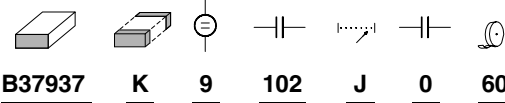


Ordering code system



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

Internal coding

Capacitance tolerance
 J \triangle \pm 5% (standard)
 K \triangle \pm 10%

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

Rated voltage	Rated voltage [VDC]	16
	Code	9

Termination K \triangle 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

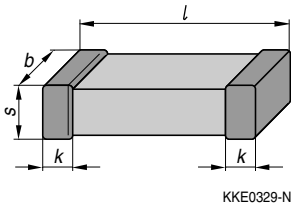
Electrical data

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}	$> 10^5$	M Ω
Insulation resistance ¹⁾ at +125 °C	R_{ins}	$> 10^4$	M Ω
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	$\pm 5\%$	$\pm 10\%$

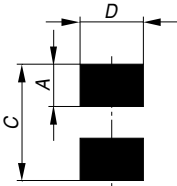
Dimensional drawing

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

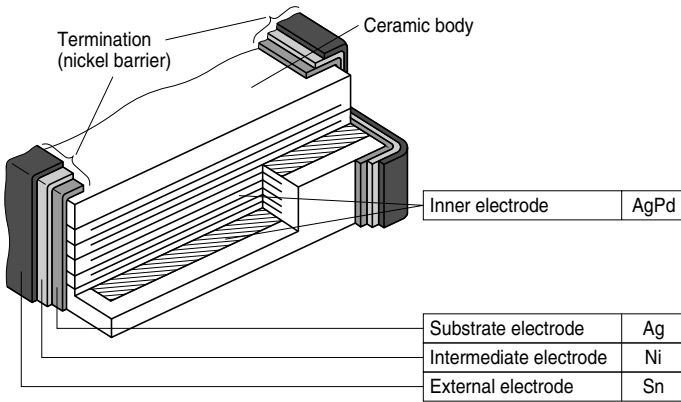


KKE0308-1

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)

Multilayer Ceramic Capacitors
CPPS; 0603 and 0805

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.

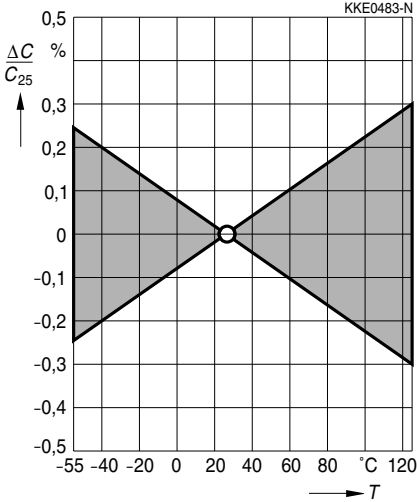
3) Blister tape, 180-mm reel, ordering code ** \triangle 62

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

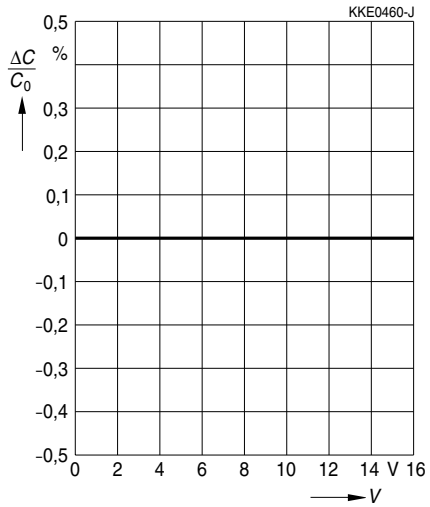


Typical characteristics

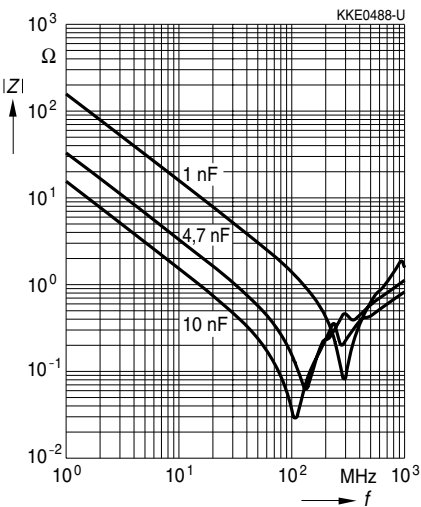
Capacitance change $\Delta C/C_{25}$ versus temperature T (tolerance range \square)



