                                  |
| Reliability:<br>Failure rate $\lambda$<br>Service life $t_{SL}$                                         | 2 fit ( $\leq 2 \cdot 10^{-9}/h$ ) at $0.5 \cdot V_R$ , 40 °C<br>200 000 h at $1.0 \cdot V_R$ , 40 °C<br>For conversion to other operating conditions and temperatures,<br>refer to chapter "Quality assurance", page .                                     |                                                                        |                                                                                  |
| Failure criteria:<br>Total failure<br>Failure due to variation<br>of parameters                         | Short circuit or open circuit<br>Capacitance change $ \Delta C/C $ $> 10\%$<br>Dissipation factor $\tan \delta$ $> 4 \cdot$ upper limit value<br>Insulation resistance $R_{ins}$ $< 1500$ MΩ                                                                |                                                                        |                                                                                  |

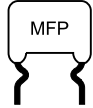


**B32632 ... B32634**

**High pulse (wound)**

**Characteristic voltages  $V_{DC}$ ,  $V_{AC}$ ,  $V_{pp}$**

| $V_{DC}$<br>V | $V_{AC}$<br>V | $V_{pp}$<br>V |
|---------------|---------------|---------------|
| 630           | 300           | 560           |
| 1250          | 450           | 1000          |
| 1600          | 450           | 1200          |
| 2000          | 500           | 1400          |
| 2500          | 750           | 1750          |
| 3000          | 800           | 1800          |



### 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:

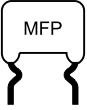
The values of dV/dt and k<sub>0</sub> provided below must not be exceeded in order to avoid damaging the capacitor.

### dV/dt values

| Lead spacing          |                         | 15 mm               | 22.5 mm | 27.5 mm |
|-----------------------|-------------------------|---------------------|---------|---------|
| V <sub>R</sub><br>VDC | V <sub>rms</sub><br>VAC | dV/dt in V/ $\mu$ s |         |         |
| 630                   | 300                     | 5 000               | 3 000   | 2 000   |
| 1250                  | 450                     | 12 000              | 7 000   | 4 500   |
| 1600                  | 450                     | 14 000              | 9 000   | 5 500   |
| 2000                  | 500                     | 17 000              | 12 000  | 7 000   |
| 2500                  | 750                     | —                   | 14 000  | —       |
| 3000                  | 800                     | 18 000              | 15 000  | —       |

### k<sub>0</sub> values

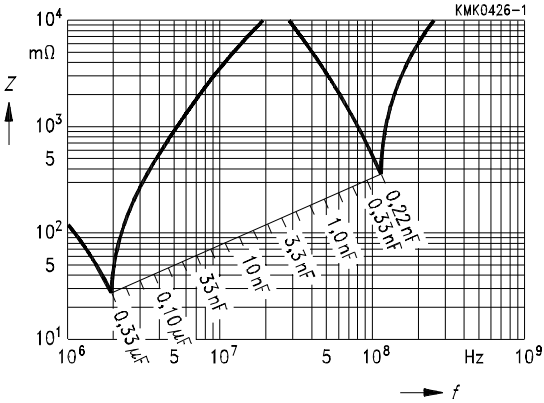
| Lead spacing          |                         | 15 mm                                      | 22.5 mm    | 27.5 mm    |
|-----------------------|-------------------------|--------------------------------------------|------------|------------|
| V <sub>R</sub><br>VDC | V <sub>rms</sub><br>VAC | k <sub>0</sub> in V <sup>2</sup> / $\mu$ s |            |            |
| 630                   | 300                     | 6 300 000                                  | 3 800 000  | 2 500 000  |
| 1250                  | 450                     | 30 000 000                                 | 17 500 000 | 11 000 000 |
| 1600                  | 450                     | 45 000 000                                 | 29 000 000 | 17 500 000 |
| 2000                  | 500                     | 68 000 000                                 | 48 000 000 | 28 000 000 |
| 2500                  | 750                     | —                                          | 59 000 000 | —          |
| 3000                  | 800                     | 108 000 000                                | 90 000 000 | —          |

