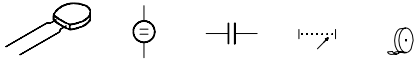


# Multilayer Ceramic Capacitors

Leaded

C0G, X7R, Z5U (Y5U)

## Ordering code system



**B37979N 1 100 K 0 54**

### Packaging

51  $\triangleq$  cardboard tape, reel packing (360-mm reel)  
**54  $\triangleq$  Ammo packing (standard)**  
 00  $\triangleq$  bulk

### Internal coding

### Capacitance tolerance

J  $\triangleq \pm 5\%$   
**K  $\triangleq \pm 10\%$  (standard for C0G)**  
 M  $\triangleq \pm 20\%$  (standard for X7R and Z5U (Y5U))

**Capacitance, coded** 101  $\triangleq 10 \cdot 10^1 \text{ pF} = 100 \text{ pF}$   
 (example) 222  $\triangleq 22 \cdot 10^2 \text{ pF} = 2,2 \text{ nF}$   
 473  $\triangleq 47 \cdot 10^3 \text{ pF} = 47 \text{ nF}$

### Rated voltage

| Rated voltage [VDC] | 50 | 100 |
|---------------------|----|-----|
| Code                | 5  | 1   |

## Type and size

| With radial leads<br>EIA standard                                                                                      | Temperature characteristic |                               |                               |
|------------------------------------------------------------------------------------------------------------------------|----------------------------|-------------------------------|-------------------------------|
|                                                                                                                        | C0G                        | X7R                           | Z5U (Y5U)                     |
| Lead spacing 2,5 mm<br>5,5 $\times$ 5,0 $\times$ 2,5<br>6,5 $\times$ 5,0 $\times$ 2,5                                  | B37979N<br>B37986N         | B37981M<br>B37987M            | B37982N<br>B37988N            |
| Lead spacing 5,0 mm<br>5,5 $\times$ 5,0 $\times$ 2,5<br>6,5 $\times$ 5,0 $\times$ 2,5<br>9,0 $\times$ 7,5 $\times$ 2,5 | B37979G<br>B37986G<br>—    | B37981F<br>B37987F<br>B37984M | B37982G<br>B37988G<br>B37985N |

**Features**

- Good thermal stability
- High insulation resistance
- Low dissipation factor
- Low inductance


**Applications**

- Resonant circuits
- Filter circuits
- Timing elements
- Coupling and filtering, particularly in RF circuits

**Termination**

- Parallel wire leads, iron-nickel, tinned
- Crimped leads
- Non-standard lead lengths on request

**Marking**

- Rated capacitance, tolerance, manufacturer's logo, ceramic material, voltage

**Delivery mode**

- Cardboard tape in Ammo packing (standard)
- Cardboard tape on 360-mm reel or bulk on request

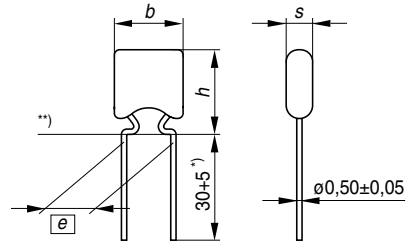
**Electrical data**

|                                                |               |                            |     |
|------------------------------------------------|---------------|----------------------------|-----|
| Temperature characteristic                     |               | C0G                        |     |
| Climatic category (IEC 60068-1)                |               | 55/125/56                  |     |
| Standard                                       |               | EIA                        |     |
| Dielectric                                     |               | Class 1                    |     |
| Rated voltage                                  | $V_R$         | 50, 100                    | VDC |
| Test voltage                                   | $V_{test}$    | $2,5 \cdot V_R/5$ s        | VDC |
| Capacitance range / E series                   | $C_R$         | 10 pF ... 10 nF (E12)      |     |
| Temperature coefficient                        |               | $0 \pm 30 \cdot 10^{-6}/K$ |     |
| Dissipation factor (limit value)               | $\tan \delta$ | $< 1,0 \cdot 10^{-3}$      |     |
| Insulation resistance <sup>1)</sup> at + 25 °C | $R_{ins}$     | $> 10^5$                   | MΩ  |
| Insulation resistance <sup>1)</sup> at +125 °C | $R_{ins}$     | $> 10^4$                   | MΩ  |
| Time constant <sup>1)</sup> at + 25 °C         | $\tau$        | $> 1000$                   | s   |
| Time constant <sup>1)</sup> at +125 °C         | $\tau$        | $> 100$                    | s   |
| Operating temperature range                    | $T_{op}$      | -55 ... +125               | °C  |
| Ageing                                         |               | none                       |     |

