



Features

- High volumetric efficiency
- Non-linear capacitance change
- High insulation resistance
- High pulse strength

Applications

- Blocking
- Coupling
- Decoupling
- Interference suppression

Terminations

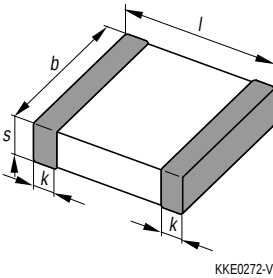
- For soldering:  
  Sizes 0402 through 1210:  
  silver/nickel/tin  
  Sizes 1812, 2220:  
  silver palladium
- For conductive adhesion:  
  All sizes:  
  silver palladium

Packing

- Blister and cardboard tape,  
  for details refer to chapter  
  “Taping and Packing”, page 111.
- Bulk case for sizes 0603, 0805  
  and 1206, for details see page 114.

Maximum ratings

Climatic category  
in accordance with IEC 68-1: 55/125/56



Dimensions (mm)

| Size<br>inch/mm   | <i>l</i>     | <i>b</i>    | <i>s</i>   | <i>k</i> |
|-------------------|--------------|-------------|------------|----------|
| <b>0402</b> /1005 | 1,0 ± 0,10   | 0,50 ± 0,05 | 0,5 ± 0,05 | 0,2      |
| <b>0603</b> /1608 | 1,6 ± 0,15*) | 0,80 ± 0,10 | 0,8 ± 0,10 | 0,3      |
| <b>0805</b> /2012 | 2,0 ± 0,20   | 1,25 ± 0,15 | 1,3 max.   | 0,5      |
| <b>1206</b> /3216 | 3,2 ± 0,20   | 1,60 ± 0,15 | 1,3 max.   | 0,5      |
| <b>1210</b> /3225 | 3,2 ± 0,30   | 2,50 ± 0,30 | 1,7 max.   | 0,5      |
| <b>1812</b> /4532 | 4,5 ± 0,30   | 3,20 ± 0,30 | 1,3 max.   | 0,5      |
| <b>2220</b> /5750 | 5,7 ± 0,40   | 5,00 ± 0,40 | 1,3 max    | 0,5      |

\*) For bulk cases: 1,6 ± 0,1  
Tolerances in acc. with CECC 32101-801

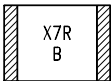
Available capacitance tolerances

| Tolerance                      | Symbol   |
|--------------------------------|----------|
| $\Delta C_R / C_R = \pm 5 \%$  | <b>J</b> |
| $\Delta C_R / C_R = \pm 10 \%$ | <b>K</b> |
| $\Delta C_R / C_R = \pm 20 \%$ | <b>M</b> |

Standard tolerance in bold print  
J tolerance not available for 16 V, 200 V and 500 V

Rated voltage values

$V_R = 16 \text{ V}, 25 \text{ V}, 50 \text{ V}, 100 \text{ V}, 200 \text{ V}, 500 \text{ V}$



Product range

|                                  | X7R/B characteristic |    |              |    |    |     |              |    |    |     |              |    |    |
|----------------------------------|----------------------|----|--------------|----|----|-----|--------------|----|----|-----|--------------|----|----|
| Size <sup>1)</sup><br>inch<br>mm | 0402<br>1005         |    | 0603<br>1608 |    |    |     | 0805<br>2012 |    |    |     | 1206<br>3216 |    |    |
| Type                             | B37921               |    | B37931       |    |    |     | B37941       |    |    |     | B37872       |    |    |
| V <sub>R</sub> (Vdc)             | 16                   | 25 | 16           | 25 | 50 | 100 | 16           | 25 | 50 | 100 | 16           | 25 | 50 |
| 100 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 120 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 150 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 180 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 220 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 270 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 330 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 390 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 470 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 560 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 680 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 820 pF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 1,0 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 1,2 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 1,5 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 1,8 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 2,2 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 2,7 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 3,3 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 3,9 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 4,7 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 5,6 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 6,8 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 8,2 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |

Chip thickness (s):

0,5 ± 0,1 mm

0,6 ± 0,1 mm

0,8 ± 0,1 mm

1,2 ± 0,1 mm

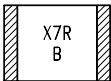
1) l × b (inch) / l × b (mm)

## Product range

|                                  | X7R/B characteristic |    |              |    |    |     |              |    |    |     |              |    |    |
|----------------------------------|----------------------|----|--------------|----|----|-----|--------------|----|----|-----|--------------|----|----|
| Size <sup>1)</sup><br>inch<br>mm | 0402<br>1005         |    | 0603<br>1608 |    |    |     | 0805<br>2012 |    |    |     | 1206<br>3216 |    |    |
| Type                             | B37921               |    | B37931       |    |    |     | B37941       |    |    |     | B37872       |    |    |
| V <sub>R</sub> (Vdc)             | 16                   | 25 | 16           | 25 | 50 | 100 | 16           | 25 | 50 | 100 | 16           | 25 | 50 |
| 10 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 12 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 15 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 18 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 22 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 27 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 33 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 39 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 47 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 56 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 68 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 82 nF                            |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 100 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 120 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 150 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 180 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 220 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 270 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 330 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 390 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 470 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 560 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 680 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 820 nF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |
| 1,0 µF                           |                      |    |              |    |    |     |              |    |    |     |              |    |    |

