

Features

- Extremely high volumetric efficiency
- Non-linear capacitance change
- Y5U characteristic is also fulfilled

Applications

- Blocking
- Coupling
- Decoupling
- Interference suppression

Terminations

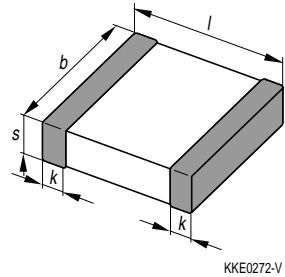
- For soldering:
 Sizes 0402 through 1210:
 silver/nickel/tin
 Sizes 1812, 2220:
 silver palladium
- For conductive adhesion:
 All sizes:
 silver palladium

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: 30/85/56



KKE0272-V

Dimensions (mm)

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

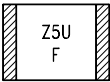
Available capacitance tolerances

| Tolerance | Symbol |
|--|----------|
| ΔC_R/C_R = ± 20 % | M |

Standard tolerance in bold print

Rated voltage values

V_R = 16 V, 25 V, 50 V



Product range

| | | Z5U (Y5U) / F characteristic | | | | | | | | | | | | | |
|----------------------|----|------------------------------|----|--------|----|--------|----|--------|----|--------|----|--------|----|--------|----|
| Size ¹⁾ | | 0402 | | 0603 | | 0805 | | 1206 | | 1210 | | 1812 | | 2220 | |
| inch | mm | 1005 | | 1608 | | 2012 | | 3216 | | 3225 | | 4532 | | 5750 | |
| Type | | B37922 | | B37932 | | B37942 | | B37873 | | B37951 | | B37954 | | B37957 | |
| V _R (Vdc) | | 16 | 25 | 25 | 50 | 25 | 50 | 25 | 50 | | 50 | | 50 | | 50 |
| 1,0 nF | | | | | | | | | | | | | | | |
| 2,2 nF | | | | | | | | | | | | | | | |
| 4,7 nF | | | | | | | | | | | | | | | |
| 10 nF | | | | | | | | | | | | | | | |
| 15 nF | | | | | | | | | | | | | | | |
| 22 nF | | | | | | | | | | | | | | | |
| 33 nF | | | | | | | | | | | | | | | |
| 47 nF | | | | | | | | | | | | | | | |
| 68 nF | | | | | | | | | | | | | | | |
| 100 nF | | | | | | | | | | | | | | | |
| 150 nF | | | | | | | | | | | | | | | |
| 220 nF | | | | | | | | | | | | | | | |
| 330 nF | | | | | | | | | | | | | | | |
| 470 nF | | | | | | | | | | | | | | | |
| 680 nF | | | | | | | | | | | | | | | |
| 1,0 µF | | | | | | | | | | | | | | | |
| 1,5 µF | | | | | | | | | | | | | | | |
| 2,2 µF | | | | | | | | | | | | | | | |
| 3,3 µF | | | | | | | | | | | | | | | |
| 4,7 µF | | | | | | | | | | | | | | | |

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

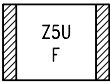
1) l × b (inch) / l × b (mm)

Ordering codes for Z5U (Y5U) / F characteristic, 16/25 Vdc, AgNiSn terminations

| Size | 0402/1005 | 0402/1005 | 0603/1608 | 0805/2012 | 1206/3216 |
|--------|-----------------------------|--------------|--------------|--------------|--------------|
| V_R | 16 V | 25 V | 25 V | 25 V | 25 V |
| C_R | Ordering code ¹⁾ | | | | |
| | B37922- | B37922- | B37932- | B37942- | B37873- |
| 1,0 nF | | -K0102-M60 ▲ | | | |
| 2,2 nF | | -K0222-M60 ▲ | | | |
| 3,3 nF | | -K0332-M60 ▲ | | | |
| 4,7 nF | | -K0472-M60 ▲ | | | |
| 6,8 nF | | -K0682-M60 ▲ | | | |
| 10 nF | | -K0103-M60 ▲ | | | |
| 15 nF | | | | | |
| 22 nF | -K9223-M60 ▲ | | -K0223-M60 ○ | | |
| 33 nF | | | -K0333-M60 ○ | | |
| 47 nF | -K9473-M60 ▲ | | -K0473-M60 ○ | -K0473-M60 □ | |
| 68 nF | | | -K0683-M60 ○ | -K0683-M60 □ | |
| 100 nF | -K9104-M60 ▲ | | -K0104-M60 ○ | -K0104-M60 □ | |
| 150 nF | | | | -K0154-M60 ○ | -K0154-M60 ○ |
| 220 nF | | | | -K0224-M62 ◆ | -K0224-M60 ○ |
| 330 nF | | | | -K0334-M62 ◆ | -K0334-M60 ○ |
| 470 nF | | | | | -K0474-M62 ◆ |
| 680 nF | | | | | -K0684-M62 ◆ |
| 1,0 μF | | | | | -K0105-M62 ◆ |

