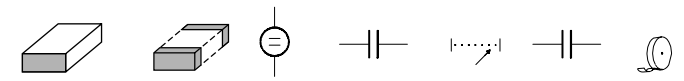
Ordering code system



B37937 K 9 102 J 0 60

Packaging

60 ≙ cardboard tape, 180-mm reel
62 ≙ blister tape, 180-mm reel
70 ≙ cardboard tape, 330-mm reel
72 ≙ blister tape, 330-mm reel

Internal coding

Capacitance tolerance

J ≙ ± 5 % (standard)
K ≙ ± 10 %

Capacitance, coded (example)
102 ≙ 10 · 10^2 pF = 1 nF
103 ≙ 10 · 10^3 pF = 10 nF

Rated voltage

Rated voltage [VDC]	16
Code	9

Termination K ≙ nickel barrier for all case sizes

Type and size	
Chip size (**inch** / mm)	Temperature characteristic CPPS
0603 / 1608 **0805** / 2012	B37937 B37947

CPPS

SMD

Features

- Replacement of PPS film capacitors
- Class 1 characteristic with high capacitance values (up to 10 nF for case size 0805)
- High insulation resistance
- Excellent DC characteristic
- Excellent temperature characteristic
- No piezoelectric effects
- No ageing effects

Applications

- Wireless communication
- Loop filter
- PLL filter
- Telecom (mobile phones, Bluetooth, ADSL/XDSL)
- Automotive (keyless entry)

Termination

- For soldering: Nickel-barrier terminations (Ni)

Options

- Alternative capacitance tolerances available on request

Delivery mode

- Cardboard and blister tape (blister tape for chip thickness $\geq 1{,}2 \pm 0{,}1$ mm), 180-mm and 330-mm reel available

Electrical data

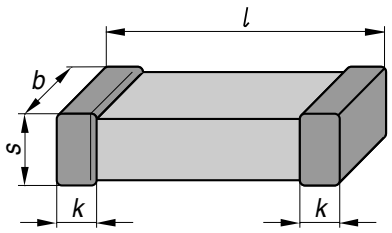
Temperature characteristic		C0G	
Climatic category (IEC 60068-1)		55/125/56	
Standard		EIA	
Dielectric		Class 1	
Rated voltage	V_R	16	VDC
Test voltage	V_{test}	$2{,}5 \cdot V_R$/5 s	VDC
Capacitance range / E series	C_R	560 pF … 10 nF (E6)	
Temperature coefficient		$0 \pm 30 \cdot 10^{-6}$/K	
Dissipation factor (limit value)	tan δ	$< 1{,}0 \cdot 10^{-3}$	
Insulation resistance[1] at + 25 °C	R_{ins}	$> 10^5$	MΩ
Insulation resistance[1] at +125 °C	R_{ins}	$> 10^4$	MΩ
Time constant[1] at + 25 °C	τ	> 1000	s
Time constant[1] at +125 °C	τ	> 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 (standard)	K
Tolerance	±5%	±10%

Dimensional drawing



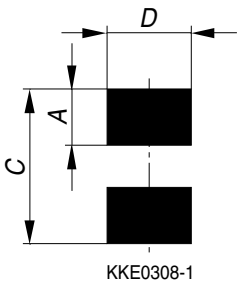
KKE0329-N

Dimensions (mm)

Case size **(inch)** (mm)	**0603** 1608	**0805** 2012
l	1,6 ± 0,15	2,0 ± 0,20
b	0,8 ± 0,10	1,25 ± 0,15
s	0,8 ± 0,10	1,30 max.
k	0,1 – 0,4	0,13 – 0,75