1) For  $C_R > 10$  nF the time constant  $\tau = C \cdot R_{ins}$  is given.


**Capacitance tolerances**

|             |           |                 |
|-------------|-----------|-----------------|
| Code letter | J         | K<br>(standard) |
| Tolerance   | $\pm 5\%$ | $\pm 10\%$      |

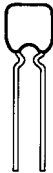
**Dimensional drawing**


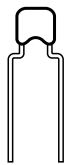
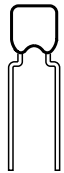
\*) Lead length for bulk packaging

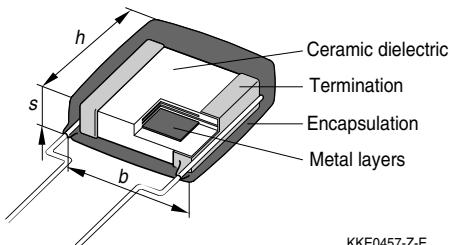
\*\*) Seating plane in acc. with IEC 600717

KKE0456-R-E

**Dimensions (mm)**

|            |                                                                                   |                                                                                   |
|------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|            | Lead spacing $\boxed{e} = 2,5 + 0,6 / - 0,1 \text{ mm}$                           |                                                                                   |
| Type       | B37979N                                                                           | B37986N                                                                           |
|            |  |  |
| $h_{\max}$ | 5,5                                                                               | 6,5                                                                               |
| $b_{\max}$ | 5,0                                                                               | 5,0                                                                               |
| $s_{\max}$ | 2,5                                                                               | 2,5                                                                               |

|            |                                                                                   |                                                                                   |
|------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
|            | Lead spacing $\boxed{e} = 5,0 + 0,6 / - 0,1 \text{ mm}$                           |                                                                                   |
| Type       | B37979G                                                                           | B37986G                                                                           |
|            |  |  |
| $h_{\max}$ | 5,5                                                                               | 6,5                                                                               |
| $b_{\max}$ | 5,0                                                                               | 5,0                                                                               |
| $s_{\max}$ | 2,5                                                                               | 2,5                                                                               |

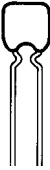
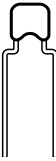
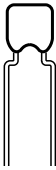
**Termination**


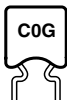
KKE0457-Z-E

# Multilayer Ceramic Capacitors

**C0G**

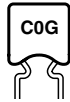
## Product range leaded capacitors

|                            | C0G                                                                               |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
|----------------------------|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------|--|
| Lead spacing               | 2,5 mm                                                                            |  |                                                                                   |  | 5,0 mm                                                                            |  |                                                                                   |  |
|                            |  |  |  |  |  |  |  |  |
| $h \times b \times s$ (mm) | 5,5 × 5,0 × 2,5                                                                   |  | 6,5 × 5,0 × 2,5                                                                   |  | 5,5 × 5,0 × 2,5                                                                   |  | 6,5 × 5,0 × 2,5                                                                   |  |
| Type                       | B37979N                                                                           |  | B37986N                                                                           |  | B37979G                                                                           |  | B37986G                                                                           |  |
| $V_R$ (VDC)                | 50                                                                                |  | 50                                                                                |  | 50                                                                                |  | 50                                                                                |  |
| $C_R$                      | 100                                                                               |  | 100                                                                               |  | 100                                                                               |  | 100                                                                               |  |
| 10 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 12 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 15 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 18 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 22 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 27 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 33 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 39 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 47 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 56 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 68 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 82 pF                      |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 100 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 120 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 150 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 180 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 220 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 270 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 330 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 390 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 470 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 560 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 680 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |
| 820 pF                     |                                                                                   |  |                                                                                   |  |                                                                                   |  |                                                                                   |  |