Chip thickness: ▲: $0,5 \pm 0,1$ mm □: $0,6 \pm 0,1$ mm ○: $0,8 \pm 0,1$ mm ◆: $1,2 \pm 0,1$ mm

1) The tables contain the ordering codes for the standard capacitance tolerance:
M = $\pm 20\%$. Example: B37922-K9223-M60



Ordering codes for Z5U (Y5U) / F characteristic, 50 Vdc, AgNiSn terminations

| Size | 0603/1608 | 0805/2012 | 1206/3216 | 1210/3225 | |
|-----------|-----------------------------|--------------|--------------|--------------|--|
| C_R | Ordering code ¹⁾ | | | | |
| | B37932- | B37942- | B37873- | B37951- | |
| 10 nF | -K5103-M60 ○ | -K5103-M60 □ | | | |
| 15 nF | -K5153-M60 ○ | -K5153-M60 □ | | | |
| 22 nF | -K5223-M60 ○ | -K5223-M60 □ | | | |
| 33 nF | -K5333-M60 ○ | -K5333-M60 □ | | | |
| 47 nF | -K5473-M60 ○ | -K5473-M60 □ | -K5473-M60 ○ | | |
| 68 nF | | | -K5683-M60 □ | -K5683-M60 ○ | |
| 100 nF | | | -K5104-M60 ○ | -K5104-M60 ○ | |
| 150 nF | | | -K5154-M62 ◆ | -K5154-M60 ○ | |
| 220 nF | | | -K5224-M60 ○ | -K5224-M62 ○ | |
| 330 nF | | | -K5334-M62 ◆ | -K5334-M62 ○ | |
| 470 nF | | | -K5474-M62 ◆ | -K5474-M62 ○ | |
| 680 nF | | | | -K5684-M62 ◆ | |
| 1 μ F | | | | -K5105-M62 ◆ | |

Ordering codes for Z5U (Y5U) / F characteristic, 50 Vdc, AgPd terminations

| Size | 1812/4532 | 2220/5750 | |
|-------------|-----------------------------|--------------|--|
| C_R | Ordering code ¹⁾ | | |
| | B37954- | B37957- | |
| 470 nF | -J5474-M62 ◆ | | |
| 680 nF | -J5684-M62 ◆ | | |
| 1 μ F | -J5105-M62 ◆ | -J5105-M62 ◆ | |
| 1,5 μ F | -J5155-M62 ◆ | -J5155-M62 ◆ | |
| 2,2 μ F | | -J5225-M62 ◆ | |
| 3,3 μ F | | -J5335-M62 ◆ | |
| 4,7 μ F | | -J5475-M62 ◆ | |

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:
M = ± 20%. Example: B37932-K5103-M60

Ordering codes for chip capacitors, Z5U (Y5U) / F characteristic, 25 V/50 Vdc, AgNiSn terminations, bulk case packing

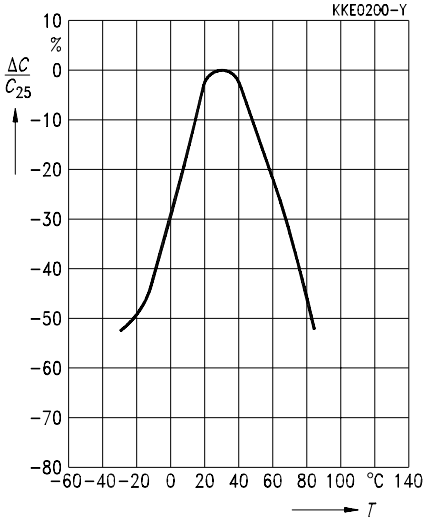
| Size | 0603 | 0603 | 0805 | 1206 | |
|--------|-----------------------------|--------------|--------------|--------------|--|
| V_R | 25 V | 50 V | 50 V | 50 V | |
| C_R | Ordering code ¹⁾ | | | | |
| | B37932- | B37932- | B37942- | B37873- | |
| 10 nF | | -K5103-M01 ○ | -K5103-M01 □ | | |
| 15 nF | | -K5153-M01 ○ | -K5153-M01 □ | | |
| 22 nF | -K0223-M01 ○ | -K5223-M01 ○ | -K5223-M01 □ | | |
| 33 nF | -K0333-M01 ○ | -K5333-M01 ○ | -K5333-M01 □ | | |
| 47 nF | -K0473-M01 ○ | -K5473-M01 ○ | -K5473-M01 □ | -K5473-M01 □ | |
| 68 nF | -K0683-M01 ○ | | -K5683-M01 □ | -K5683-M01 □ | |
| 100 nF | -K0104-M01 ○ | | | -K5104-M01 □ | |
| 150 nF | | | | -K5154-M01 □ | |