Chip thickness (s): 0,5 ± 0,1 mm 0,6 ± 0,1 mm 0,8 ± 0,1 mm 1,2 ± 0,1 mm

1) l × b (inch) / l × b (mm)



Product range

|                                  | X7R/B characteristic |     |     |              |     |     |     |              |  |              |  |
|----------------------------------|----------------------|-----|-----|--------------|-----|-----|-----|--------------|--|--------------|--|
| Size <sup>1)</sup><br>inch<br>mm | 1206<br>3216         |     |     | 1210<br>3225 |     |     |     | 1812<br>4532 |  | 2220<br>5750 |  |
| Type                             | B37872               |     |     | B37950       |     |     |     | B37953       |  | B37956       |  |
| V <sub>R</sub> (Vdc)             | 100                  | 200 | 500 | 50           | 100 | 200 | 500 | 50           |  | 50           |  |
| 100 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 120 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 150 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 180 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 220 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 270 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 330 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 390 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 470 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 560 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 680 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 820 pF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 1,0 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 1,2 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 1,5 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 1,8 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 2,2 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 2,7 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 3,3 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 3,9 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 4,7 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 5,6 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 6,8 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 8,2 nF                           |                      |     |     |              |     |     |     |              |  |              |  |

Chip thickness (s): 0,5 ± 0,1 mm 0,6 ± 0,1 mm 0,8 ± 0,1 mm 1,2 ± 0,1 mm 1,6 ± 0,1 mm

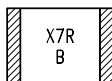
1) l × b (inch) / l × b (mm)

## Product range

|                                  | X7R/B characteristic |     |     |              |     |     |     |              |  |              |  |
|----------------------------------|----------------------|-----|-----|--------------|-----|-----|-----|--------------|--|--------------|--|
| Size <sup>1)</sup><br>inch<br>mm | 1206<br>3216         |     |     | 1210<br>3225 |     |     |     | 1812<br>4532 |  | 2220<br>5750 |  |
| Type                             | B37872               |     |     | B37950       |     |     |     | B37953       |  | B37956       |  |
| V <sub>R</sub> (Vdc)             | 100                  | 200 | 500 | 50           | 100 | 200 | 500 | 50           |  | 50           |  |
| 10 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 12 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 15 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 18 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 22 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 27 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 33 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 39 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 47 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 56 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 68 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 82 nF                            |                      |     |     |              |     |     |     |              |  |              |  |
| 100 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 120 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 150 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 180 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 220 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 270 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 330 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 390 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 470 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 560 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 680 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 820 nF                           |                      |     |     |              |     |     |     |              |  |              |  |
| 1,0 µF                           |                      |     |     |              |     |     |     |              |  |              |  |

Chip thickness (s):  $0,5 \pm 0,1$  mm  $0,6 \pm 0,1$  mm  $0,8 \pm 0,1$  mm  $1,2 \pm 0,1$  mm  $1,6 \pm 0,1$  mm

1)  $l \times b$  (inch) /  $l \times b$  (mm)