**Product range leaded capacitors**

|                            | C0G             |     |                 |     |                 |     |                 |     |
|----------------------------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|
| Lead spacing               | 2,5 mm          |     |                 |     | 5,0 mm          |     |                 |     |
|                            |                 |     |                 |     |                 |     |                 |     |
| $h \times b \times s$ (mm) | 5,5 × 5,0 × 2,5 |     | 6,5 × 5,0 × 2,5 |     | 5,5 × 5,0 × 2,5 |     | 6,5 × 5,0 × 2,5 |     |
| Type                       | B37979N         |     | B37986N         |     | B37979G         |     | B37986G         |     |
| $V_R$ (VDC)                | 50              | 100 | 50              | 100 | 50              | 100 | 50              | 100 |
| $C_R$                      |                 |     |                 |     |                 |     |                 |     |
| 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                     |                 |     |                 |     |                 |     |                 |     |
| 10 nF                      |                 |     |                 |     |                 |     |                 |     |



## Multilayer Ceramic Capacitors

### C0G

#### Ordering codes and packing for C0G, 50 VDC, lead spacing 2,5 mm

| $C_R$ | Ordering code <sup>1)</sup> | Ammo packing      | Reel packing      | Bulk              |
|-------|-----------------------------|-------------------|-------------------|-------------------|
|       |                             | ** $\triangle$ 54 | ** $\triangle$ 51 | ** $\triangle$ 00 |
|       |                             | pcs               | pcs/reel          | pcs               |

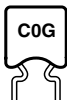
#### B37979, 50 VDC, 5,5 × 5,0 × 2,5 mm

|        |                 |      |      |      |
|--------|-----------------|------|------|------|
| 100 pF | B37979N5101K0** | 2500 | 2500 | 2000 |
| 120 pF | B37979N5121K0** | 2500 | 2500 | 2000 |
| 150 pF | B37979N5151K0** | 2500 | 2500 | 2000 |
| 180 pF | B37979N5181K0** | 2500 | 2500 | 2000 |
| 220 pF | B37979N5221K0** | 2500 | 2500 | 2000 |
| 270 pF | B37979N5271K0** | 2500 | 2500 | 2000 |
| 330 pF | B37979N5331K0** | 2500 | 2500 | 2000 |
| 390 pF | B37979N5391K0** | 2500 | 2500 | 2000 |
| 470 pF | B37979N5471K0** | 2500 | 2500 | 2000 |
| 560 pF | B37979N5561K0** | 2500 | 2500 | 2000 |
| 680 pF | B37979N5681K0** | 2500 | 2500 | 2000 |
| 820 pF | B37979N5821K0** | 2500 | 2500 | 2000 |
| 1,0 nF | B37979N5102K0** | 2500 | 2500 | 2000 |
| 1,2 nF | B37979N5122K0** | 2500 | 2500 | 2000 |
| 1,5 nF | B37979N5152K0** | 2500 | 2500 | 2000 |
| 1,8 nF | B37979N5182K0** | 2500 | 2500 | 2000 |
| 2,2 nF | B37979N5222K0** | 2500 | 2500 | 2000 |

#### B37986, 50 VDC, 6,5 × 5,0 × 2,5 mm

|        |                 |      |      |      |
|--------|-----------------|------|------|------|
| 2,7 nF | B37986N5272K0** | 2500 | 2500 | 2000 |
| 3,3 nF | B37986N5332K0** | 2500 | 2500 | 2000 |
| 3,9 nF | B37986N5392K0** | 2500 | 2500 | 2000 |
| 4,7 nF | B37986N5472K0** | 2500 | 2500 | 2000 |
| 5,6 nF | B37986N5562K0** | 2500 | 2500 | 2000 |
| 6,8 nF | B37986N5682K0** | 2500 | 2500 | 2000 |
| 8,2 nF | B37986N5822K0** | 2500 | 2500 | 2000 |
| 10 nF  | B37986N5103K0** | 2500 | 2500 | 2000 |

1) The table contains the ordering codes for the standard capacitance tolerance.  
For other available capacitance tolerances see page 154.