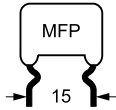


B32632 ... B32634

High pulse (wound)

# Impedance $Z$ versus frequency $f$ (typical values)



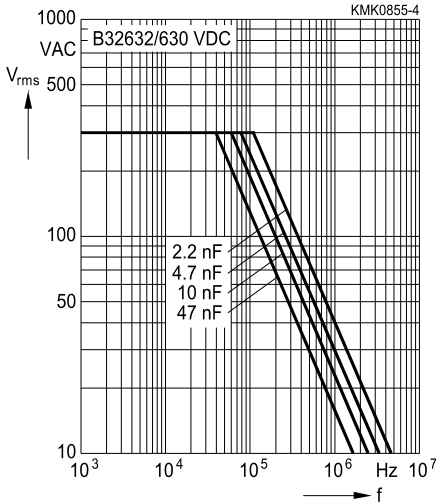


# Permissible AC voltage $V_{rms}$ versus frequency $f$ (for sinusoidal waveforms, $T_A \leq 90^\circ\text{C}$ )

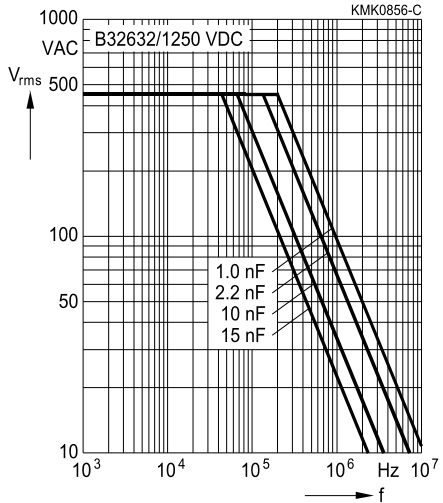
For  $T_A > 90^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

