

Multilayer Chip Capacitors
X7R/B Characteristic



Features

- High volumetric efficiency
- Non-linear capacitance change
- High insulation resistance
- High pulse strength

Applications

- Blocking
- Coupling
- Decoupling
- Interference suppression

Terminations

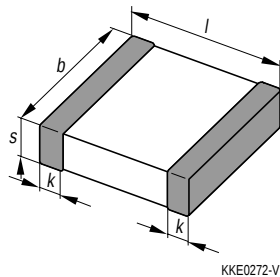
- For soldering:
Sizes 0402 through 1210:
silver/nickel/tin
Sizes 1812, 2220:
silver palladium
- For conductive adhesion:
All sizes:
silver palladium

Packing

- Blister and cardboard tape,
for details refer to chapter
“Taping and Packing”, page 111.
- Bulk case for sizes 0603, 0805
and 1206, for details see page 114.

Maximum ratings

Climatic category
in accordance with IEC 68-1: 55/125/56



Dimensions (mm)

Size inch/mm	<i>l</i>	<i>b</i>	<i>s</i>	<i>k</i>
0402 /1005	1,0 ± 0,10	0,50 ± 0,05	0,5 ± 0,05	0,2
0603 /1608	1,6 ± 0,15*)	0,80 ± 0,10	0,8 ± 0,10	0,3
0805 /2012	2,0 ± 0,20	1,25 ± 0,15	1,3 max.	0,5
1206 /3216	3,2 ± 0,20	1,60 ± 0,15	1,3 max.	0,5
1210 /3225	3,2 ± 0,30	2,50 ± 0,30	1,7 max.	0,5
1812 /4532	4,5 ± 0,30	3,20 ± 0,30	1,3 max.	0,5
2220 /5750	5,7 ± 0,40	5,00 ± 0,40	1,3 max.	0,5

*) For bulk cases: 1,6 ± 0,1

Tolerances in acc. with CECC 32101-801

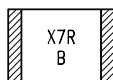
Available capacitance tolerances

Tolerance	Symbol
$\Delta C_R / C_R = \pm 5 \%$	J
$\Delta C_R / C_R = \pm 10 \%$	K
$\Delta C_R / C_R = \pm 20 \%$	M

Standard tolerance in bold print
J tolerance not available for 16 V, 200 V and 500 V

Rated voltage values

$V_R = 16 \text{ V}, 25 \text{ V}, 50 \text{ V}, 100 \text{ V}, 200 \text{ V}, 500 \text{ V}$



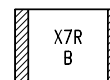
SMD

Product range

X7R/B characteristic													
Size ¹⁾	0402		0603				0805				1206		
inch	1005		1608				2012				3216		
Type	B37921		B37931				B37941				B37872		
V _R (Vdc)	16	25	16	25	50	100	16	25	50	100	16	25	50
100 pF													
120 pF													
150 pF													
180 pF													
220 pF													
270 pF													
330 pF													
390 pF													
470 pF													
560 pF													
680 pF													
820 pF													
1,0 nF													
1,2 nF													
1,5 nF													
1,8 nF													
2,2 nF													
2,7 nF													
3,3 nF													
3,9 nF													
4,7 nF													
5,6 nF													
6,8 nF													
8,2 nF													

Chip thickness (s): 0,5 ± 0,1 mm 0,6 ± 0,1 mm 0,8 ± 0,1 mm 1,2 ± 0,1 mm

1) l × b (inch) / l × b (mm)

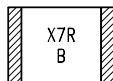


Product range

X7R/B characteristic													
Size ¹⁾	0402 1005				0603 1608				0805 2012				1206 3216
Type	B37921				B37931				B37941				B37872
V _R (Vdc)	16	25	16	25	50	100	16	25	50	100	16	25	50
10 nF													
12 nF													
15 nF													
18 nF													
22 nF													
27 nF													
33 nF													
39 nF													
47 nF													
56 nF													
68 nF													
82 nF													
100 nF													
120 nF													
150 nF													
180 nF													
220 nF													
270 nF													
330 nF													
390 nF													
470 nF													
560 nF													
680 nF													
820 nF													
1,0 µF													

