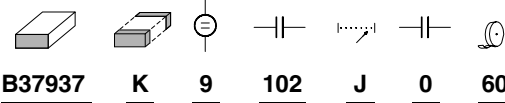


Ordering code system



Packaging

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

Internal coding

Capacitance tolerance

J \triangleq \pm 5 % (standard)
 K \triangleq \pm 10 %

Capacitance, coded 102 \triangleq $10 \cdot 10^2$ pF = 1 nF
 (example) 103 \triangleq $10 \cdot 10^3$ pF = 10 nF

Rated voltage	Rated voltage [VDC]	16
	Code	9

Termination K \triangleq nickel barrier for all case sizes

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

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

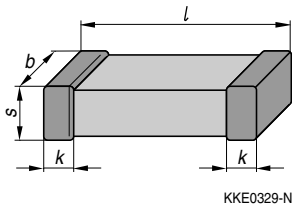
Electrical data

Temperature characteristic		COG	
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)	$\tan \delta$	$< 1,0 \cdot 10^{-3}$	
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	$\pm 5\%$	$\pm 10\%$

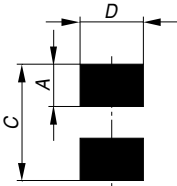
Dimensional drawing

Dimensions (mm)

Case size (inch) (mm)	0603 1608	0805 2012
<i>l</i>	$1,6 \pm 0,15$	$2,0 \pm 0,20$
<i>b</i>	$0,8 \pm 0,10$	$1,25 \pm 0,15$
<i>s</i>	$0,8 \pm 0,10$	1,30 max.
<i>k</i>	0,1 – 0,4	0,13 – 0,75

Tolerances to CECC 32101-801



Recommended solder pad

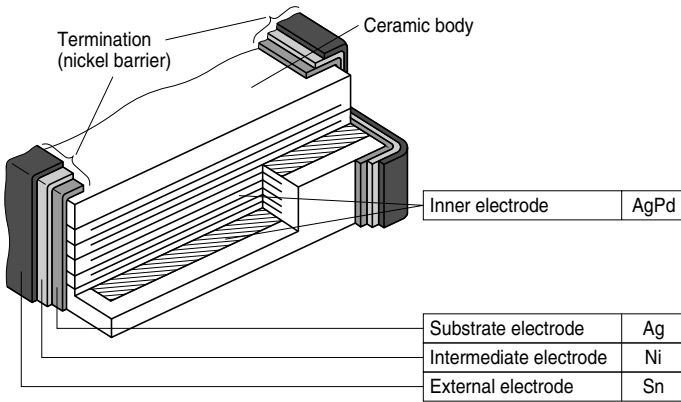


KKE0308-1

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



KKE0484-W



Product range chip capacitors

		CPPS			
Size ¹⁾ inch	mm	0603		0805	
		1608		2012	
Type		B37937		B37947	
V_R (VDC)		16		16	
C_R					
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, Ø 180-mm reel	Cardboard tape, Ø 330-mm reel
			** \triangle 60	** \triangle 70
			pcs/reel	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.

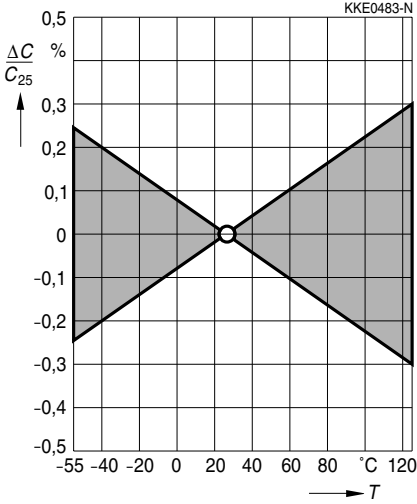
3) Blister tape, 180-mm reel, ordering code ** \triangle 62