## Lead spacing 15 mm

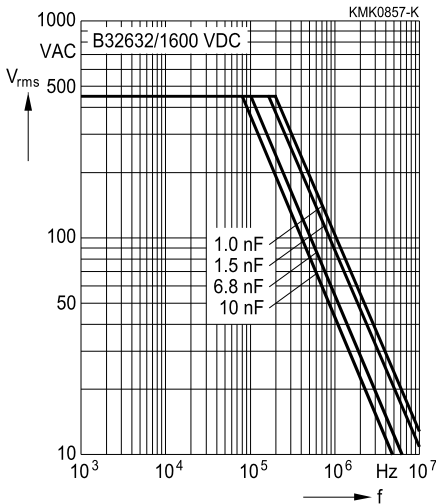
### 630 VDC/300 VAC



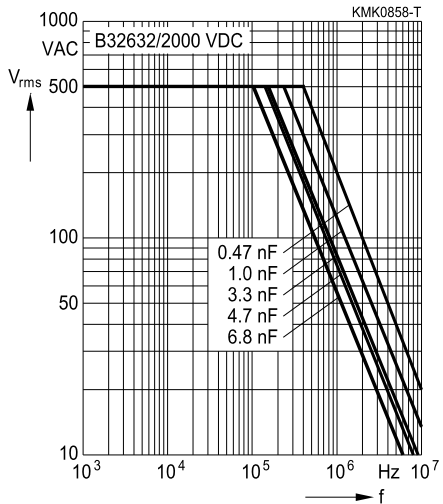
### 1250 VDC/450 VAC

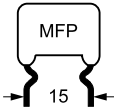


### 1600 VDC/450 VAC



### 2000 VDC/500 VAC





**B32632**

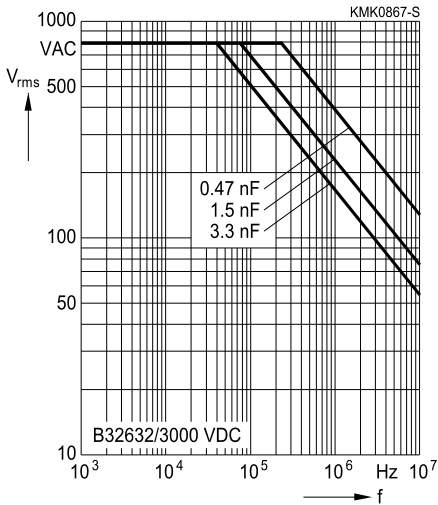
**High pulse (wound)**

**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 90^\circ\text{C}$ )**

For  $T_A > 90^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

**Lead spacing 15 mm**

**3000 VDC/800 VAC**



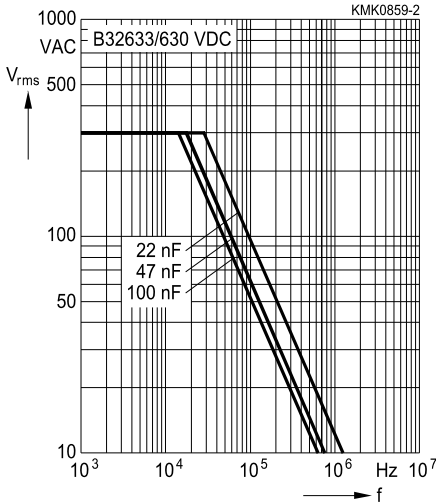


Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 90^\circ\text{C}$ )

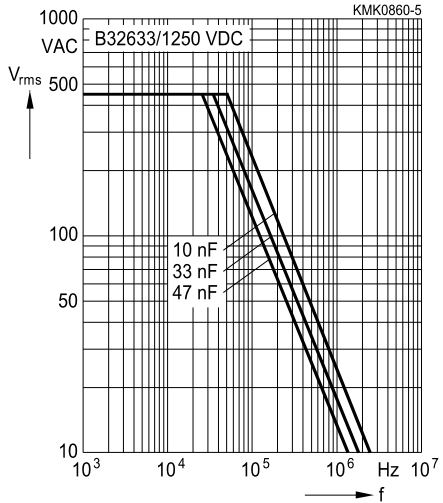
For  $T_A > 90^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