Chip thickness (s): 0,5 ± 0,1 mm 0,6 ± 0,1 mm 0,8 ± 0,1 mm 1,2 ± 0,1 mm

1) l × b (inch) / l × b (mm)

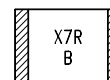


Product range

	X7R/B characteristic										
Size ¹⁾	1206			1210				1812		2220	
inch	3216			3225				4532		5750	
Type	B37872			B37950				B37953		B37956	
V _R (Vdc)	100	200	500	50	100	200	500	50		50	
100 pF											
120 pF											
150 pF											
180 pF											
220 pF											
270 pF											
330 pF											
390 pF											
470 pF											
560 pF											
680 pF											
820 pF											
1,0 nF											
1,2 nF											
1,5 nF											
1,8 nF											
2,2 nF											
2,7 nF											
3,3 nF											
3,9 nF											
4,7 nF											
5,6 nF											
6,8 nF											
8,2 nF											

Chip thickness (s): 0,5 ± 0,1 mm 0,6 ± 0,1 mm 0,8 ± 0,1 mm 1,2 ± 0,1 mm 1,6 ± 0,1 mm

1) l × b (inch) / l × b (mm)

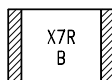


Product range

X7R/B characteristic											
Size ¹⁾ inch mm	1206 3216			1210 3225				1812 4532		2220 5750	
Type	B37872			B37950				B37953		B37956	
V _R (Vdc)	100	200	500	50	100	200	500	50		50	
10 nF											
12 nF											
15 nF											
18 nF											
22 nF											
27 nF											
33 nF											
39 nF											
47 nF											
56 nF											
68 nF											
82 nF											
100 nF											
120 nF											
150 nF											
180 nF											
220 nF											
270 nF											
330 nF											
390 nF											
470 nF											
560 nF											
680 nF											
820 nF											
1,0 µF											

Chip thickness (s): 0,5 ± 0,1 mm 0,6 ± 0,1 mm 0,8 ± 0,1 mm 1,2 ± 0,1 mm 1,6 ± 0,1 mm

1) l × b (inch) / l × b (mm)

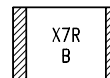


Ordering codes for X7R/B characteristic, 16 Vdc, AgNiSn terminations

Size	0402/1005	0603/1608	0805/2012	1206/3216	
C _R	Ordering code ¹⁾				
	B37921-	B37931-	B37941-	B37872-	
470 pF	-K9471-K60 ▲				
560 pF	-K9561-K60 ▲				
680 pF	-K9681-K60 ▲				
820 pF	-K9821-K60 ▲				
1,0 nF	-K9102-K60 ▲				
1,2 nF	-K9122-K60 ▲				
1,5 nF	-K9152-K60 ▲				
1,8 nF	-K9182-K60 ▲				
2,2 nF	-K9222-K60 ▲				
2,7 nF	-K9272-K60 ▲				
3,3 nF	-K9332-K60 ▲				
3,9 nF	-K9392-K60 ▲				
4,7 nF	-K9472-K60 ▲	-K9472-K60 ○			
5,6 nF	-K9562-K60 ▲	-K9562-K60 ○			
6,8 nF	-K9682-K60 ▲	-K9682-K60 ○			
8,2 nF	-K9822-K60 ▲	-K9822-K60 ○			
10 nF	-K9103-K60 ▲	-K9103-K60 ○	-K9103-K60 □		
12 nF	-K9123-K60 ▲	-K9123-K60 ○	-K9123-K60 □		
15 nF	-K9153-K60 ▲	-K9153-K60 ○	-K9153-K60 □		
18 nF		-K9183-K60 ○	-K9183-K60 □		
22 nF		-K9223-K60 ○	-K9223-K60 □	-K9223-K60 ○	
27 nF		-K9273-K60 ○	-K9273-K60 □	-K9273-K60 ○	
33 nF		-K9333-K60 ○	-K9333-K60 □	-K9333-K60 ○	
39 nF		-K9393-K60 ○	-K9393-K60 □	-K9393-K60 ○	
47 nF		-K9473-K60 ○	-K9473-K60 □	-K9473-K60 ○	
56 nF		-K9563-K60 ○	-K9563-K60 □	-K9563-K60 ○	
68 nF		-K9683-K60 ○	-K9683-K60 □	-K9683-K60 ○	
82 nF			-K9823-K60 □	-K9823-K60 ○	
100 nF			-K9104-K60 ○	-K9104-K60 ○	
120 nF			-K9124-K60 ○	-K9124-K60 ○	
150 nF			-K9154-K62 ◆	-K9154-K60 ○	
180 nF			-K9184-K62 ◆	-K9184-K60 ○	
220 nF			-K9224-K62 ◆	-K9220-K60 ○	
270 nF				-K9274-K60 ○	
330 nF				-K9334-K60 ○	
390 nF				-K9394-K62 ◆	
470 nF				-K9474-K62 ◆	

