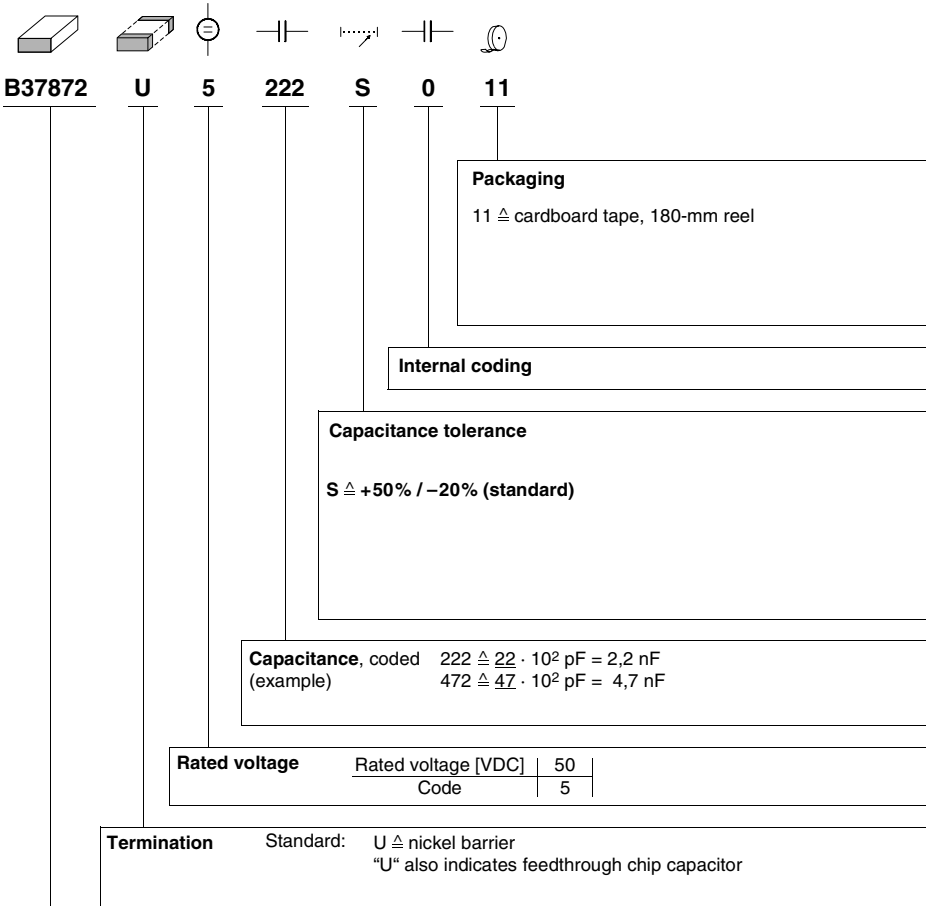


Ordering code system



Type and size	
Chip size (inch / mm)	Temperature characteristic X7R
1206 / 3216	B37872

**Features**

- Excellent EMI suppression
- Class 2 characteristic
- Low parasitic inductance and low electrical losses
- High attenuation at higher natural resonant frequency
- Space saving on the PCB


**Applications**

- EMI suppression
- Decoupling and filtering
- Noise suppression and broadband I/O filtering
- Automotive brake systems (e.g. ABS)
- Hall sensors

**Termination**

- For soldering: 4 terminations, nickel-barrier terminations (Ni)

**Options**

- Alternative capacitance values, capacitance tolerances, COG characteristic and feedthrough arrays available on request

**Delivery mode**

- Cardboard tape, 180-mm reel

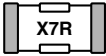
**Electrical data**

Temperature characteristic		X7R	
Climatic category (IEC 60068-1)		55/125/66	
Standard		EIA	
Dielectric		Class 2	
Rated voltage <sup>1)</sup>	$V_R$	50	VDC
Test voltage	$V_{test}$	$2,5 \cdot V_R/5$ s	VDC
Capacitance range / E series	$C_R$	2,2 nF ... 10 nF (E3)	
Max. relative capacitance change	$\Delta C/C$	$\pm 15$	%
Dissipation factor (limit value)	$\tan \delta$	$< 25 \cdot 10^{-3}$	
DC resistance	$R_{DC}$	$< 600$	m $\Omega$
Insulation resistance <sup>2)</sup> at + 25 °C	$R_{ins}$	$> 10^5$	M $\Omega$
Insulation resistance <sup>2)</sup> at +125 °C	$R_{ins}$	$> 10^4$	M $\Omega$
Time constant <sup>2)</sup> at + 25 °C	$\tau$	$> 1000$	s
Time constant <sup>2)</sup> at +125 °C	$\tau$	$> 100$	s
Operating temperature range	$T_{op}$	-55 ... +125	°C
Ageing <sup>3)</sup>		yes	

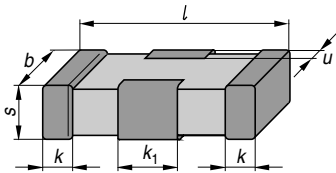
1) Note: No operation on AC line.