Lead spacing 22.5 mm

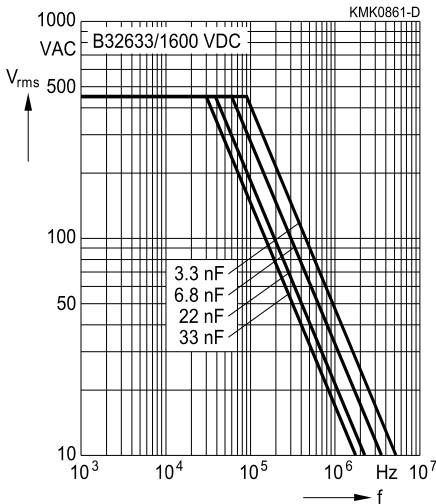
630 VDC/300 VAC



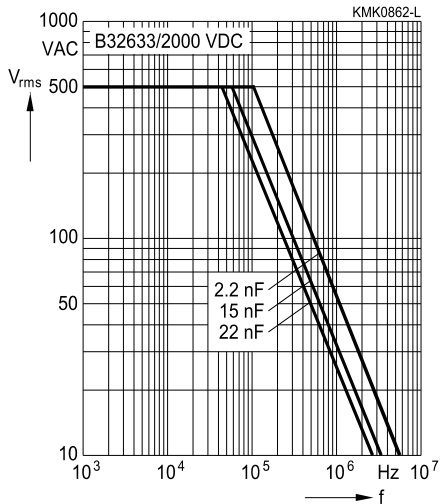
1250 VDC/450 VAC

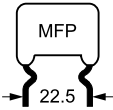


1600 VDC/450 VAC



2000 VDC/500 VAC





**B32633**

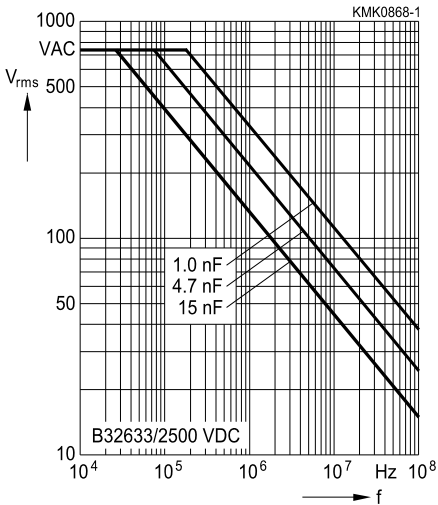
**High pulse (wound)**

**Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 90^\circ\text{C}$ )**

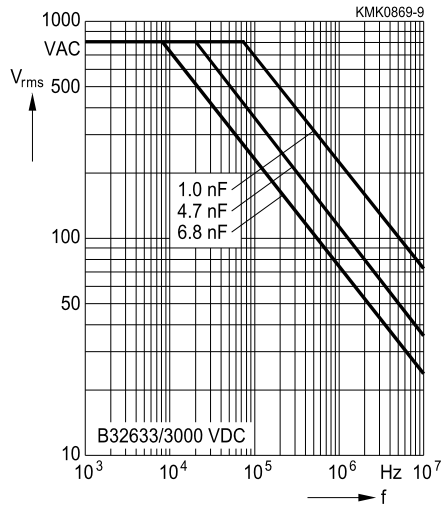
For  $T_A > 90^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

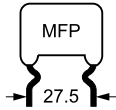
**Lead spacing 22.5 mm**

**2500 VDC/750 VAC**



**3000 VDC/800 VAC**



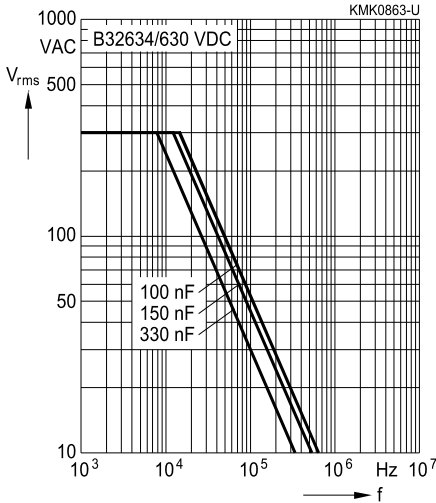


Permissible AC voltage  $V_{rms}$  versus frequency  $f$  (for sinusoidal waveforms,  $T_A \leq 90^\circ\text{C}$ )

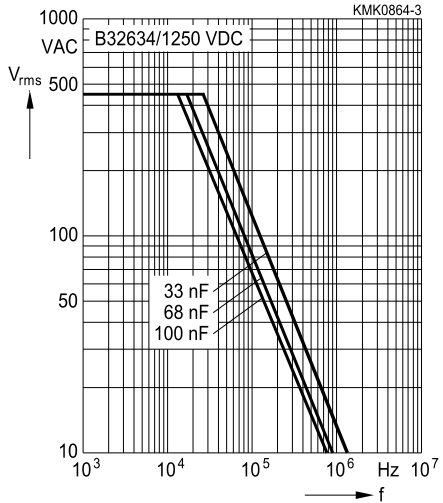
For  $T_A > 90^\circ\text{C}$ , please refer to "General technical information", section 3.2.3.