Chip thickness: ▲: 0,5 ± 0,1 mm □: 0,6 ± 0,1 mm ○: 0,8 ± 0,1 mm ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:
K = ± 10 %. Example: B37921-K9471-K60
For other available capacitance tolerances see page 27

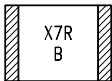


Ordering codes for X7R/B characteristic, 25 Vdc, AgNiSn terminations

Size	0402/1005	0603/1608	0805/2012	1206/3216	
C _R	Ordering code ¹⁾				
	B37921-	B37931-	B37941-	B37872-	
100 pF	-K0101-K60 ▲				
120 pF	-K0121-K60 ▲				
150 pF	-K0151-K60 ▲				
180 pF	-K0181-K60 ▲				
220 pF	-K0221-K60 ▲				
270 pF	-K0271-K60 ▲				
330 pF	-K0331-K60 ▲				
390 pF	-K0391-K60 ▲				
470 pF	-K0471-K60 ▲				
560 pF	-K0561-K60 ▲				
680 pF	-K0681-K60 ▲				
820 pF	-K0821-K60 ▲				
1,0 nF	-K0102-K60 ▲				
1,2 nF	-K0122-K60 ▲				
1,5 nF	-K0152-K60 ▲				
1,8 nF	-K0182-K60 ▲				
2,2 nF	-K0222-K60 ▲				
2,7 nF	-K0272-K60 ▲				
3,3 nF	-K0332-K60 ▲				
3,9 nF	-K0392-K60 ▲				
4,7 nF	-K0472-K60 ▲	-K0472-K60 ○			
5,6 nF		-K0562-K60 ○			
6,8 nF		-K0682-K60 ○			
8,2 nF		-K0822-K60 ○			
10 nF		-K0103-K60 ○	-K0103-K60 □		
12 nF		-K0123-K60 ○	-K0123-K60 □		
15 nF		-K0153-K60 ○	-K0153-K60 □		
18 nF		-K0183-K60 ○	-K0183-K60 □		
22 nF		-K0223-K60 ○	-K0223-K60 □	-K0223-K60 ○	
27 nF			-K0273-K60 □	-K0273-K60 ○	
33 nF			-K0333-K60 □	-K0333-K60 ○	
39 nF			-K0393-K60 □	-K0393-K60 ○	
47 nF			-K0473-K60 □	-K0473-K60 ○	
56 nF			-K0563-K60 ○	-K0563-K60 ○	
68 nF			-K0683-K60 ○	-K0683-K60 ○	

Chip thickness: ▲: 0,5 ± 0,1 mm □: 0,6 ± 0,1 mm ○: 0,8 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:
K = ± 10 %. Example: B37921-K0101-K60
For other available capacitance tolerances see page 27

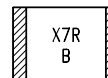


Ordering codes for X7R/B characteristic, 25 Vdc, AgNiSn terminations (cont'd)

Size	0402/1005	0603/1608	0805/2012	1206/3216	
C _R	Ordering code ¹⁾				
	B37921-	B37931-	B37941-	B37872-	
82 nF			-K0823-K62 ◆	-K0823-K62 ○	
100 nF			-K0104-K62 ◆	-K0104-K62 ○	
120 nF				-K0124-K62 ○	
150 nF				-K0154-K62 ○	
180 nF				-K0184-K62 ◆	
220 nF				-K0224-K62 ◆	

Chip thickness: ○: 0,8 ± 0,1 mm ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:
K = ± 10 %. Example: B37941-K0823-K62
For other available capacitance tolerances see page 27