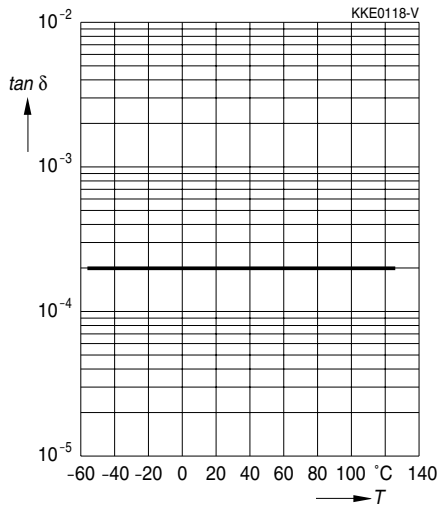
Capacitance change $\Delta C/C_0$ versus superimposed DC voltage V



Impedance $|Z|$ versus frequency f

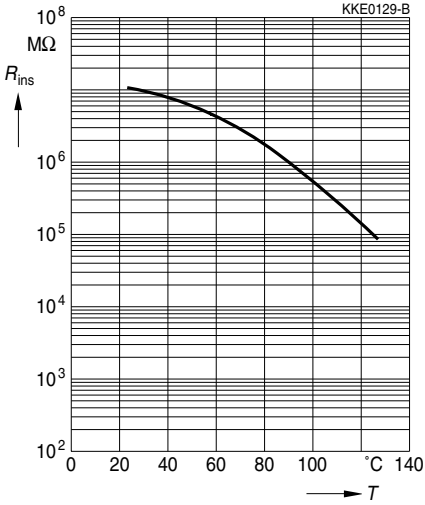


Dissipation factor $\tan \delta$ versus temperature T

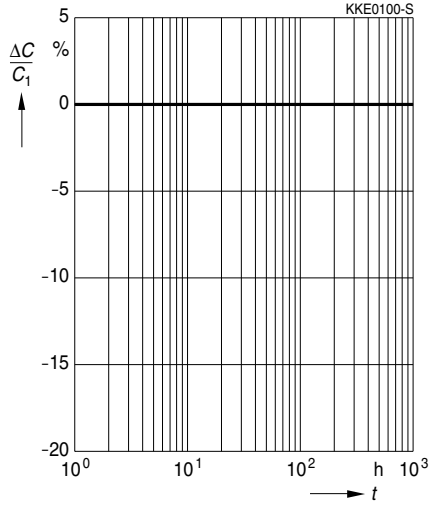


Typical characteristics

Insulation resistance R_{ins} versus temperature T



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



Herausgegeben von EPCOS AG

Unternehmenskommunikation, Postfach 80 17 09, 81617 München, DEUTSCHLAND

☎ ++49 89 636 09, FAX (0 89) 636-2 26 89

© EPCOS AG 2002. Vervielfältigung, Veröffentlichung, Verbreitung und Verwertung dieser Broschüre und ihres Inhalts ohne ausdrückliche Genehmigung der EPCOS AG nicht gestattet.

Bestellungen unterliegen den vom ZVEI empfohlenen Allgemeinen Lieferbedingungen für Erzeugnisse und Leistungen der Elektroindustrie, soweit nichts anderes vereinbart wird.

Diese Broschüre ersetzt die vorige Ausgabe.

Fragen über Technik, Preise und Liefermöglichkeiten richten Sie bitte an den Ihnen nächstgelegenen Vertrieb der EPCOS AG oder an unsere Vertriebsgesellschaften im Ausland. Bauelemente können aufgrund technischer Erfordernisse Gefahrstoffe enthalten. Auskünfte darüber bitten wir unter Angabe des betreffenden Typs ebenfalls über die zuständige Vertriebsgesellschaft einzuholen.

Published by EPCOS AG

Corporate Communications, P.O. Box 80 17 09, 81617 Munich, GERMANY

☎ ++49 89 636 09, FAX (0 89) 636-2 26 89

© EPCOS AG 2002. Reproduction, publication and dissemination of this brochure and the information contained therein without EPCOS' prior express consent is prohibited.

Purchase orders are subject to the General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry recommended by the ZVEI (German Electrical and Electronic Manufacturers' Association), unless otherwise agreed.

This brochure replaces the previous edition.

For questions on technology, prices and delivery please contact the Sales Offices of EPCOS AG or the international Representatives.

Due to technical requirements components may contain dangerous substances. For information on the type in question please also contact one of our Sales Offices.