## Ordering codes and packing for C0G, 50 VDC, lead spacing 5,0 mm

| C <sub>R</sub> | Ordering code <sup>1)</sup> | Ammo packing      | Reel packing      | Bulk              |
|----------------|-----------------------------|-------------------|-------------------|-------------------|
|                |                             | ** $\triangle$ 54 | ** $\triangle$ 51 | ** $\triangle$ 00 |
|                |                             | pcs               | pcs/reel          | pcs               |

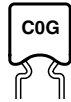
**B37979, 50 VDC, 5,5 × 5,0 × 2,5 mm**

|     |        |                 |      |      |      |
|-----|--------|-----------------|------|------|------|
| 100 | pF     | B37979G5101K0** | 2500 | 2500 | 2000 |
| 120 | pF     | B37979G5121K0** | 2500 | 2500 | 2000 |
| 150 | pF     | B37979G5151K0** | 2500 | 2500 | 2000 |
| 180 | pF     | B37979G5181K0** | 2500 | 2500 | 2000 |
| 220 | pF     | B37979G5221K0** | 2500 | 2500 | 2000 |
| 270 | pF     | B37979G5271K0** | 2500 | 2500 | 2000 |
| 330 | pF     | B37979G5331K0** | 2500 | 2500 | 2000 |
| 390 | pF     | B37979G5391K0** | 2500 | 2500 | 2000 |
| 470 | pF     | B37979G5471K0** | 2500 | 2500 | 2000 |
| 560 | pF     | B37979G5561K0** | 2500 | 2500 | 2000 |
| 680 | pF     | B37979G5681K0** | 2500 | 2500 | 2000 |
| 820 | pF     | B37979G5821K0** | 2500 | 2500 | 2000 |
|     | 1,0 nF | B37979G5102K0** | 2500 | 2500 | 2000 |
|     | 1,2 nF | B37979G5122K0** | 2500 | 2500 | 2000 |
|     | 1,5 nF | B37979G5152K0** | 2500 | 2500 | 2000 |
|     | 1,8 nF | B37979G5182K0** | 2500 | 2500 | 2000 |
|     | 2,2 nF | B37979G5222K0** | 2500 | 2500 | 2000 |

**B37986, 50 VDC, 6,5 × 5,0 × 2,5 mm**

|     |    |                 |      |      |      |
|-----|----|-----------------|------|------|------|
| 2,7 | nF | B37986G5272K0** | 2500 | 2500 | 2000 |
| 3,3 | nF | B37986G5332K0** | 2500 | 2500 | 2000 |
| 3,9 | nF | B37986G5392K0** | 2500 | 2500 | 2000 |
| 4,7 | nF | B37986G5472K0** | 2500 | 2500 | 2000 |
| 5,6 | nF | B37986G5562K0** | 2500 | 2500 | 2000 |
| 6,8 | nF | B37986G5682K0** | 2500 | 2500 | 2000 |
| 8,2 | nF | B37986G5822K0** | 2500 | 2500 | 2000 |
| 10  | nF | B37986G5103K0** | 2500 | 2500 | 2000 |

1) The table contains the ordering codes for the standard capacitance tolerance.  
For other available capacitance tolerances see page 154.