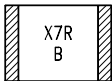


Ordering codes for X7R/B characteristic, 50 Vdc, AgNiSn terminations

Size	0603/1608	0805/2012	1206/3216	1210/3225	
C _R	Ordering code ¹⁾				
	B37931-	B37941-	B37872-	B37950-	
220 pF	-K5221-K60 ○				
270 pF	-K5271-K60 ○				
330 pF	-K5331-K60 ○				
390 pF	-K5391-K60 ○				
470 pF	-K5471-K60 ○	-K5471-K60 □			
560 pF	-K5561-K60 ○	-K5561-K60 □			
680 pF	-K5681-K60 ○	-K5681-K60 □			
820 pF	-K5821-K60 ○	-K5821-K60 □			
1,0 nF	-K5102-K60 ○	-K5102-K60 □	-K5102-K60 ○		
1,2 nF	-K5122-K60 ○	-K5122-K60 □	-K5122-K60 ○		
1,5 nF	-K5152-K60 ○	-K5152-K60 □	-K5152-K60 ○		
1,8 nF	-K5182-K60 ○	-K5182-K60 □	-K5182-K60 ○		
2,2 nF	-K5222-K60 ○	-K5222-K60 □	-K5222-K60 ○		
2,7 nF	-K5272-K60 ○	-K5272-K60 □	-K5272-K60 ○		
3,3 nF	-K5332-K60 ○	-K5332-K60 □	-K5332-K60 ○		
3,9 nF	-K5392-K60 ○	-K5392-K60 □	-K5392-K60 ○		
4,7 nF	-K5472-K60 ○	-K5472-K60 □	-K5472-K60 ○		
5,6 nF	-K5562-K60 ○	-K5562-K60 □	-K5562-K60 ○		
6,8 nF	-K5682-K60 ○	-K5682-K60 □	-K5682-K60 ○		
8,2 nF	-K5822-K60 ○	-K5822-K60 □	-K5822-K60 ○		
10 nF	-K5103-K60 ○	-K5103-K60 □	-K5103-K60 ○	-K5103-K62 ○	
12 nF		-K5123-K60 □	-K5123-K60 ○	-K5123-K62 ○	
15 nF		-K5153-K60 □	-K5153-K60 ○	-K5153-K62 ○	
18 nF		-K5183-K60 □	-K5183-K60 ○	-K5183-K62 ○	
22 nF		-K5223-K60 □	-K5223-K60 ○	-K5223-K62 ○	
27 nF		-K5273-K60 □	-K5273-K60 ○	-K5273-K62 ○	
33 nF		-K5333-K60 □	-K5333-K60 ○	-K5333-K62 ○	
39 nF		-K5393-K60 □	-K5393-K60 ○	-K5393-K62 ○	
47 nF		-K5473-K60 □	-K5473-K60 ○	-K5473-K62 ○	
56 nF		-K5563-K62 ◆	-K5563-K60 ○	-K5563-K62 ○	
68 nF		-K5683-K62 ◆	-K5683-K60 ○	-K5683-K62 ○	
82 nF		-K5823-K62 ◆	-K5823-K60 ○	-K5823-K62 ○	
100 nF		-K5104-K62 ◆	-K5104-K60 ○	-K5104-K62 ○	
120 nF				-K5124-K62 ○	
150 nF				-K5154-K62 ○	
180 nF				-K5184-K62 ◆	
220 nF				-K5224-K62 ◆	

Chip thickness: □: 0,6 ± 0,1 mm ○: 0,8 ± 0,1 mm ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:
K = ± 10 %. Example: B37931-K5221-K60
For other available capacitance tolerances see page 27

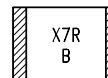


Ordering codes for X7R/B characteristic, 50 Vdc, AgPd terminations (cont'd)

Size	1812/4532	2220/5750		
C _R	Ordering code ¹⁾			
	B37953-	B37956-		
100 nF	-J5104-K62 ♦			
120 nF	-J5124-K62 ♦			
150 nF	-J5154-K62 ♦			
180 nF	-J5184-K62 ♦			
220 nF	-J5224-K62 ♦			
270 nF	-J5274-K62 ♦			
330 nF	-J5334-K62 ♦			
390 nF	-J5394-K62 ♦			
470 nF	-J5474-K62 ♦	-J5474-K62 ♦		
560 nF		-J5564-K62 ♦		
680 nF		-J5684-K62 ♦		
820 nF		-J5824-K62 ♦		
1,0 µF		-J5105-K62 ♦		