Chip thickness: □: $0,6 \pm 0,1$ mm ○: $0,8 \pm 0,1$ mm

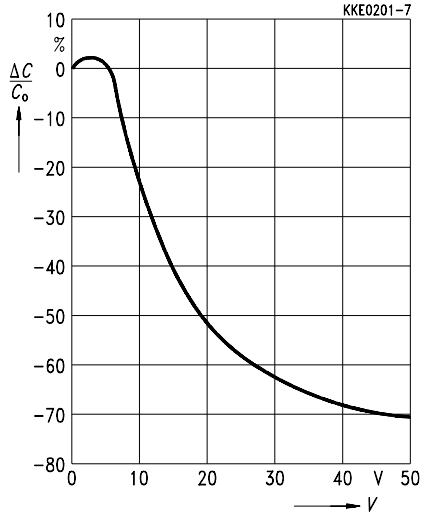
1) The tables contain the ordering codes for the standard capacitance tolerance:
M = $\pm 20\%$. Example: B37932-K0223-M01

Characteristics

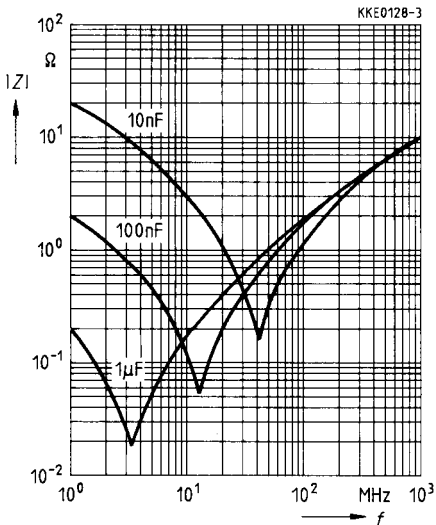
Capacitance change $\Delta C/C_{25}$ versus temperature T



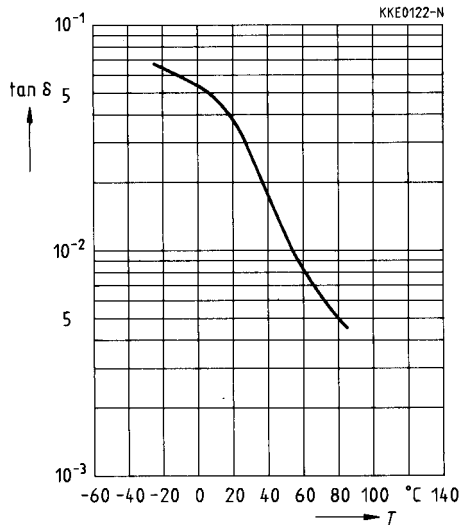
Capacitance change $\Delta C/C_0$ versus superimposed dc voltage V



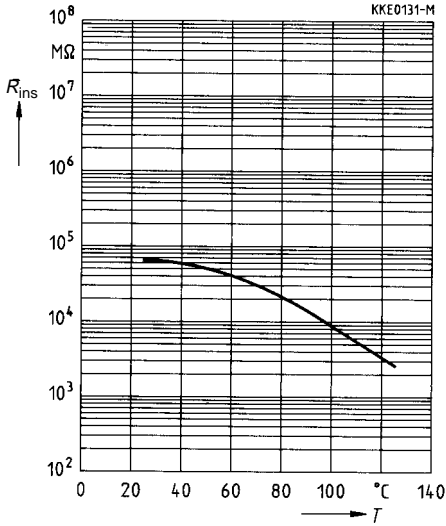
Impedance $|Z|$ versus frequency f



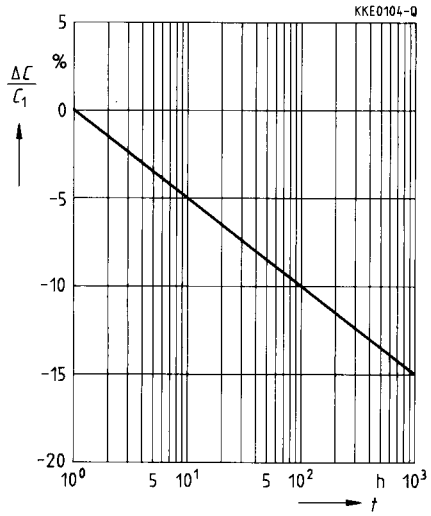
Dissipation factor $\tan \delta$ versus temperature T



Insulation resistance R_{ins} versus temperature T



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





Siemens Matsushita Components

European technology center for
ceramic components

There when you need us

This is an organization that's proven its worth. Because it stands for more customer proximity and thus better service. Here you get information straight from the source, implementation of the latest technologies and products that match the market. Concentration of resources means that design engineers and production engineers are working side by side. And SCS warehousing directly at the plant ensures fastest possible delivery.



SCS – dependable, fast and competent