## Ordering codes for X7R/B characteristic, 16 Vdc, AgNiSn terminations

| Size           | 0402/1005                   | 0603/1608    | 0805/2012    | 1206/3216    |  |
|----------------|-----------------------------|--------------|--------------|--------------|--|
| C <sub>R</sub> | Ordering code <sup>1)</sup> |              |              |              |  |
|                | B37921-                     | B37931-      | B37941-      | B37872-      |  |
| 470 pF         | -K9471-K60 ▲                |              |              |              |  |
| 560 pF         | -K9561-K60 ▲                |              |              |              |  |
| 680 pF         | -K9681-K60 ▲                |              |              |              |  |
| 820 pF         | -K9821-K60 ▲                |              |              |              |  |
| 1,0 nF         | -K9102-K60 ▲                |              |              |              |  |
| 1,2 nF         | -K9122-K60 ▲                |              |              |              |  |
| 1,5 nF         | -K9152-K60 ▲                |              |              |              |  |
| 1,8 nF         | -K9182-K60 ▲                |              |              |              |  |
| 2,2 nF         | -K9222-K60 ▲                |              |              |              |  |
| 2,7 nF         | -K9272-K60 ▲                |              |              |              |  |
| 3,3 nF         | -K9332-K60 ▲                |              |              |              |  |
| 3,9 nF         | -K9392-K60 ▲                |              |              |              |  |
| 4,7 nF         | -K9472-K60 ▲                | -K9472-K60 ○ |              |              |  |
| 5,6 nF         | -K9562-K60 ▲                | -K9562-K60 ○ |              |              |  |
| 6,8 nF         | -K9682-K60 ▲                | -K9682-K60 ○ |              |              |  |
| 8,2 nF         | -K9822-K60 ▲                | -K9822-K60 ○ |              |              |  |
| 10 nF          | -K9103-K60 ▲                | -K9103-K60 ○ | -K9103-K60 □ |              |  |
| 12 nF          | -K9123-K60 ▲                | -K9123-K60 ○ | -K9123-K60 □ |              |  |
| 15 nF          | -K9153-K60 ▲                | -K9153-K60 ○ | -K9153-K60 □ |              |  |
| 18 nF          |                             | -K9183-K60 ○ | -K9183-K60 □ |              |  |
| 22 nF          |                             | -K9223-K60 ○ | -K9223-K60 □ | -K9223-K60 ○ |  |
| 27 nF          |                             | -K9273-K60 ○ | -K9273-K60 □ | -K9273-K60 ○ |  |
| 33 nF          |                             | -K9333-K60 ○ | -K9333-K60 □ | -K9333-K60 ○ |  |
| 39 nF          |                             | -K9393-K60 ○ | -K9393-K60 □ | -K9393-K60 ○ |  |
| 47 nF          |                             | -K9473-K60 ○ | -K9473-K60 □ | -K9473-K60 ○ |  |
| 56 nF          |                             | -K9563-K60 ○ | -K9563-K60 □ | -K9563-K60 ○ |  |
| 68 nF          |                             | -K9683-K60 ○ | -K9683-K60 □ | -K9683-K60 ○ |  |
| 82 nF          |                             |              | -K9823-K60 □ | -K9823-K60 ○ |  |
| 100 nF         |                             |              | -K9104-K60 ○ | -K9104-K60 ○ |  |
| 120 nF         |                             |              | -K9124-K60 ○ | -K9124-K60 ○ |  |
| 150 nF         |                             |              | -K9154-K62 ◆ | -K9154-K60 ○ |  |
| 180 nF         |                             |              | -K9184-K62 ◆ | -K9184-K60 ○ |  |
| 220 nF         |                             |              | -K9224-K62 ◆ | -K9220-K60 ○ |  |
| 270 nF         |                             |              |              | -K9274-K60 ○ |  |
| 330 nF         |                             |              |              | -K9334-K60 ○ |  |
| 390 nF         |                             |              |              | -K9394-K62 ◆ |  |
| 470 nF         |                             |              |              | -K9474-K62 ◆ |  |

Chip thickness: ▲: 0,5 ± 0,1 mm □: 0,6 ± 0,1 mm ○: 0,8 ± 0,1 mm ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:  
K = ± 10 %. Example: B37921-K9471-K60  
For other available capacitance tolerances see page 27

## Ordering codes for X7R/B characteristic, 25 Vdc, AgNiSn terminations

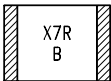
| Size           | 0402/1005                   | 0603/1608    | 0805/2012    | 1206/3216    |  |
|----------------|-----------------------------|--------------|--------------|--------------|--|
| C <sub>R</sub> | Ordering code <sup>1)</sup> |              |              |              |  |
|                | B37921-                     | B37931-      | B37941-      | B37872-      |  |
| 100 pF         | -K0101-K60 ▲                |              |              |              |  |
| 120 pF         | -K0121-K60 ▲                |              |              |              |  |
| 150 pF         | -K0151-K60 ▲                |              |              |              |  |
| 180 pF         | -K0181-K60 ▲                |              |              |              |  |
| 220 pF         | -K0221-K60 ▲                |              |              |              |  |
| 270 pF         | -K0271-K60 ▲                |              |              |              |  |
| 330 pF         | -K0331-K60 ▲                |              |              |              |  |
| 390 pF         | -K0391-K60 ▲                |              |              |              |  |
| 470 pF         | -K0471-K60 ▲                |              |              |              |  |
| 560 pF         | -K0561-K60 ▲                |              |              |              |  |
| 680 pF         | -K0681-K60 ▲                |              |              |              |  |
| 820 pF         | -K0821-K60 ▲                |              |              |              |  |
| 1,0 nF         | -K0102-K60 ▲                |              |              |              |  |
| 1,2 nF         | -K0122-K60 ▲                |              |              |              |  |
| 1,5 nF         | -K0152-K60 ▲                |              |              |              |  |
| 1,8 nF         | -K0182-K60 ▲                |              |              |              |  |
| 2,2 nF         | -K0222-K60 ▲                |              |              |              |  |
| 2,7 nF         | -K0272-K60 ▲                |              |              |              |  |
| 3,3 nF         | -K0332-K60 ▲                |              |              |              |  |
| 3,9 nF         | -K0392-K60 ▲                |              |              |              |  |
| 4,7 nF         | -K0472-K60 ▲                | -K0472-K60 ○ |              |              |  |
| 5,6 nF         |                             | -K0562-K60 ○ |              |              |  |
| 6,8 nF         |                             | -K0682-K60 ○ |              |              |  |
| 8,2 nF         |                             | -K0822-K60 ○ |              |              |  |
| 10 nF          |                             | -K0103-K60 ○ | -K0103-K60 □ |              |  |
| 12 nF          |                             | -K0123-K60 ○ | -K0123-K60 □ |              |  |
| 15 nF          |                             | -K0153-K60 ○ | -K0153-K60 □ |              |  |
| 18 nF          |                             | -K0183-K60 ○ | -K0183-K60 □ |              |  |
| 22 nF          |                             | -K0223-K60 ○ | -K0223-K60 □ | -K0223-K60 ○ |  |
| 27 nF          |                             |              | -K0273-K60 □ | -K0273-K60 ○ |  |
| 33 nF          |                             |              | -K0333-K60 □ | -K0333-K60 ○ |  |
| 39 nF          |                             |              | -K0393-K60 □ | -K0393-K60 ○ |  |
| 47 nF          |                             |              | -K0473-K60 □ | -K0473-K60 ○ |  |
| 56 nF          |                             |              | -K0563-K60 ○ | -K0563-K60 ○ |  |
| 68 nF          |                             |              | -K0683-K60 ○ | -K0683-K60 ○ |  |