Chip thickness: ♦: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:
K = ± 10 %. Example: B37953-J5104-K62
For other available capacitance tolerances see page 27

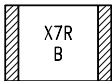


Ordering codes for X7R/B characteristic, 100 Vdc, AgNiSn terminations

Size	0603/1608	0805/2012	1206/3216	1210/3225	
C _R	Ordering code ¹⁾				
	B37931-	B37941-	B37872-	B37950-	
100 pF	-K1101-K60 ○				
120 pF	-K1121-K60 ○				
150 pF	-K1151-k60 ○				
180 pF	-K1181-K60 ○				
220 pF	-K1221-K60 ○				
270 pF	-K1271-K60 ○				
330 pF	-K1331-K60 ○				
390 pF	-K1391-K60 ○				
470 pF	-K1471-K60 ○	-K1471-K60 □			
560 pF	-K1561-K60 ○	-K1561-K60 □			
680 pF	-K1681-K60 ○	-K1681-K60 □			
820 pF	-K1821-K60 ○	-K1821-K60 □			
1,0 nF	-K1102-K60 ○	-K1102-K60 □	-K1102-K60 ○		
1,2 nF	-K1122-K60 ○	-K1122-K60 □	-K1122-K60 ○		
1,5 nF	-K1152-K60 ○	-K1152-K60 □	-K1152-K60 ○		
1,8 nF	-K1182-K60 ○	-K1182-K60 □	-K1182-K60 ○		
2,2 nF	-K1222-K60 ○	-K1222-K60 □	-K1222-K60 ○		
2,7 nF	-K1272-K60 ○	-K1272-K60 □	-K1272-K60 ○		
3,3 nF	-K1332-K60 ○	-K1332-K60 □	-K1332-K60 ○		
3,9 nF	-K1392-K60 ○	-K1392-K60 □	-K1392-K60 ○		
4,7 nF	-K1472-K60 ○	-K1472-K60 □	-K1472-K60 ○		
5,6 nF		-K1562-K60 □	-K1562-K60 ○		
6,8 nF		-K1682-K60 □	-K1682-K60 ○		
8,2 nF		-K1822-K60 □	-K1822-K60 ○		
10 nF		-K1103-K60 □	-K1103-K60 ○	-K1103-K62 ○	
12 nF		-K1123-K60 □	-K1123-K60 ○	-K1123-K62 ○	
15 nF		-K1153-K60 □	-K1153-K60 ○	-K1153-K62 ○	
18 nF			-K1183-K60 ○	-K1183-K62 ○	
22 nF			-K1223-K60 ○	-K1223-K62 ○	
27 nF			-K1273-K60 ○	-K1273-K62 ○	
33 nF			-K1333-K60 ○	-K1333-K62 ○	
39 nF			-K1393-K60 ○	-K1393-K62 ○	
47 nF			-K1473-K60 ○	-K1473-K62 ○	

Chip thickness: □: 0,6 ± 0,1 mm ○: 0,8 ± 0,1 mm ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:
K = ± 10 %. Example: B37931-K1101-K60
For other available capacitance tolerances see page 27

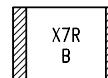


Ordering codes for X7R/B characteristic, 100 Vdc, AgNiSn terminations (cont'd)

Size	0603/1608	0805/2012	1206/3216	1210/3225	
C _R	Ordering code ¹⁾				
	B37931-	B37941-	B37872-	B37950-	
56 nF			-K1563-K62 ◆	-K1563-K62 ○	
68 nF			-K1683-K62 ◆	-K1683-K62 ○	
82 nF			-K1823-K62 ◆	-K1823-K62 ○	
100 nF			-K1104-K62 ◆	-K1104-K62 ○	
120 nF				-K1124-K62 ◆	
150 nF				-K1154-K62 ◆	

Chip thickness: ○: 0,8 ± 0,1 mm ◆: 1,2 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:
K = ± 10 %. Example: B37872-K1563-**K**62
For other available capacitance tolerances see page [27](#)

