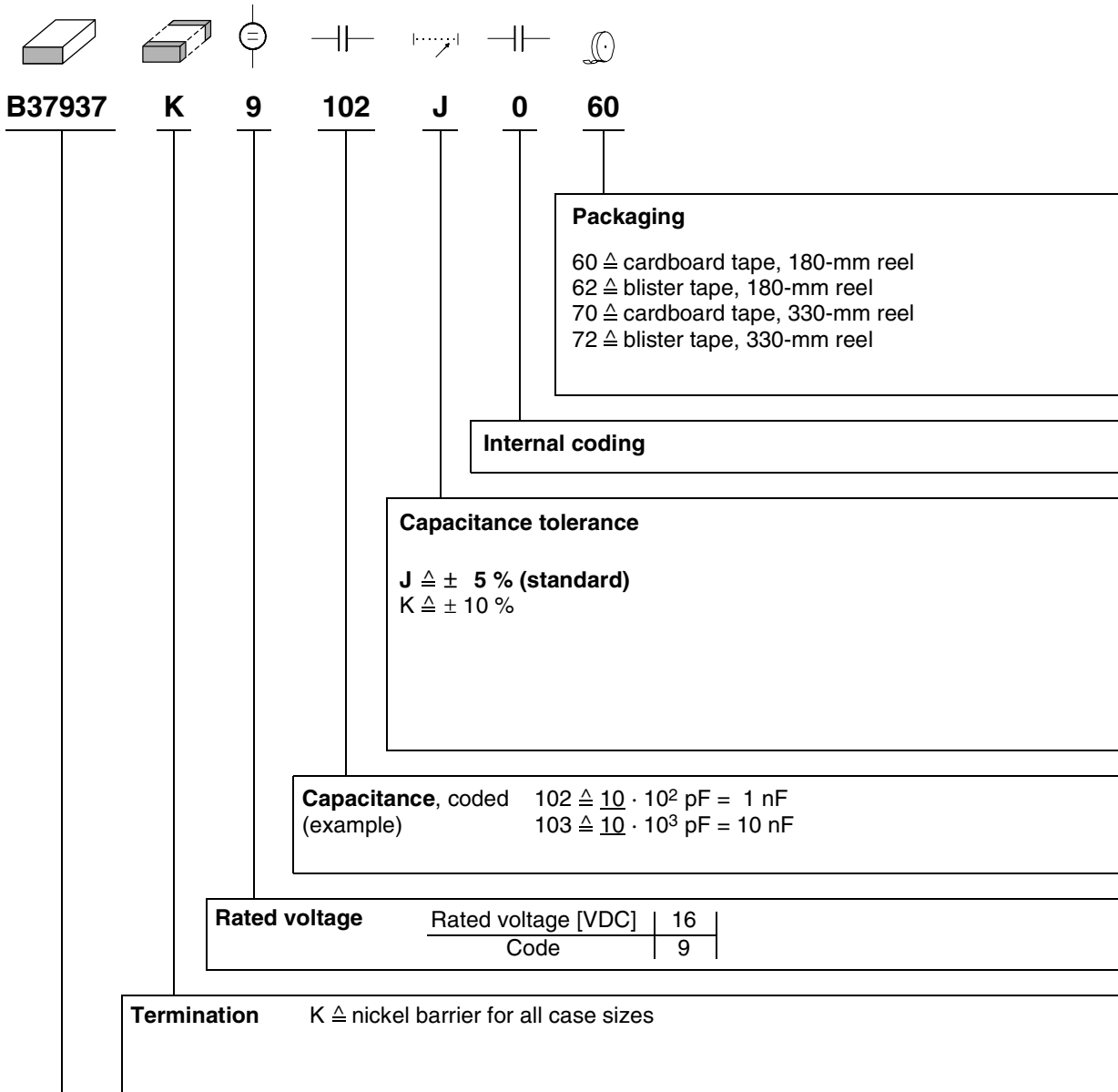


Ordering code system



Type and size	
Chip size (inch / mm)	Temperature characteristic CPPS
<b>0603</b> / 1608 <b>0805</b> / 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