Chip thickness: ▲: 0,5 ± 0,1 mm □: 0,6 ± 0,1 mm ○: 0,8 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:

K = ± 10 %. Example: B37921-K0101-K60

For other available capacitance tolerances see page 27



Ordering codes for X7R/B characteristic, 25 Vdc, AgNiSn terminations (cont'd)

| Size           | 0402/1005                   | 0603/1608 | 0805/2012    | 1206/3216    |  |
|----------------|-----------------------------|-----------|--------------|--------------|--|
| C <sub>R</sub> | Ordering code <sup>1)</sup> |           |              |              |  |
|                | B37921-                     | B37931-   | B37941-      | B37872-      |  |
| 82 nF          |                             |           | -K0823-K62 ◆ | -K0823-K62 ○ |  |
| 100 nF         |                             |           | -K0104-K62 ◆ | -K0104-K62 ○ |  |
| 120 nF         |                             |           |              | -K0124-K62 ○ |  |
| 150 nF         |                             |           |              | -K0154-K62 ○ |  |
| 180 nF         |                             |           |              | -K0184-K62 ◆ |  |
| 220 nF         |                             |           |              | -K0224-K62 ◆ |  |

Chip thickness: ○: 0,8 ± 0,1 mm    ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:  
K = ± 10 %. Example: B37941-K0823-K62  
For other available capacitance tolerances see page 27

## Ordering codes for X7R/B characteristic, 50 Vdc, AgNiSn terminations

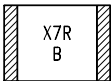
| Size           | 0603/1608                   | 0805/2012    | 1206/3216    | 1210/3225    |  |
|----------------|-----------------------------|--------------|--------------|--------------|--|
| C <sub>R</sub> | Ordering code <sup>1)</sup> |              |              |              |  |
|                | B37931-                     | B37941-      | B37872-      | B37950-      |  |
| 220 pF         | -K5221-K60 ○                |              |              |              |  |
| 270 pF         | -K5271-K60 ○                |              |              |              |  |
| 330 pF         | -K5331-K60 ○                |              |              |              |  |
| 390 pF         | -K5391-K60 ○                |              |              |              |  |
| 470 pF         | -K5471-K60 ○                | -K5471-K60 □ |              |              |  |
| 560 pF         | -K5561-K60 ○                | -K5561-K60 □ |              |              |  |
| 680 pF         | -K5681-K60 ○                | -K5681-K60 □ |              |              |  |
| 820 pF         | -K5821-K60 ○                | -K5821-K60 □ |              |              |  |
| 1,0 nF         | -K5102-K60 ○                | -K5102-K60 □ | -K5102-K60 ○ |              |  |
| 1,2 nF         | -K5122-K60 ○                | -K5122-K60 □ | -K5122-K60 ○ |              |  |
| 1,5 nF         | -K5152-K60 ○                | -K5152-K60 □ | -K5152-K60 ○ |              |  |
| 1,8 nF         | -K5182-K60 ○                | -K5182-K60 □ | -K5182-K60 ○ |              |  |
| 2,2 nF         | -K5222-K60 ○                | -K5222-K60 □ | -K5222-K60 ○ |              |  |
| 2,7 nF         | -K5272-K60 ○                | -K5272-K60 □ | -K5272-K60 ○ |              |  |
| 3,3 nF         | -K5332-K60 ○                | -K5332-K60 □ | -K5332-K60 ○ |              |  |
| 3,9 nF         | -K5392-K60 ○                | -K5392-K60 □ | -K5392-K60 ○ |              |  |
| 4,7 nF         | -K5472-K60 ○                | -K5472-K60 □ | -K5472-K60 ○ |              |  |
| 5,6 nF         | -K5562-K60 ○                | -K5562-K60 □ | -K5562-K60 ○ |              |  |
| 6,8 nF         | -K5682-K60 ○                | -K5682-K60 □ | -K5682-K60 ○ |              |  |
| 8,2 nF         | -K5822-K60 ○                | -K5822-K60 □ | -K5822-K60 ○ |              |  |
| 10 nF          | -K5103-K60 ○                | -K5103-K60 □ | -K5103-K60 ○ | -K5103-K62 ○ |  |
| 12 nF          |                             | -K5123-K60 □ | -K5123-K60 ○ | -K5123-K62 ○ |  |
| 15 nF          |                             | -K5153-K60 □ | -K5153-K60 ○ | -K5153-K62 ○ |  |
| 18 nF          |                             | -K5183-K60 □ | -K5183-K60 ○ | -K5183-K62 ○ |  |
| 22 nF          |                             | -K5223-K60 □ | -K5223-K60 ○ | -K5223-K62 ○ |  |
| 27 nF          |                             | -K5273-K60 □ | -K5273-K60 ○ | -K5273-K62 ○ |  |
| 33 nF          |                             | -K5333-K60 □ | -K5333-K60 ○ | -K5333-K62 ○ |  |
| 39 nF          |                             | -K5393-K60 □ | -K5393-K60 ○ | -K5393-K62 ○ |  |
| 47 nF          |                             | -K5473-K60 □ | -K5473-K60 ○ | -K5473-K62 ○ |  |
| 56 nF          |                             | -K5563-K62 ◆ | -K5563-K60 ○ | -K5563-K62 ○ |  |
| 68 nF          |                             | -K5683-K62 ◆ | -K5683-K60 ○ | -K5683-K62 ○ |  |
| 82 nF          |                             | -K5823-K62 ◆ | -K5823-K60 ○ | -K5823-K62 ○ |  |
| 100 nF         |                             | -K5104-K62 ◆ | -K5104-K60 ○ | -K5104-K62 ○ |  |
| 120 nF         |                             |              |              | -K5124-K62 ○ |  |
| 150 nF         |                             |              |              | -K5154-K62 ○ |  |
| 180 nF         |                             |              |              | -K5184-K62 ◆ |  |
| 220 nF         |                             |              |              | -K5224-K62 ◆ |  |