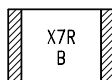


Ordering codes for X7R/B characteristic, 200/500 Vdc, AgNiSn terminations

Size	1206/3216	1206/3216	1210/3225	1210/3225	
V _R	200	500	200	500	
C _R	Ordering code ¹⁾				
	B37872-	B37872-	B37950-	B37950	
470 pF	-K2471-K60 ○	-K3471-K60 ○			
560 pF	-K2561-K60 ○	-K3561-K60 ○			
680 pF	-K2681-K60 ○	-K3681-K60 ○			
820 pF	-K2821-K60 ○	-K3821-K60 ○			
1,0 nF	-K2102-K60 ○	-K3102-K60 ○	-K2102-K62 ○	-K3102-K62 ○	
1,2 nF	-K2122-K60 ○	-K3122-K60 ○	-K2122-K62 ○	-K3122-K62 ○	
1,5 nF	-K2152-K60 ○	-K3152-K60 ○	-K2152-K62 ○	-K3152-K62 ○	
1,8 nF	-K2182-K60 ○	-K3182-K60 ○	-K2182-K62 ○	-K3182-K62 ○	
2,2 nF	-K2222-K60 ○	-K3222-K60 ○	-K2222-K62 ○	-K3222-K62 ○	
2,7 nF	-K2272-K60 ○	-K3272-K62 ◆	-K2272-K62 ○	-K3272-K62 ○	
3,3 nF	-K2332-K60 ○	-K3332-K62 ◆	-K2332-K62 ○	-K3332-K62 ○	
3,9 nF	-K2392-K60 ○	-K3392-K62 ◆	-K2392-K62 ○	-K3392-K62 ◆	
4,7 nF	-K2472-K60 ○	-K3472-K62 ◆	-K2472-K62 ○	-K3472-K62 ◆	
5,6 nF	-K2562-K60 ○		-K2562-K62 ○	-K3562-K62 ◆	
6,8 nF	-K2682-K60 ○		-K2682-K62 ○	-K3682-K62 ◆	
8,2 nF	-K2822-K60 ○		-K2822-K62 ○	-K3822-K62 ●	
10 nF	-K2103-K60 ○		-K2103-K62 ○	-K3103-K62 ●	
12 nF	-K2123-K62 ◆		-K2123-K62 ○		
15 nF	-K2153-K62 ◆		-K2153-K62 ○		
18 nF	-K2183-K62 ◆		-K2183-K62 ○		
22 nF	-K2223-K62 ◆		-K2223-K62 ◆		
27 nF			-K2273-K62 ◆		
33 nF			-K2333-K62 ◆		
39 nF			-K2393-K62 ●		
47 nF			-K2473-K62 ●		

Chip thickness: ○: 0,8 ± 0,1 mm ◆: 1,2 ± 0,1 mm ●: 1,6 ± 0,1 mm

1) The tables contain the ordering codes for the standard capacitance tolerance:
K = ± 10 %. Example: B37872-K2471-K60
For other available capacitance tolerances see page 27



Ordering codes for X7R/B characteristic, 25 V/50 Vdc, AgNiSn terminations, bulk case packing