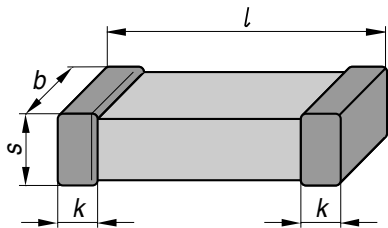
**Electrical data**

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 <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 (standard)	K
Tolerance	$\pm 5\%$	$\pm 10\%$

**Dimensional drawing**


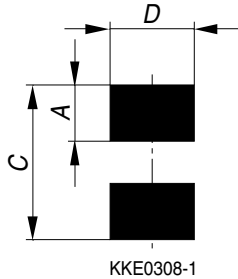
KKE0329-N

**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

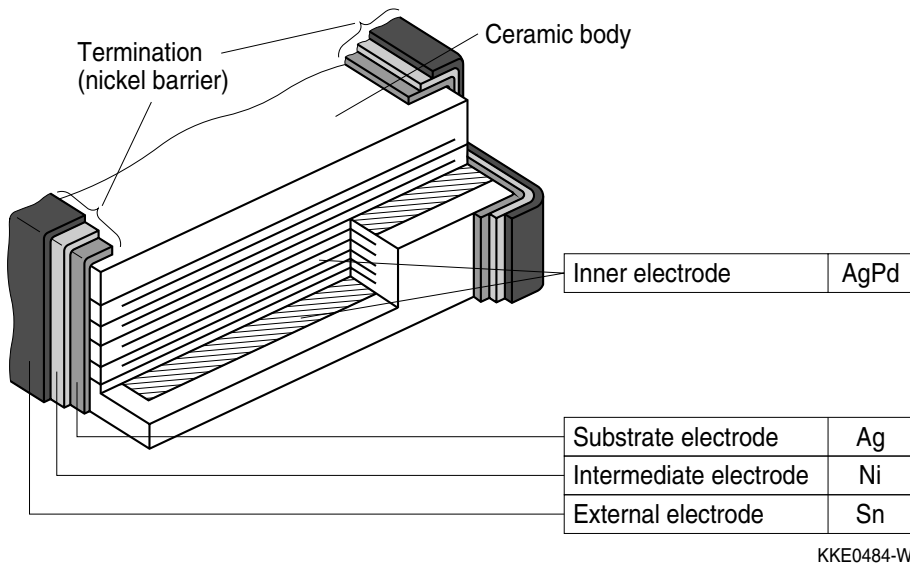
**Recommended solder pad**



**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 <sup>1)</sup>		0603		0805	
inch		1608		2012	
mm		1608		2012	
Type		B37937		B37947	
C <sub>R</sub>	V <sub>R</sub> (VDC)	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**

$C_R$ <sup>1)</sup>	Ordering code <sup>2)</sup>	Chip thickness mm	Cardboard tape, Ø 180-mm reel	Cardboard tape, Ø 330-mm reel
			** $\triangleq$ 60	** $\triangleq$ 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 <sup>3)</sup>	12000 <sup>4)</sup>
3,3 nF	B37947K9332J0**	1,2 ± 0,1	3000 <sup>3)</sup>	12000 <sup>4)</sup>
4,7 nF	B37947K9472J0**	1,2 ± 0,1	3000 <sup>3)</sup>	12000 <sup>4)</sup>
6,8 nF	B37947K9682J0**	1,2 ± 0,1	3000 <sup>3)</sup>	12000 <sup>4)</sup>
10 nF	B37947K9103J0**	1,2 ± 0,1	3000 <sup>3)</sup>	12000 <sup>4)</sup>

1) E12 values on request.