Chip thickness: □: 0,6 ± 0,1 mm    ○: 0,8 ± 0,1 mm    ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:

K = ± 10 %. Example: B37931-K5221-K60

For other available capacitance tolerances see page 27



Ordering codes for X7R/B characteristic, 50 Vdc, AgPd terminations (cont'd)

| Size           | 1812/4532                   | 2220/5750    |  |  |
|----------------|-----------------------------|--------------|--|--|
| C <sub>R</sub> | Ordering code <sup>1)</sup> |              |  |  |
|                | B37953-                     | B37956-      |  |  |
| 100 nF         | -J5104-K62 ◆                |              |  |  |
| 120 nF         | -J5124-K62 ◆                |              |  |  |
| 150 nF         | -J5154-K62 ◆                |              |  |  |
| 180 nF         | -J5184-K62 ◆                |              |  |  |
| 220 nF         | -J5224-K62 ◆                |              |  |  |
| 270 nF         | -J5274-K62 ◆                |              |  |  |
| 330 nF         | -J5334-K62 ◆                |              |  |  |
| 390 nF         | -J5394-K62 ◆                |              |  |  |
| 470 nF         | -J5474-K62 ◆                | -J5474-K62 ◆ |  |  |
| 560 nF         |                             | -J5564-K62 ◆ |  |  |
| 680 nF         |                             | -J5684-K62 ◆ |  |  |
| 820 nF         |                             | -J5824-K62 ◆ |  |  |
| 1,0 µF         |                             | -J5105-K62 ◆ |  |  |

Chip thickness: ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:  
K = ± 10 %. Example: B37953-J5104-K62  
For other available capacitance tolerances see page 27

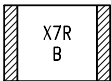
## Ordering codes for X7R/B characteristic, 100 Vdc, AgNiSn terminations