2) For  $C_R > 10$  nF the time constant  $\tau = C \cdot R_{ins}$  is given.

3) Refer to chapter "General Techn. Inform.," page 197.


**Capacitance tolerances**

Code letter	S (standard)
Tolerance	+50/-20%

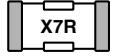
**Dimensional drawing**


KKE0328-F

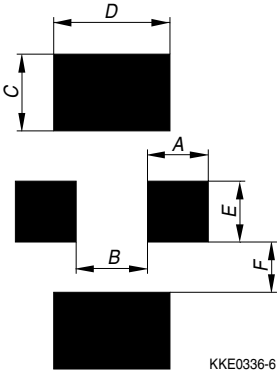
**Dimensions (mm)**

Case size (inch) (mm)	1206 3216
<i>l</i>	$3,2 \pm 0,20$
<i>b</i>	$1,6 \pm 0,15$
<i>s</i>	0,9 max.
<i>k</i>	$0,4 \pm 0,2$
<i>k</i> <sub>1</sub>	$1,0 \pm 0,35$
<i>u</i>	$0,2 +0,2/-0,1$

Tolerances to CECC 32101-801



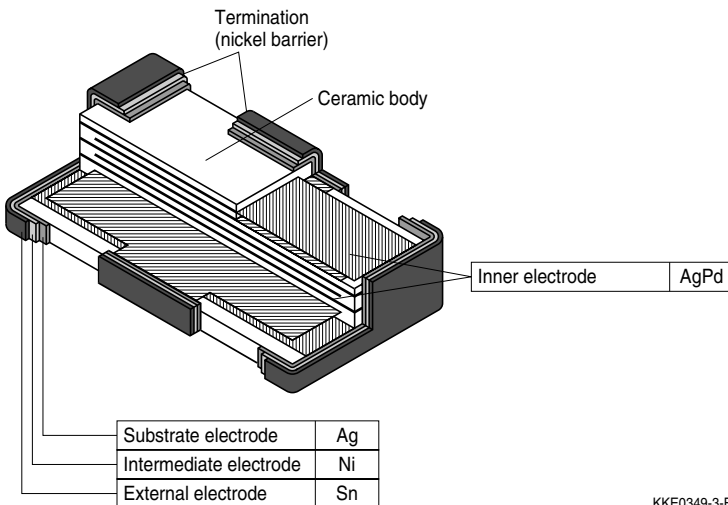
Recommended solder pad

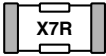


Maximum dimensions (mm)

Case size	(inch/mm)	Type	A	B	C	D	E	F
	1206/3216	feedthrough chip	0,85	1,02	1,09	1,65	0,85	0,71

Termination




**Product range feedthrough capacitors**

	X7R
Size <sup>1)</sup>	
inch	<b>1206</b>
mm	3216
Type	B37872
$V_R$ (VDC)	50
$C_R$	
2,2 nF	
4,7 nF	
10 nF	

**Ordering codes and packing for X7R feedthrough capacitors, 50 VDC, nickel-barrier terminations**

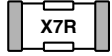
$C_R$ <sup>2)</sup>	Ordering code	Chip thickness mm	Cardboard tape, Ø 180-mm reel
			** $\Delta$ 11
			pcs/reel

**Case size 1206, 50 VDC**

2,2 nF	B37872U5222S0**	0,8 ± 0,1	4000
4,7 nF	B37872U5472S0**	0,8 ± 0,1	4000
10 nF	B37872U5103S0**	0,8 ± 0,1	4000

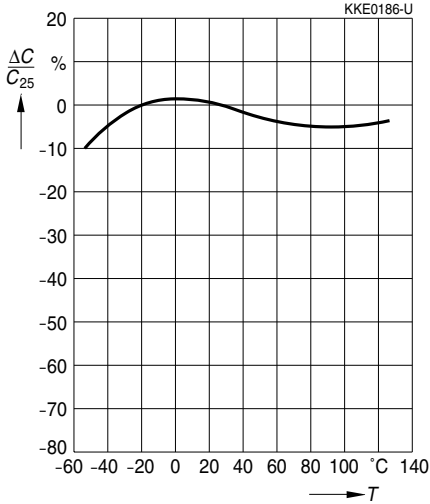
1)  $l \times b$  (inch) /  $l \times b$  (mm)

2) Other capacitance values on request.