## Multilayer Ceramic Capacitors

### C0G

#### Ordering codes and packing for C0G, 100 VDC, lead spacing 2,5 mm

| $C_R$ | Ordering code <sup>1)</sup> | Ammo packing      | Reel packing      | Bulk              |
|-------|-----------------------------|-------------------|-------------------|-------------------|
|       |                             | ** $\triangle$ 54 | ** $\triangle$ 51 | ** $\triangle$ 00 |
|       |                             | pcs               | pcs/reel          | pcs               |

#### B37979, 100 VDC, 5,5 × 5,0 × 2,5 mm

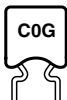
|        |                 |      |      |      |
|--------|-----------------|------|------|------|
| 10 pF  | B37979N1100K0** | 2500 | 2500 | 2000 |
| 12 pF  | B37979N1120K0** | 2500 | 2500 | 2000 |
| 15 pF  | B37979N1150K0** | 2500 | 2500 | 2000 |
| 18 pF  | B37979N1180K0** | 2500 | 2500 | 2000 |
| 22 pF  | B37979N1220K0** | 2500 | 2500 | 2000 |
| 27 pF  | B37979N1270K0** | 2500 | 2500 | 2000 |
| 33 pF  | B37979N1330K0** | 2500 | 2500 | 2000 |
| 39 pF  | B37979N1390K0** | 2500 | 2500 | 2000 |
| 47 pF  | B37979N1470K0** | 2500 | 2500 | 2000 |
| 56 pF  | B37979N1560K0** | 2500 | 2500 | 2000 |
| 68 pF  | B37979N1680K0** | 2500 | 2500 | 2000 |
| 82 pF  | B37979N1820K0** | 2500 | 2500 | 2000 |
| 100 pF | B37979N1101K0** | 2500 | 2500 | 2000 |
| 120 pF | B37979N1121K0** | 2500 | 2500 | 2000 |
| 150 pF | B37979N1151K0** | 2500 | 2500 | 2000 |
| 180 pF | B37979N1181K0** | 2500 | 2500 | 2000 |
| 220 pF | B37979N1221K0** | 2500 | 2500 | 2000 |
| 270 pF | B37979N1271K0** | 2500 | 2500 | 2000 |
| 330 pF | B37979N1331K0** | 2500 | 2500 | 2000 |
| 390 pF | B37979N1391K0** | 2500 | 2500 | 2000 |
| 470 pF | B37979N1471K0** | 2500 | 2500 | 2000 |
| 560 pF | B37979N1561K0** | 2500 | 2500 | 2000 |
| 680 pF | B37979N1681K0** | 2500 | 2500 | 2000 |
| 820 pF | B37979N1821K0** | 2500 | 2500 | 2000 |
| 1,0 nF | B37979N1102K0** | 2500 | 2500 | 2000 |

#### B37986, 100 VDC, 6,5 × 5,0 × 2,5 mm

|        |                 |      |      |      |
|--------|-----------------|------|------|------|
| 1,2 nF | B37986N1122K0** | 2500 | 2500 | 2000 |
| 1,5 nF | B37986N1152K0** | 2500 | 2500 | 2000 |
| 1,8 nF | B37986N1182K0** | 2500 | 2500 | 2000 |
| 2,2 nF | B37986N1222K0** | 2500 | 2500 | 2000 |

1) The table contains the ordering codes for the standard capacitance tolerance.  
For other available capacitance tolerances see page 154.





## Ordering codes and packing for C0G, 100 VDC, lead spacing 5,0 mm

| C <sub>R</sub> | Ordering code <sup>1)</sup> | Ammo packing      | Reel packing      | Bulk              |
|----------------|-----------------------------|-------------------|-------------------|-------------------|
|                |                             | ** $\triangle$ 54 | ** $\triangle$ 51 | ** $\triangle$ 00 |
|                |                             | pcs               | pcs/reel          | pcs               |