| Size           | 0603/1608                   | 0805/2012    | 1206/3216    | 1210/3225    |  |
|----------------|-----------------------------|--------------|--------------|--------------|--|
| C <sub>R</sub> | Ordering code <sup>1)</sup> |              |              |              |  |
|                | B37931-                     | B37941-      | B37872-      | B37950-      |  |
| 100 pF         | -K1101-K60 ○                |              |              |              |  |
| 120 pF         | -K1121-K60 ○                |              |              |              |  |
| 150 pF         | -K1151-K60 ○                |              |              |              |  |
| 180 pF         | -K1181-K60 ○                |              |              |              |  |
| 220 pF         | -K1221-K60 ○                |              |              |              |  |
| 270 pF         | -K1271-K60 ○                |              |              |              |  |
| 330 pF         | -K1331-K60 ○                |              |              |              |  |
| 390 pF         | -K1391-K60 ○                |              |              |              |  |
| 470 pF         | -K1471-K60 ○                | -K1471-K60 □ |              |              |  |
| 560 pF         | -K1561-K60 ○                | -K1561-K60 □ |              |              |  |
| 680 pF         | -K1681-K60 ○                | -K1681-K60 □ |              |              |  |
| 820 pF         | -K1821-K60 ○                | -K1821-K60 □ |              |              |  |
| 1,0 nF         | -K1102-K60 ○                | -K1102-K60 □ | -K1102-K60 ○ |              |  |
| 1,2 nF         | -K1122-K60 ○                | -K1122-K60 □ | -K1122-K60 ○ |              |  |
| 1,5 nF         | -K1152-K60 ○                | -K1152-K60 □ | -K1152-K60 ○ |              |  |
| 1,8 nF         | -K1182-K60 ○                | -K1182-K60 □ | -K1182-K60 ○ |              |  |
| 2,2 nF         | -K1222-K60 ○                | -K1222-K60 □ | -K1222-K60 ○ |              |  |
| 2,7 nF         | -K1272-K60 ○                | -K1272-K60 □ | -K1272-K60 ○ |              |  |
| 3,3 nF         | -K1332-K60 ○                | -K1332-K60 □ | -K1332-K60 ○ |              |  |
| 3,9 nF         | -K1392-K60 ○                | -K1392-K60 □ | -K1392-K60 ○ |              |  |
| 4,7 nF         | -K1472-K60 ○                | -K1472-K60 □ | -K1472-K60 ○ |              |  |
| 5,6 nF         |                             | -K1562-K60 □ | -K1562-K60 ○ |              |  |
| 6,8 nF         |                             | -K1682-K60 □ | -K1682-K60 ○ |              |  |
| 8,2 nF         |                             | -K1822-K60 □ | -K1822-K60 ○ |              |  |
| 10 nF          |                             | -K1103-K60 □ | -K1103-K60 ○ | -K1103-K62 ○ |  |
| 12 nF          |                             | -K1123-K60 □ | -K1123-K60 ○ | -K1123-K62 ○ |  |
| 15 nF          |                             | -K1153-K60 □ | -K1153-K60 ○ | -K1153-K62 ○ |  |
| 18 nF          |                             |              | -K1183-K60 ○ | -K1183-K62 ○ |  |
| 22 nF          |                             |              | -K1223-K60 ○ | -K1223-K62 ○ |  |
| 27 nF          |                             |              | -K1273-K60 ○ | -K1273-K62 ○ |  |
| 33 nF          |                             |              | -K1333-K60 ○ | -K1333-K62 ○ |  |
| 39 nF          |                             |              | -K1393-K60 ○ | -K1393-K62 ○ |  |
| 47 nF          |                             |              | -K1473-K60 ○ | -K1473-K62 ○ |  |

Chip thickness: □: 0,6 ± 0,1 mm ○: 0,8 ± 0,1 mm ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:  
K = ± 10 %. Example: B37931-K1101-K60

For other available capacitance tolerances see page 27



Ordering codes for X7R/B characteristic, 100 Vdc, AgNiSn terminations (cont'd)

| Size           | 0603/1608                   | 0805/2012 | 1206/3216    | 1210/3225    |  |
|----------------|-----------------------------|-----------|--------------|--------------|--|
| C <sub>R</sub> | Ordering code <sup>1)</sup> |           |              |              |  |
|                | B37931-                     | B37941-   | B37872-      | B37950-      |  |
| 56 nF          |                             |           | -K1563-K62 ◆ | -K1563-K62 ○ |  |
| 68 nF          |                             |           | -K1683-K62 ◆ | -K1683-K62 ○ |  |
| 82 nF          |                             |           | -K1823-K62 ◆ | -K1823-K62 ○ |  |
| 100 nF         |                             |           | -K1104-K62 ◆ | -K1104-K62 ○ |  |
| 120 nF         |                             |           |              | -K1124-K62 ◆ |  |
| 150 nF         |                             |           |              | -K1154-K62 ◆ |  |

Chip thickness: ○: 0,8 ± 0,1 mm    ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:  
K = ± 10 %. Example: B37872-K1563-K62  
For other available capacitance tolerances see page 27

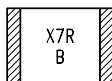
## Ordering codes for X7R/B characteristic, 200/500 Vdc, AgNiSn terminations

| Size           | 1206/3216                   | 1206/3216    | 1210/3225    | 1210/3225    |  |
|----------------|-----------------------------|--------------|--------------|--------------|--|
| V <sub>R</sub> | 200                         | 500          | 200          | 500          |  |
| C <sub>R</sub> | Ordering code <sup>1)</sup> |              |              |              |  |
|                | B37872-                     | B37872-      | B37950-      | B37950       |  |
| 470 pF         | -K2471-K60 ○                | -K3471-K60 ○ |              |              |  |
| 560 pF         | -K2561-K60 ○                | -K3561-K60 ○ |              |              |  |
| 680 pF         | -K2681-K60 ○                | -K3681-K60 ○ |              |              |  |
| 820 pF         | -K2821-K60 ○                | -K3821-K60 ○ |              |              |  |
| 1,0 nF         | -K2102-K60 ○                | -K3102-K60 ○ | -K2102-K62 ○ | -K3102-K62 ○ |  |
| 1,2 nF         | -K2122-K60 ○                | -K3122-K60 ○ | -K2122-K62 ○ | -K3122-K62 ○ |  |
| 1,5 nF         | -K2152-K60 ○                | -K3152-K60 ○ | -K2152-K62 ○ | -K3152-K62 ○ |  |
| 1,8 nF         | -K2182-K60 ○                | -K3182-K60 ○ | -K2182-K62 ○ | -K3182-K62 ○ |  |
| 2,2 nF         | -K2222-K60 ○                | -K3222-K60 ○ | -K2222-K62 ○ | -K3222-K62 ○ |  |
| 2,7 nF         | -K2272-K60 ○                | -K3272-K62 ◆ | -K2272-K62 ○ | -K3272-K62 ○ |  |
| 3,3 nF         | -K2332-K60 ○                | -K3332-K62 ◆ | -K2332-K62 ○ | -K3332-K62 ○ |  |
| 3,9 nF         | -K2392-K60 ○                | -K3392-K62 ◆ | -K2392-K62 ○ | -K3392-K62 ◆ |  |
| 4,7 nF         | -K2472-K60 ○                | -K3472-K62 ◆ | -K2472-K62 ○ | -K3472-K62 ◆ |  |
| 5,6 nF         | -K2562-K60 ○                |              | -K2562-K62 ○ | -K3562-K62 ◆ |  |
| 6,8 nF         | -K2682-K60 ○                |              | -K2682-K62 ○ | -K3682-K62 ◆ |  |
| 8,2 nF         | -K2822-K60 ○                |              | -K2822-K62 ○ | -K3822-K62 ● |  |
| 10 nF          | -K2103-K60 ○                |              | -K2103-K62 ○ | -K3103-K62 ● |  |
| 12 nF          | -K2123-K62 ◆                |              | -K2123-K62 ○ |              |  |
| 15 nF          | -K2153-K62 ◆                |              | -K2153-K62 ○ |              |  |
| 18 nF          | -K2183-K62 ◆                |              | -K2183-K62 ○ |              |  |
| 22 nF          | -K2223-K62 ◆                |              | -K2223-K62 ◆ |              |  |
| 27 nF          |                             |              | -K2273-K62 ◆ |              |  |
| 33 nF          |                             |              | -K2333-K62 ◆ |              |  |
| 39 nF          |                             |              | -K2393-K62 ● |              |  |
| 47 nF          |                             |              | -K2473-K62 ● |              |  |