Tolerances to CECC 32101-801

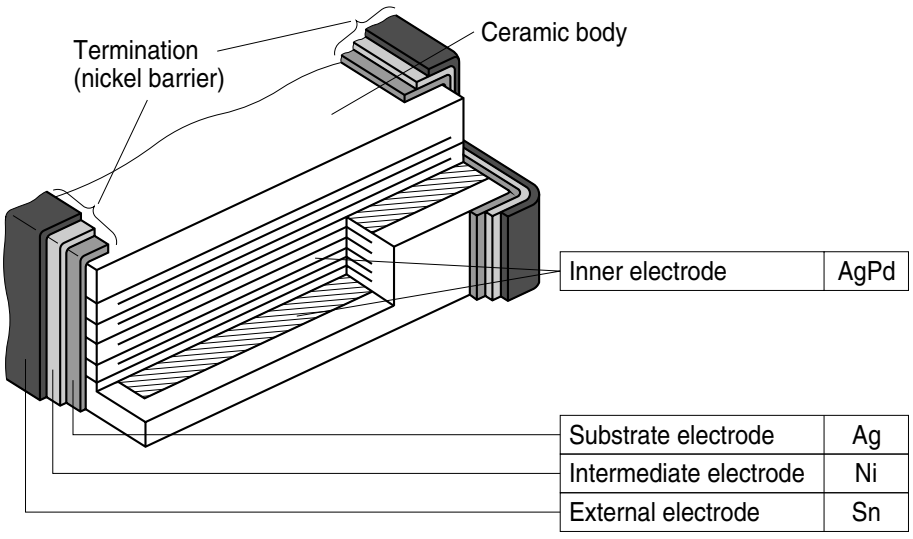
Recommended solder pad



Maximum dimensions (mm)

Case size	(inch/mm)	Type	A	C	D
	0603/1608	single chip	1,0	3,0	1,0
	0805/2012	single chip	1,2	3,4	1,3

Termination



Product range chip capacitors

	CPPS			
Size[1)] **inch** mm	**0603** 1608		**0805** 2012	
Type	B37937		B37947	
V_R (VDC) / C_R	16		16	
560 pF	■			
680 pF	■			
1,0 nF	■		■	
1,5 nF	■		■	
2,2 nF	■		■	
3,3 nF			■	
4,7 nF			■	
6,8 nF			■	
10 nF			■	

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

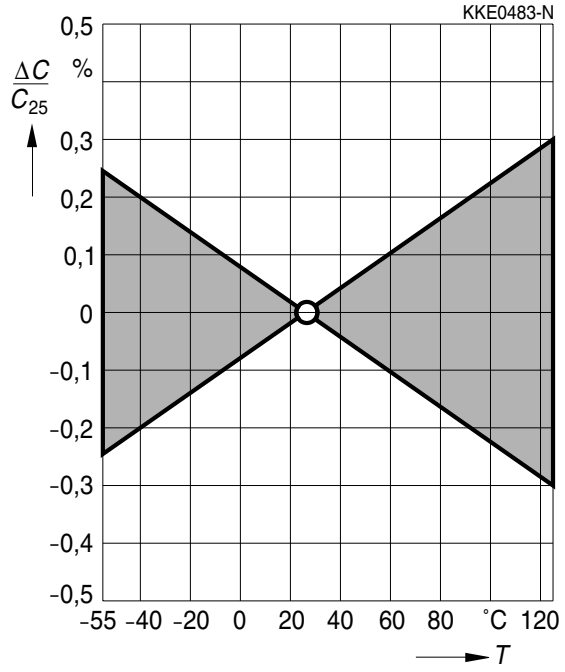
Ordering codes and packing for CPPS capacitors, 16 VDC, nickel-barrier terminations

