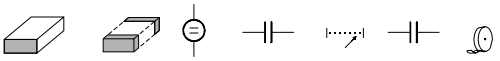
Ordering code system



B37872 U 5 222 S 0 11

Packaging

11 ≙ cardboard tape, 180-mm reel

Internal coding

Capacitance tolerance

S ≙ +50% / –20% (standard)

Capacitance, coded (example)
222 ≙ 22 · 10^2 pF = 2,2 nF
472 ≙ 47 · 10^2 pF = 4,7 nF

Rated voltage

Rated voltage [VDC]	50
Code	5

Termination Standard: U ≙ nickel barrier
"U" also indicates feedthrough chip capacitor

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

SMD

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, C0G characteristic and feedthrough arrays available on request

Delivery mode

- Cardboard tape, 180-mm reel

Electrical data

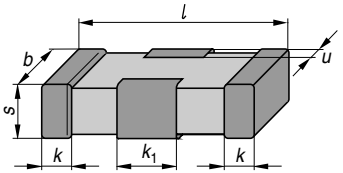
Temperature characteristic		X7R	
Climatic category (IEC 60068-1)		55/125/56	
Standard		EIA	
Dielectric		Class 2	
Rated voltage[1)]	V_R	50	VDC
Test voltage	V_{test}	$2{,}5 \cdot V_R$/5 s	VDC
Capacitance range / E series	C_R	2,2 nF … 10 nF (E3)	
Max. relative capacitance change	$\Delta C/C$	±15	%
Dissipation factor (limit value)	tan δ	$< 25 \cdot 10^{-3}$	
DC resistance	R_{DC}	< 600	mΩ
Insulation resistance[2)] at + 25 °C	R_{ins}	$> 10^5$	MΩ
Insulation resistance[2)] at +125 °C	R_{ins}	$> 10^4$	MΩ
Time constant[2)] at + 25 °C	τ	> 1000	s
Time constant[2)] at +125 °C	τ	> 100	s
Operating temperature range	T_{op}	−55 … +125	°C
Ageing[3)]		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

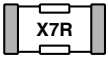


KKE0328-F

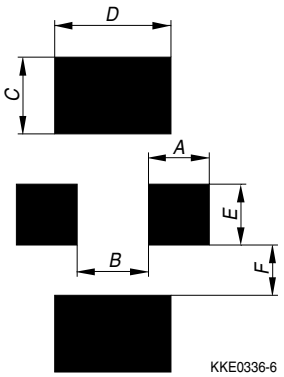
Dimensions (mm)

Case size **(inch)** (mm)	**1206** 3216
l	3,2 ± 0,20
b	1,6 ± 0,15
s	0,9 max.
k	0,4 ± 0,2
k_1	1,0 ± 0,35
u	0,2 +0,2/–0,1

Tolerances to CECC 32101-801



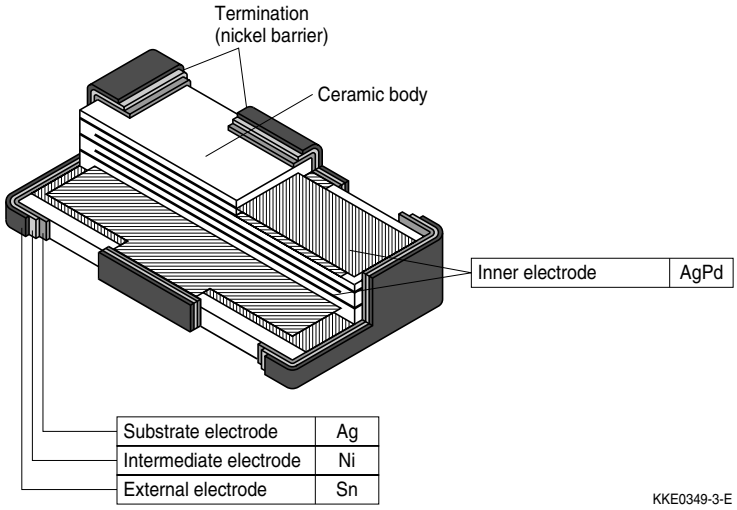
Recommended solder pad



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[1)]	
inch	**1206**
mm	3216
Type	B37872
V_R (VDC) / C_R	50
2,2 nF	
4,7 nF	
10 nF	

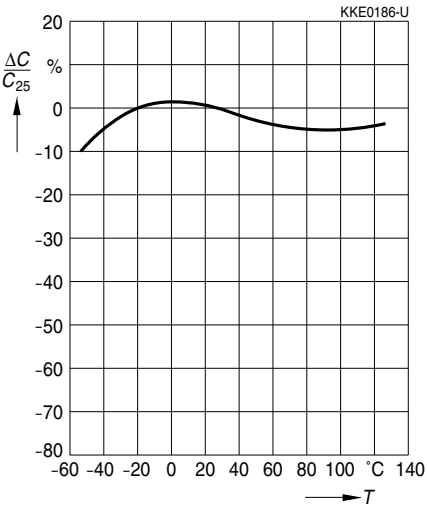
Ordering codes and packing for X7R feedthrough capacitors, 50 VDC, nickel-barrier terminations