Chip thickness: ○: 0,8 ± 0,1 mm ◆: 1,2 ± 0,1 mm ●: 1,6 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:  
K = ± 10 %. Example: B37872-K2471-K60

For other available capacitance tolerances see page 27



## Ordering codes for X7R/B characteristic, 25 V/50 Vdc, AgNiSn terminations, bulk case packing

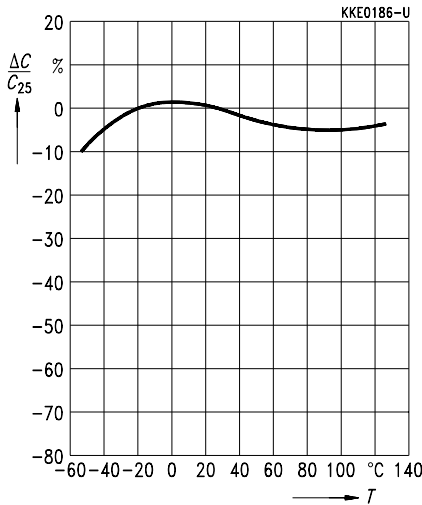
| Size           | 0603                        | 0603         | 0805         | 1206         |  |
|----------------|-----------------------------|--------------|--------------|--------------|--|
| V <sub>R</sub> | 25 V                        | 50 V         | 50 V         | 50 V         |  |
| C <sub>R</sub> | Ordering code <sup>1)</sup> |              |              |              |  |
|                | B37931-                     | B37931-      | B37941-      | B37872-      |  |
| 220 pF         |                             | -K5221-K01 ○ |              |              |  |
| 270 pF         |                             | -K5271-K01 ○ |              |              |  |
| 330 pF         |                             | -K5331-K01 ○ |              |              |  |
| 390 pF         |                             | -K5391-K01 ○ |              |              |  |
| 470 pF         |                             | -K5471-K01 ○ | -K5471-K01 □ |              |  |
| 560 pF         |                             | -K5561-K01 ○ | -K5561-K01 □ |              |  |
| 680 pF         |                             | -K5681-K01 ○ | -K5681-K01 □ |              |  |
| 820 pF         |                             | -K5821-K01 ○ | -K5821-K01 □ |              |  |
| 1,0 nF         |                             | -K5102-K01 ○ | -K5102-K01 □ | -K5102-K01 □ |  |
| 1,2 nF         |                             | -K5122-K01 ○ | -K5122-K01 □ | -K5122-K01 □ |  |
| 1,5 nF         |                             | -K5152-K01 ○ | -K5152-K01 □ | -K5152-K01 □ |  |
| 1,8 nF         |                             | -K5182-K01 ○ | -K5182-K01 □ | -K5182-K01 □ |  |
| 2,2 nF         |                             | -K5222-K01 ○ | -K5222-K01 □ | -K5222-K01 □ |  |
| 2,7 nF         |                             | -K5272-K01 ○ | -K5272-K01 □ | -K5272-K01 □ |  |
| 3,3 nF         |                             | -K5332-K01 ○ | -K5332-K01 □ | -K5332-K01 □ |  |
| 3,9 nF         |                             | -K5392-K01 ○ | -K5392-K01 □ | -K5392-K01 □ |  |
| 4,7 nF         | -K0472-K01 ○                | -K5472-K01 ○ | -K5472-K01 □ | -K5472-K01 □ |  |
| 5,6 nF         | -K0562-K01 ○                | -K5562-K01 ○ | -K5562-K01 □ | -K5562-K01 □ |  |
| 6,8 nF         | -K0682-K01 ○                | -K5682-K01 ○ | -K5682-K01 □ | -K5682-K01 □ |  |
| 8,2 nF         | -K0822-K01 ○                | -K5822-K01 ○ | -K5822-K01 □ | -K5822-K01 □ |  |
| 10 nF          | -K0103-K01 ○                | -K5103-K01 ○ | -K5103-K01 □ | -K5103-K01 □ |  |
| 12 nF          | -K0123-K01 ○                |              | -K5123-K01 □ | -K5123-K01 □ |  |
| 15 nF          | -K0153-K01 ○                |              | -K5153-K01 □ | -K5153-K01 □ |  |
| 18 nF          | -K0183-K01 ○                |              | -K5183-K01 □ | -K5183-K01 □ |  |
| 22 nF          | -K0223-K01 ○                |              |              | -K5223-K01 □ |  |
| 27 nF          |                             |              |              | -K5273-K01 □ |  |
| 33 nF          |                             |              |              | -K5333-K01 □ |  |
| 39 nF          |                             |              |              | -K5393-K01 □ |  |
| 47 nF          |                             |              |              | -K5473-K01 □ |  |