C_R[1]	Ordering code[2]	Chip thickness mm	Cardboard tape, ∅ 180-mm reel ** ≙ 60 pcs/reel	Cardboard tape, ∅ 330-mm reel ** ≙ 70 pcs/reel
Case size 0603, 16 VDC				
560 pF	B37937K9561J0**	0,8 ± 0,1	4000	16000
680 pF	B37937K9681J0**	0,8 ± 0,1	4000	16000
1,0 nF	B37937K9102J0**	0,8 ± 0,1	4000	16000
1,5 nF	B37937K9152J0**	0,8 ± 0,1	4000	16000
2,2 nF	B37937K9222J0**	0,8 ± 0,1	4000	16000
Case size 0805, 16 VDC				
1,0 nF	B37947K9102J0**	0,6 ± 0,1	5000	20000
1,5 nF	B37947K9152J0**	0,8 ± 0,1	4000	16000
2,2 nF	B37947K9222J0**	1,2 ± 0,1	3000[3]	12000[4]
3,3 nF	B37947K9332J0**	1,2 ± 0,1	3000[3]	12000[4]
4,7 nF	B37947K9472J0**	1,2 ± 0,1	3000[3]	12000[4]
6,8 nF	B37947K9682J0**	1,2 ± 0,1	3000[3]	12000[4]
10 nF	B37947K9103J0**	1,2 ± 0,1	3000[3]	12000[4]

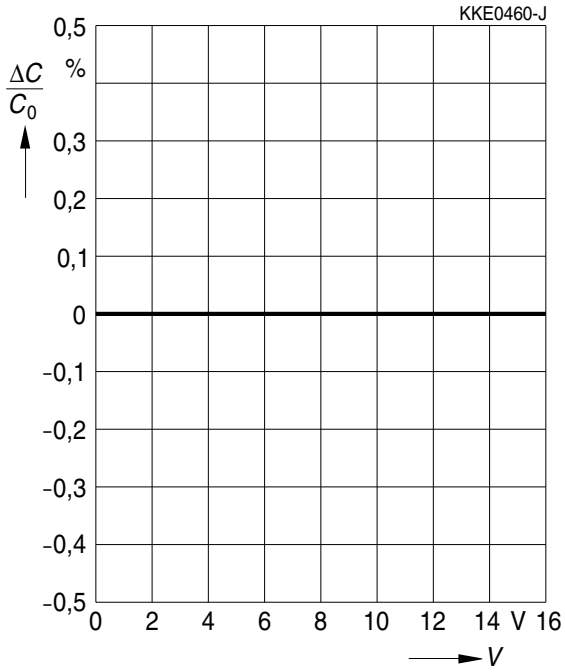
1) E12 values on request.
2) The table contains the ordering codes for the standard capacitance tolerance.
For other available capacitance tolerances see page 134.
3) Blister tape, 180-mm reel, ordering code ** ≙ 62
4) Blister tape, 330-mm reel, ordering code ** ≙ 72

Typical characteristics

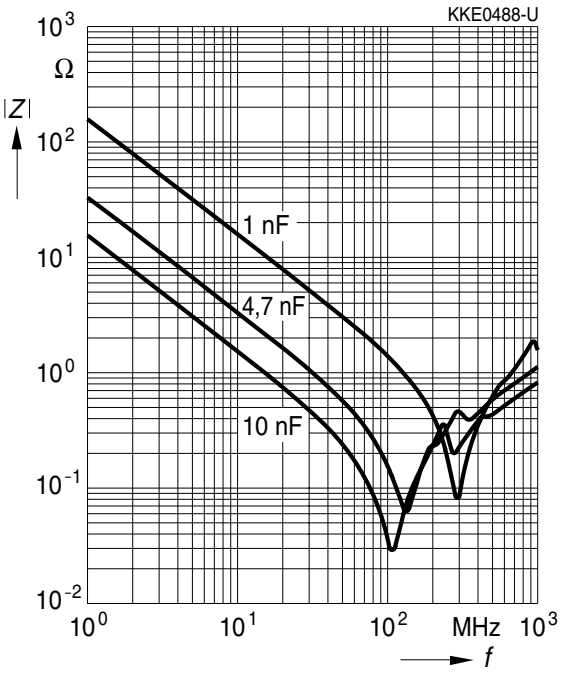
Capacitance change $\Delta C/C_{25}$ versus temperature T (tolerance range ▩)