**B37979, 100 VDC, 5,5 × 5,0 × 2,5 mm**

|     |    |                 |      |      |      |
|-----|----|-----------------|------|------|------|
| 10  | pF | B37979G1100K0** | 2500 | 2500 | 2000 |
| 12  | pF | B37979G1120K0** | 2500 | 2500 | 2000 |
| 15  | pF | B37979G1150K0** | 2500 | 2500 | 2000 |
| 18  | pF | B37979G1180K0** | 2500 | 2500 | 2000 |
| 22  | pF | B37979G1220K0** | 2500 | 2500 | 2000 |
| 27  | pF | B37979G1270K0** | 2500 | 2500 | 2000 |
| 33  | pF | B37979G1330K0** | 2500 | 2500 | 2000 |
| 39  | pF | B37979G1390K0** | 2500 | 2500 | 2000 |
| 47  | pF | B37979G1470K0** | 2500 | 2500 | 2000 |
| 56  | pF | B37979G1560K0** | 2500 | 2500 | 2000 |
| 68  | pF | B37979G1680K0** | 2500 | 2500 | 2000 |
| 82  | pF | B37979G1820K0** | 2500 | 2500 | 2000 |
| 100 | pF | B37979G1101K0** | 2500 | 2500 | 2000 |
| 120 | pF | B37979G1121K0** | 2500 | 2500 | 2000 |
| 150 | pF | B37979G1151K0** | 2500 | 2500 | 2000 |
| 180 | pF | B37979G1181K0** | 2500 | 2500 | 2000 |
| 220 | pF | B37979G1221K0** | 2500 | 2500 | 2000 |
| 270 | pF | B37979G1271K0** | 2500 | 2500 | 2000 |
| 330 | pF | B37979G1331K0** | 2500 | 2500 | 2000 |
| 390 | pF | B37979G1391K0** | 2500 | 2500 | 2000 |
| 470 | pF | B37979G1471K0** | 2500 | 2500 | 2000 |
| 560 | pF | B37979G1561K0** | 2500 | 2500 | 2000 |
| 680 | pF | B37979G1681K0** | 2500 | 2500 | 2000 |
| 820 | pF | B37979G1821K0** | 2500 | 2500 | 2000 |
| 1,0 | nF | B37979G1102K0** | 2500 | 2500 | 2000 |

**B37986, 100 VDC, 6,5 × 5,0 × 2,5 mm**

|     |    |                 |      |      |      |
|-----|----|-----------------|------|------|------|
| 1,2 | nF | B37986G1122K0** | 2500 | 2500 | 2000 |
| 1,5 | nF | B37986G1152K0** | 2500 | 2500 | 2000 |
| 1,8 | nF | B37986G1182K0** | 2500 | 2500 | 2000 |
| 2,2 | nF | B37986G1222K0** | 2500 | 2500 | 2000 |

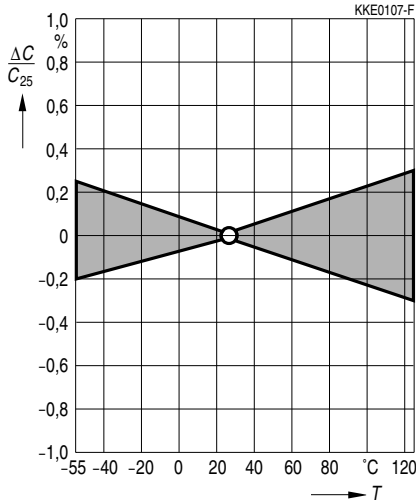
1) The table contains the ordering codes for the standard capacitance tolerance.  
For other available capacitance tolerances see page 154.