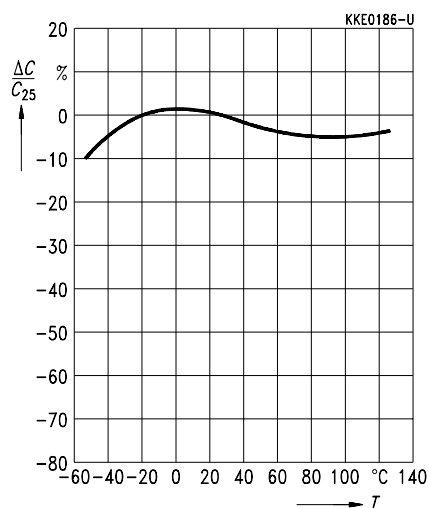
Size	0603	0603	0805	1206	
V _R	25 V	50 V	50 V	50 V	
C _R	Ordering code ¹⁾				
	B37931-	B37931-	B37941-	B37872-	
220 pF		-K5221-K01 ○			
270 pF		-K5271-K01 ○			
330 pF		-K5331-K01 ○			
390 pF		-K5391-K01 ○			
470 pF		-K5471-K01 ○	-K5471-K01 □		
560 pF		-K5561-K01 ○	-K5561-K01 □		
680 pF		-K5681-K01 ○	-K5681-K01 □		
820 pF		-K5821-K01 ○	-K5821-K01 □		
1,0 nF		-K5102-K01 ○	-K5102-K01 □	-K5102-K01 □	
1,2 nF		-K5122-K01 ○	-K5122-K01 □	-K5122-K01 □	
1,5 nF		-K5152-K01 ○	-K5152-K01 □	-K5152-K01 □	
1,8 nF		-K5182-K01 ○	-K5182-K01 □	-K5182-K01 □	
2,2 nF		-K5222-K01 ○	-K5222-K01 □	-K5222-K01 □	
2,7 nF		-K5272-K01 ○	-K5272-K01 □	-K5272-K01 □	
3,3 nF		-K5332-K01 ○	-K5332-K01 □	-K5332-K01 □	
3,9 nF		-K5392-K01 ○	-K5392-K01 □	-K5392-K01 □	
4,7 nF	-K0472-K01 ○	-K5472-K01 ○	-K5472-K01 □	-K5472-K01 □	
5,6 nF	-K0562-K01 ○	-K5562-K01 ○	-K5562-K01 □	-K5562-K01 □	
6,8 nF	-K0682-K01 ○	-K5682-K01 ○	-K5682-K01 □	-K5682-K01 □	
8,2 nF	-K0822-K01 ○	-K5822-K01 ○	-K5822-K01 □	-K5822-K01 □	
10 nF	-K0103-K01 ○	-K5103-K01 ○	-K5103-K01 □	-K5103-K01 □	
12 nF	-K0123-K01 ○		-K5123-K01 □	-K5123-K01 □	
15 nF	-K0153-K01 ○		-K5153-K01 □	-K5153-K01 □	
18 nF	-K0183-K01 ○		-K5183-K01 □	-K5183-K01 □	
22 nF	-K0223-K01 ○			-K5223-K01 □	
27 nF				-K5273-K01 □	
33 nF				-K5333-K01 □	
39 nF				-K5393-K01 □	
47 nF				-K5473-K01 □	

Chip thickness: □: 0,6 ± 0,1 mm ○: 0,8 ± 0,1 mm

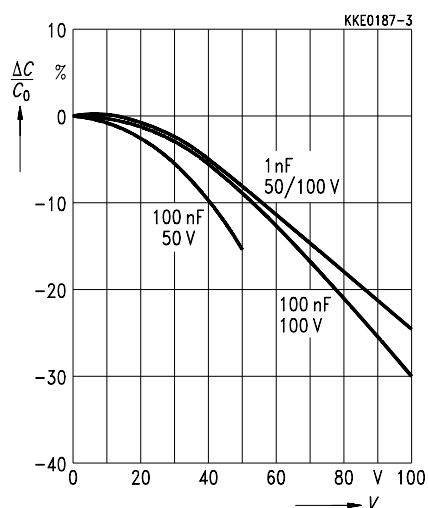
1) The tables contain the ordering codes for the standard capacitance tolerance:
K = ± 10 %. Example: B37931-K0472-K01
For other available capacitance tolerances see page 27

Characteristics

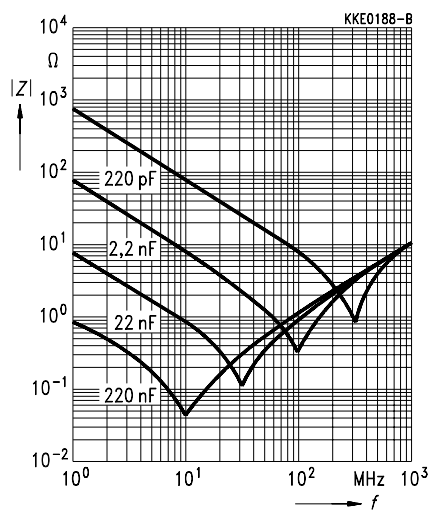
Capacitance change $\Delta C/C_{25}$ versus temperature T