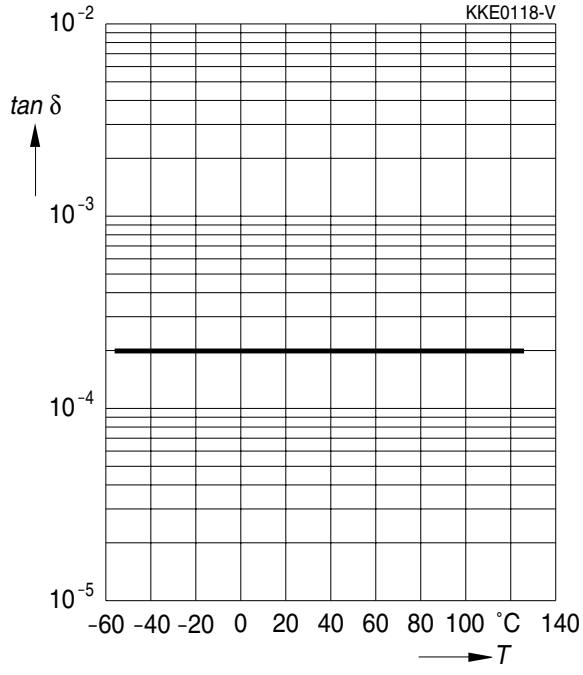
Capacitance change $\Delta C/C_0$ versus superimposed DC voltage V



Impedance $|Z|$ versus frequency f

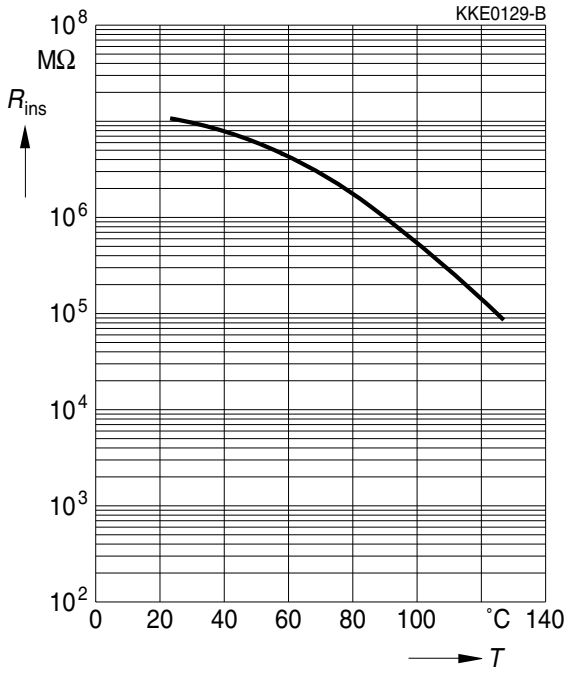


Dissipation factor tan δ versus temperature T

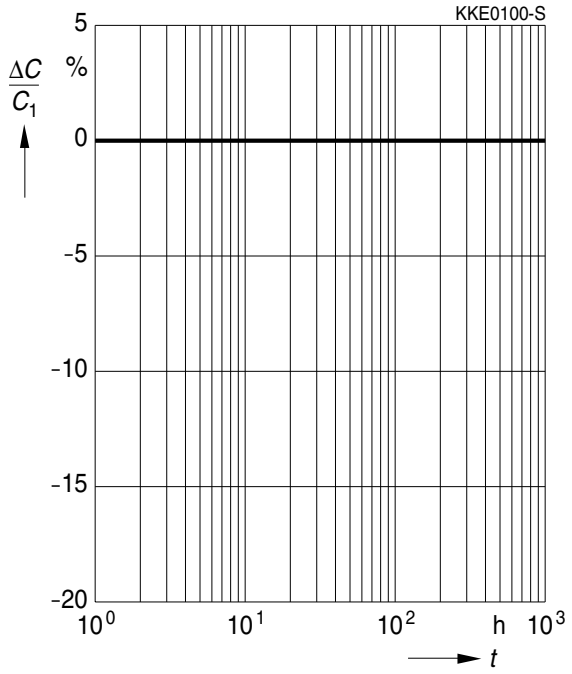


Typical characteristics

Insulation resistance R_{ins} versus temperature T



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



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Published by EPCOS AG
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