4) Blister tape, 330-mm reel, ordering code ** \triangle 72

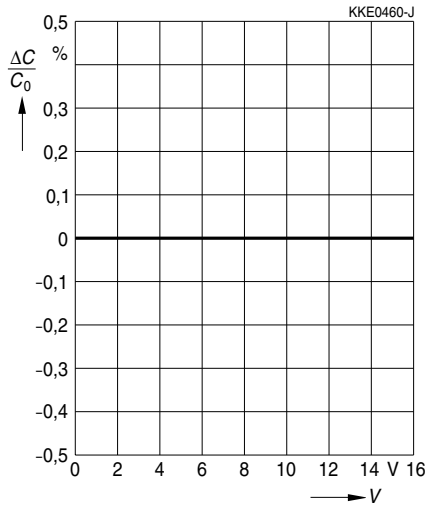


Typical characteristics

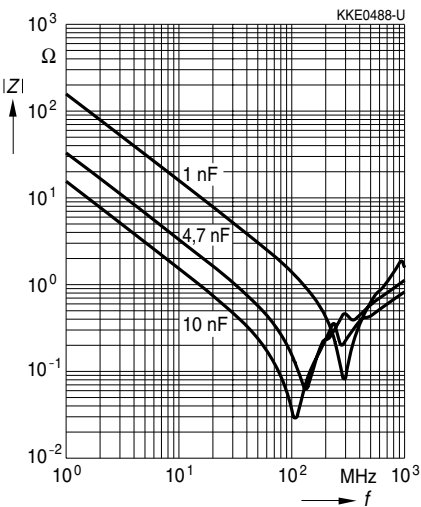
Capacitance change $\Delta C/C_{25}$ versus temperature T (tolerance range \square)



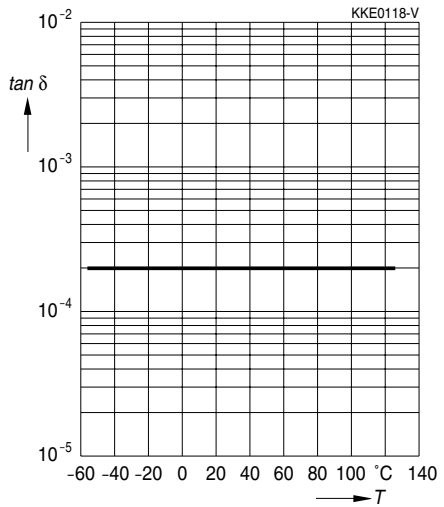
Capacitance change $\Delta C/C_0$ versus superimposed DC voltage V



Impedance $|Z|$ versus frequency f

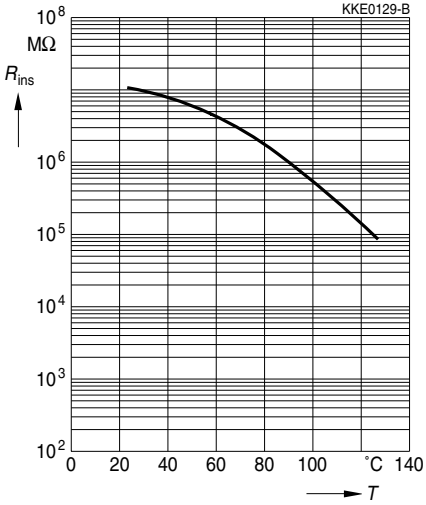


Dissipation factor $\tan \delta$ versus temperature T

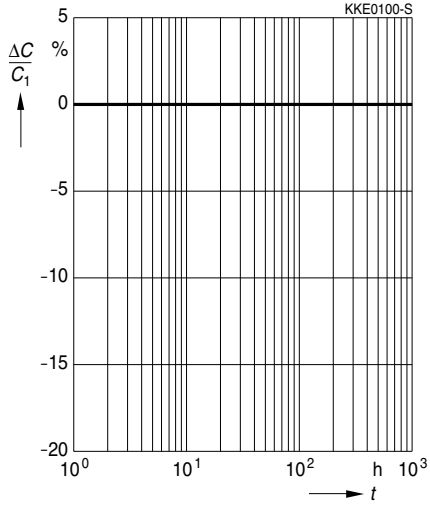


Typical characteristics

Insulation resistance R_{ins} versus temperature T



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



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