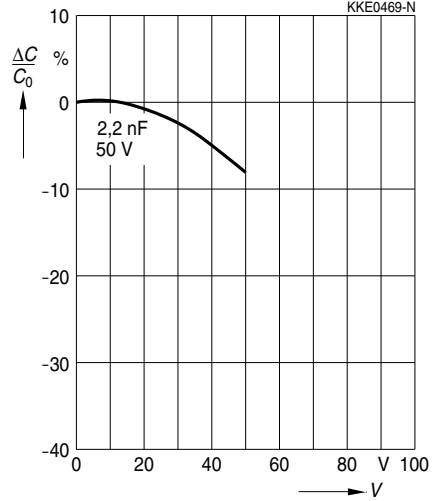


**Typical characteristics**

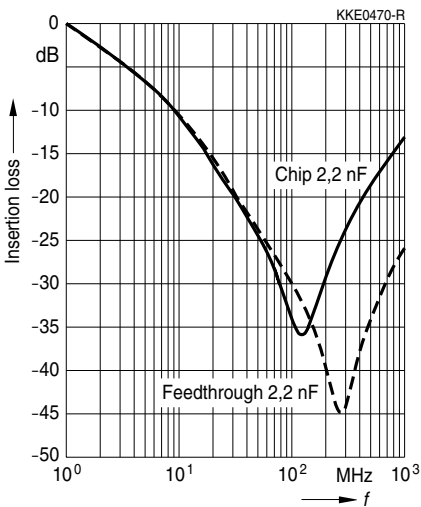
Capacitance change  $\Delta C/C_{25}$  versus temperature  $T$



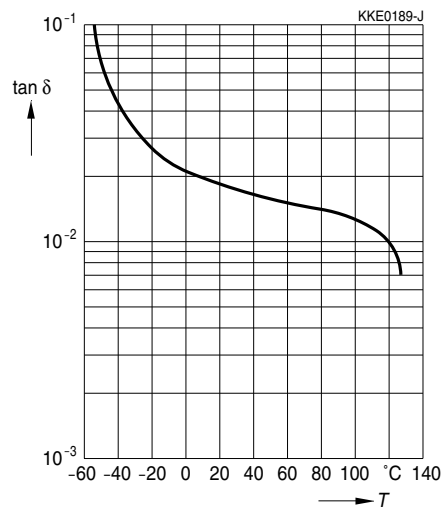
Capacitance change  $\Delta C/C_0$  versus superimposed DC voltage  $V$

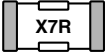


Insertion loss dB versus frequency  $f$



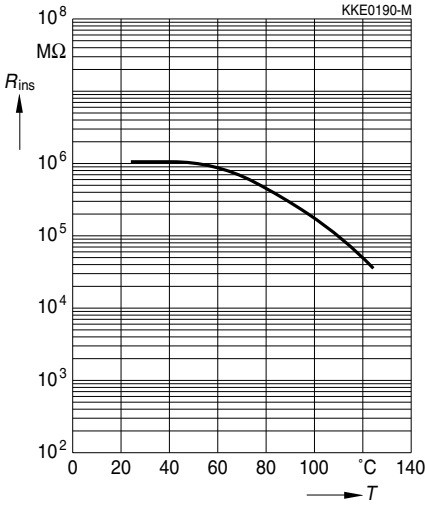
Dissipation factor  $\tan \delta$  versus temperature  $T$



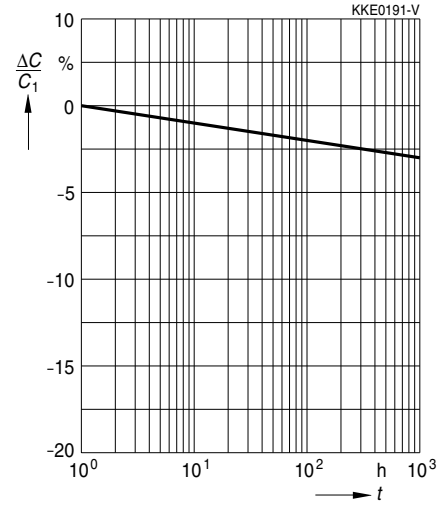


**Typical characteristics**

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.