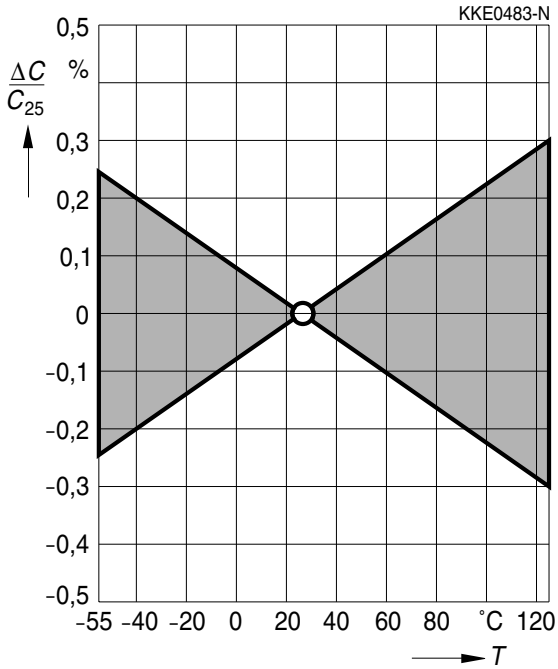
2) The table contains the ordering codes for the standard capacitance tolerance.  
For other available capacitance tolerances see page 134.

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

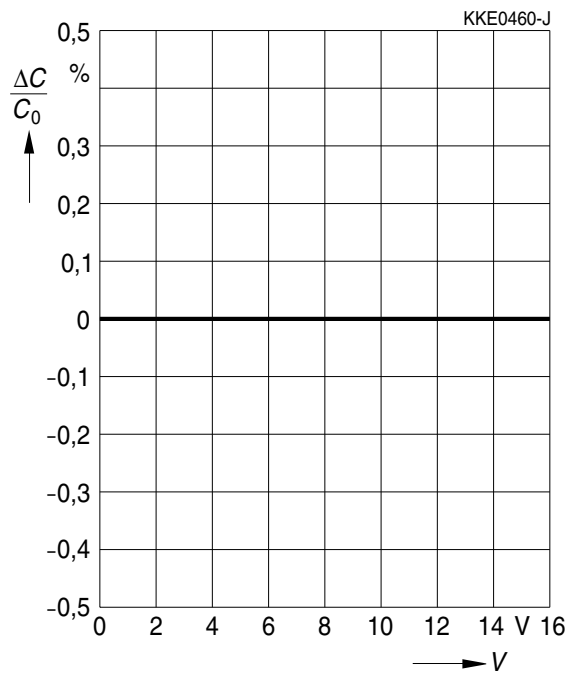
4) Blister tape, 330-mm reel, ordering code \*\*  $\triangleq$  72

Typical characteristics

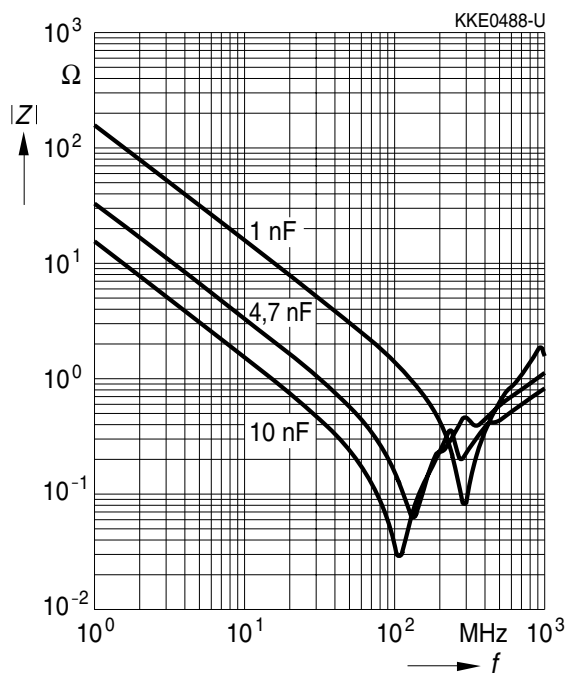
Capacitance change  $\Delta C/C_{25}$  versus temperature  $T$  (tolerance range  $\pm 0,3\%$ )