## Multilayer Ceramic Capacitors

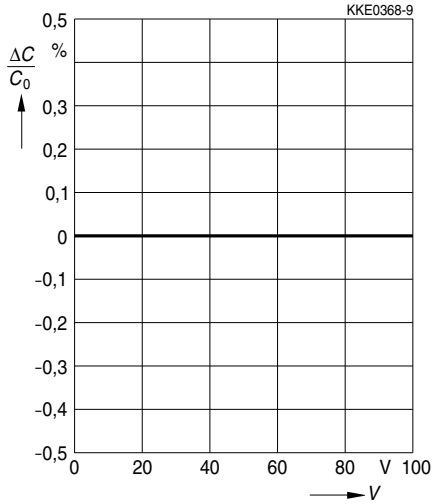
### C0G

#### Typical characteristics

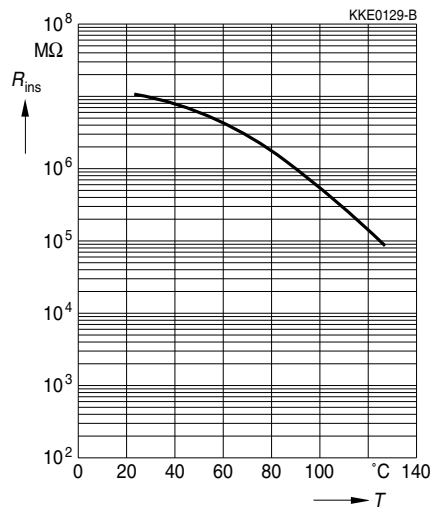
Capacitance change  $\Delta C/C_{25}$  versus temperature  $T$  (tolerance range  $\pm 0.1\%$ )



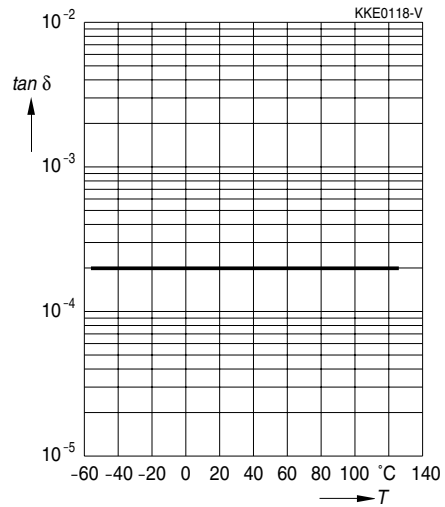
Capacitance change  $\Delta C/C_0$  versus superimposed DC voltage  $V$

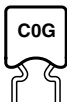


Insulation resistance  $R_{\text{ins}}$  versus temperature  $T$



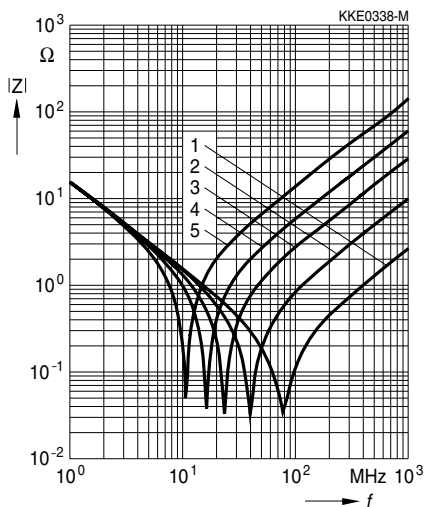
Dissipation factor  $\tan \delta$  versus temperature  $T$





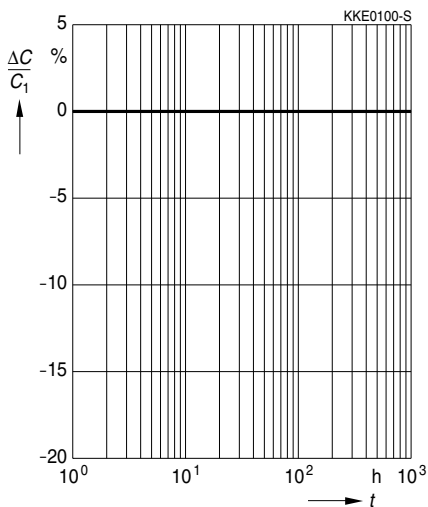
## Typical characteristics

Impedance  $|Z|$  versus frequency  $f$



- 1: Chip
- 2: 1,5 mm lead length
- 3: 5,0 mm lead length
- 4: 10,0 mm lead length
- 5: 20,0 mm lead length

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



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