		Chip thickness	Cardboard tape, ∅ 180-mm reel
			** ≙ 11
C_R[2)]	Ordering code	mm	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

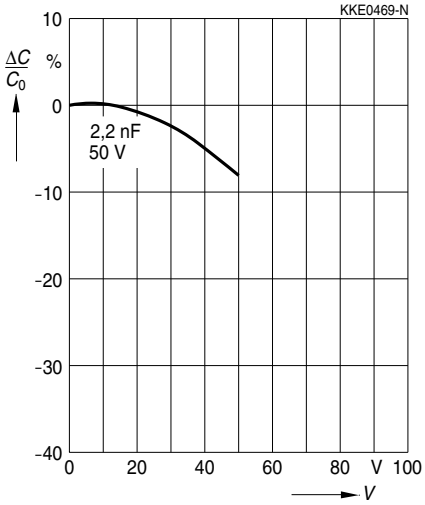
1) $l \times b$ (inch) / $l \times b$ (mm)
2) Other capacitance values on request.

Typical characteristics

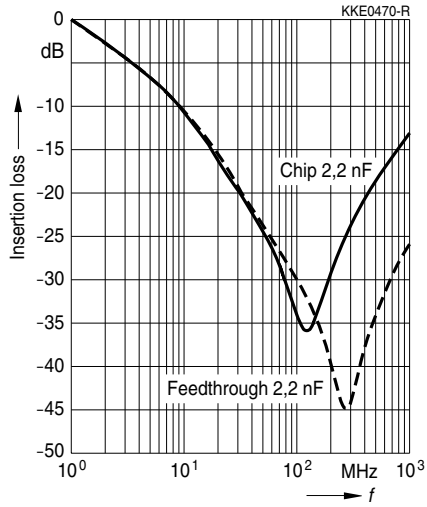
Capacitance change $\Delta C/C_{25}$ versus temperature T



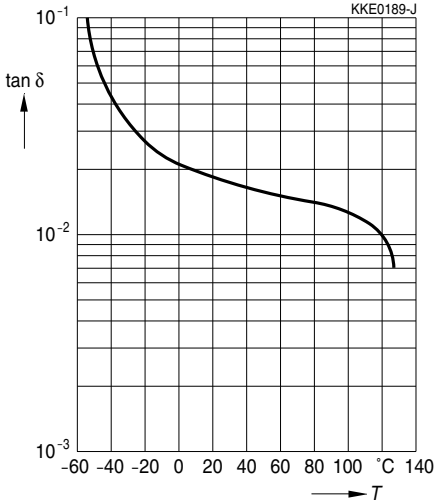
Capacitance change $\Delta C/C_0$ versus superimposed DC voltage V



Insertion loss dB versus frequency f

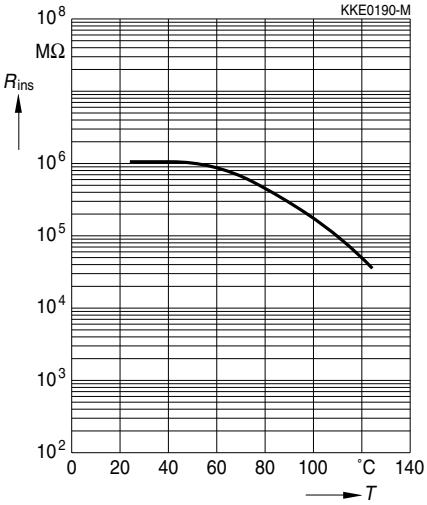


Dissipation factor tan δ versus temperature T

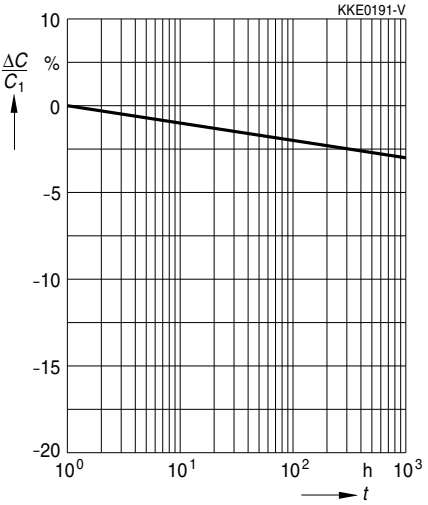


Typical characteristics

Insulation resistance R_{ins} versus temperature T



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



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