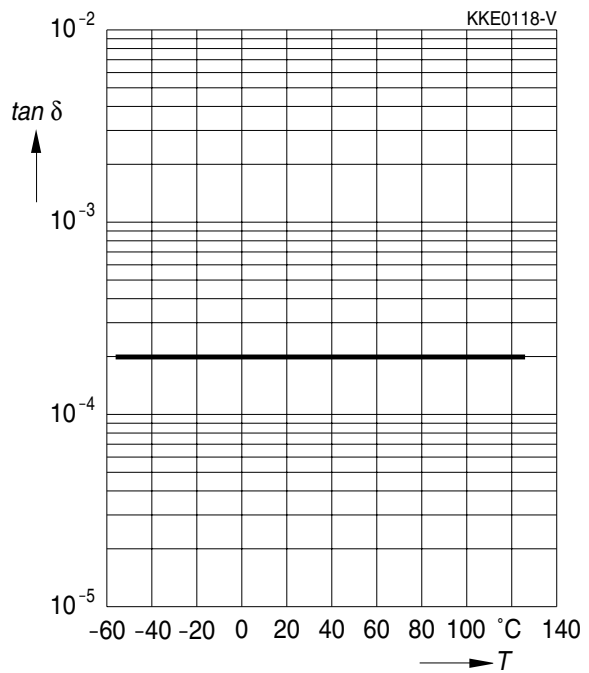
Capacitance change  $\Delta C/C_0$  versus superimposed DC voltage  $V$



Impedance  $|Z|$  versus frequency  $f$

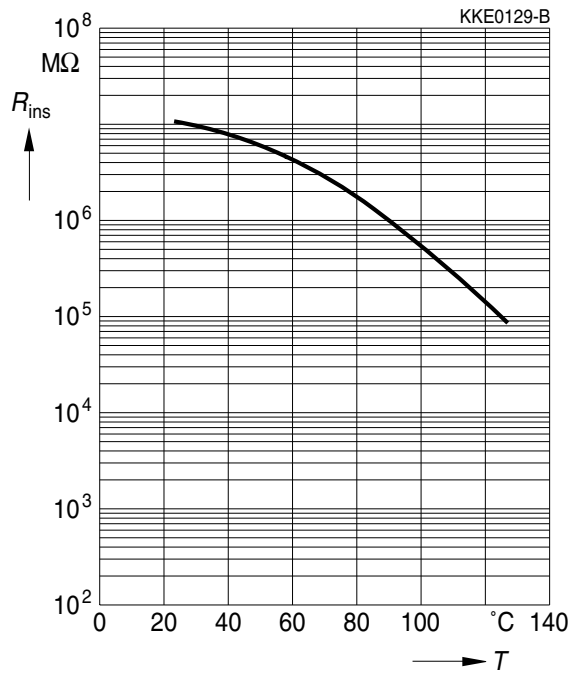


Dissipation factor  $\tan \delta$  versus temperature  $T$

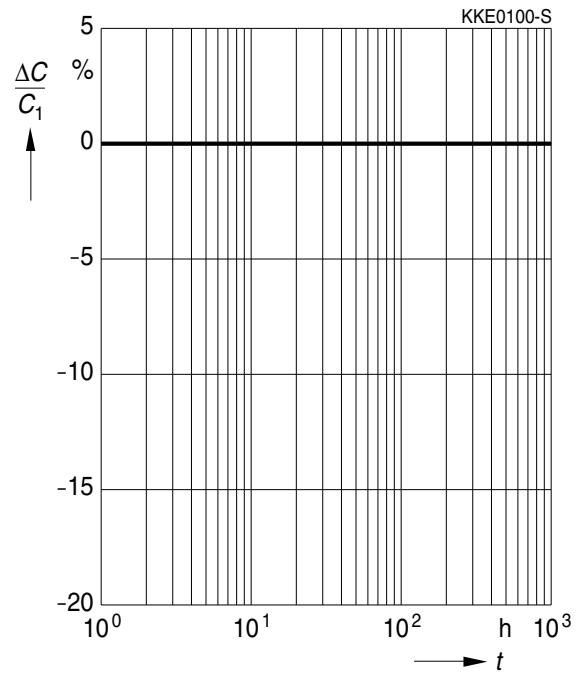


Typical characteristics

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



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





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