Lead spacing 27.5 mm

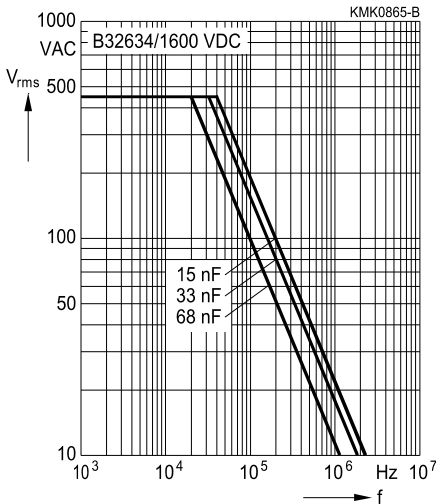
630 VDC/300 VAC



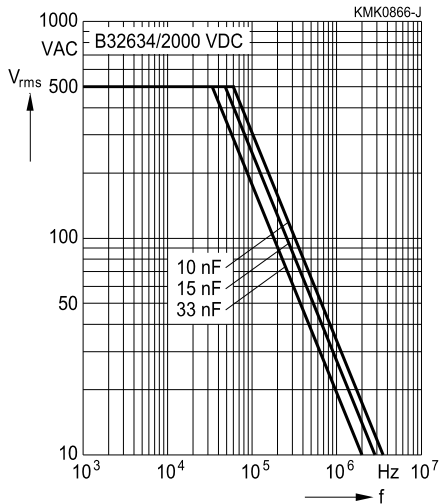
1250 VDC/450 VAC

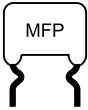


1600 VDC/450 VAC



2000 VDC/500 VAC





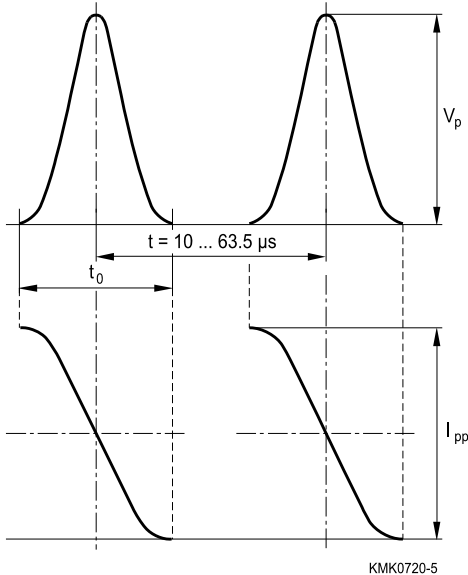
B32632 ... B32634

High pulse (wound)

### Flyback application

#### Permissible voltage and current / waveform

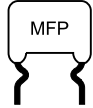
Permissible current  $I_{pp}$  versus frequency for a duty cycle of 20% ( $t_0/t = 0.2$ ):



KMK0720-5

Approximation formular for duty cycle higher than 20%:

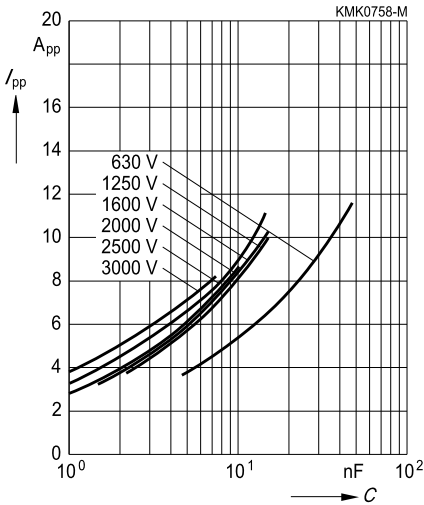
$$I'_{pp} = I_{pp} \cdot \sqrt{\frac{t_0^3}{t^3}}$$



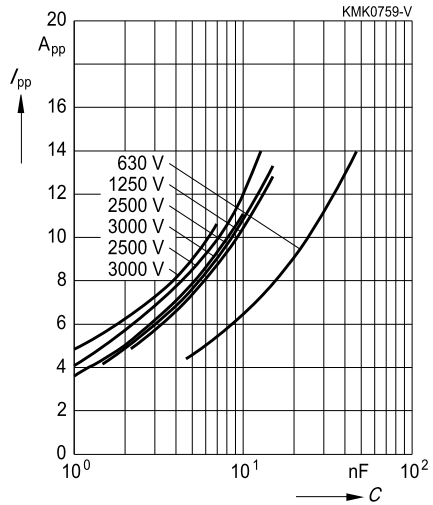
# Flyback application

Permissible current  $I_{pp}$  versus rated capacitance  $C_R$

Frequency = 15.75 kHz



Frequency = 31.5 kHz



Frequency = 95 kHz