Chip thickness: □: 0,6 ± 0,1 mm ○: 0,8 ± 0,1 mm

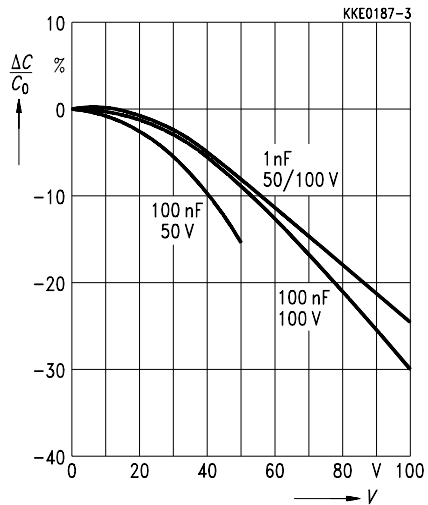
1) The tables contain the ordering codes for the standard capacitance tolerance:  
K = ± 10 %. Example: B37931-K0472-K01  
For other available capacitance tolerances see page 27

## Characteristics

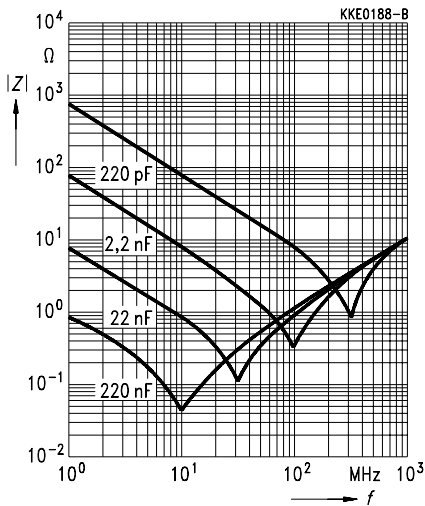
Capacitance change  $\Delta C/C_{25}$  versus temperature  $T$



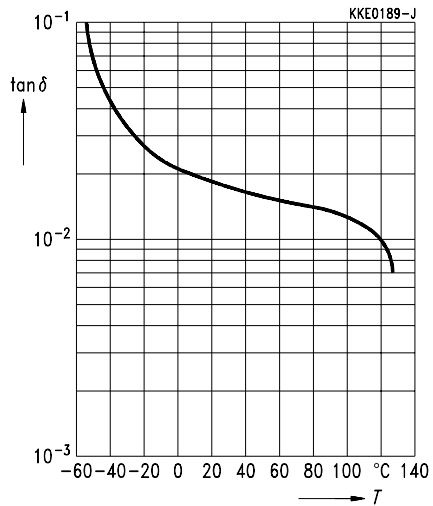
Capacitance change  $\Delta C/C_0$  versus superimposed dc voltage  $V$

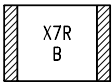


Impedance  $|Z|$  versus frequency  $f$

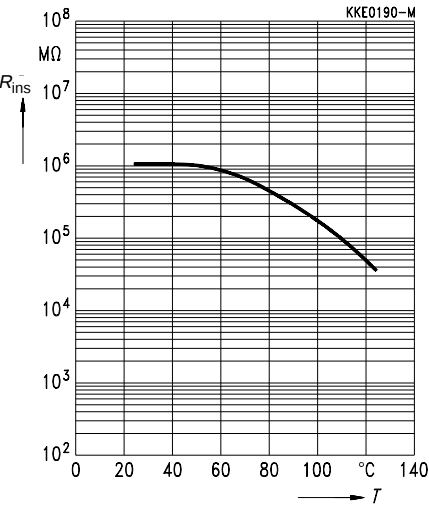


Dissipation factor  $\tan \delta$  versus temperature  $T$





Insulation resistance  $R_{\text{ins}}$  versus temperature  $T$



Capacitance change  $\Delta C/C_1$  versus time  $t$