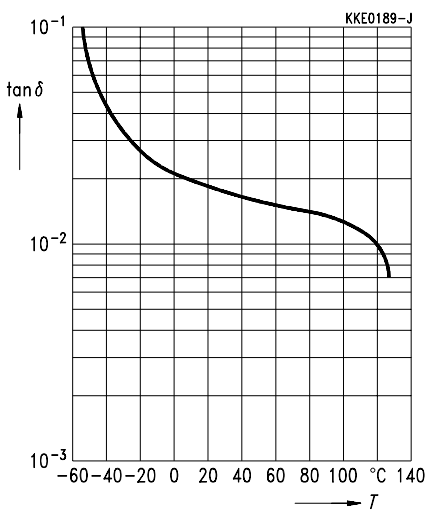
Capacitance change $\Delta C/C_0$ versus superimposed dc voltage V

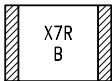


Impedance $|Z|$ versus frequency f

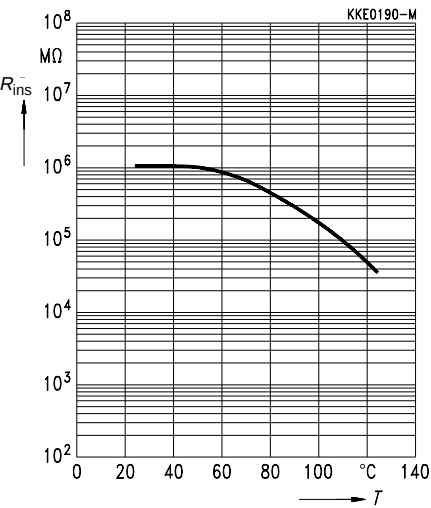


Dissipation factor $\tan \delta$ versus temperature T

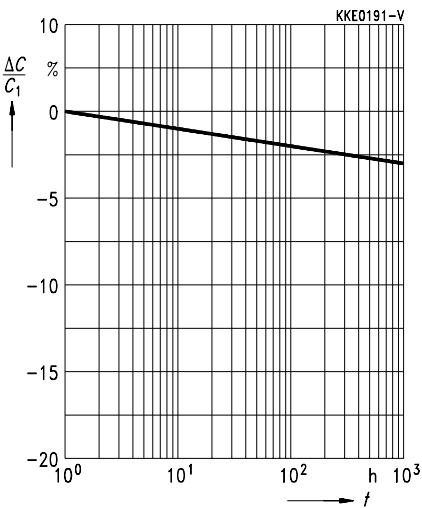




Insulation resistance R_{ins} versus temperature T



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



Multilayer Ceramic Capacitors

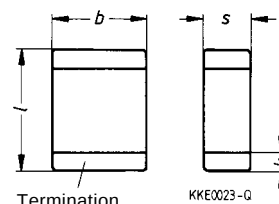


Chip capacitors (X7R)

Tape packaging in acc. with IEC 286-3:
 Sizes 0603 to 1210 in 8-mm tape
 (cardboard tape = code "60", blister tape = code "62")
 Silver/nickel/tin termination

Sizes 1812 and 2220 in 12-mm blister tape
 Silver palladium termination

Ceramic material X7R
 Rated voltage V_R 25 Vdc, 50 Vdc
 IEC climatic category 55/125/56
 Max. rel. capacitance change $\Delta C/C_{25}$ $\pm 15\%$
 Dissipation factor $\tan \delta$ $< 25 \cdot 10^{-3}$
 Insulation resistance R_{is} (at 25 °C) $> 10^5 \text{ M}\Omega$ or
 Time constant τ ($C_R \cdot R_{is}$; at 25 °C) $> 1000 \text{ s}$
 (whichever is lower)

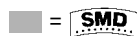


Dimensions in mm

Size	l	b	s	k 1)
0603	$1,6 \pm 0,15$	$0,8 \pm 0,1$	$0,8 \pm 0,1$	0,3
0805	$2,0 \pm 0,2$	$1,25 \pm 0,15$	1,3 max.	0,5
1206	$3,2 \pm 0,2$	$1,6 \pm 0,15$	1,3 max.	0,5
1210	$3,2 \pm 0,3$	$2,5 \pm 0,3$	1,3 max.	0,5
1812	$4,5 \pm 0,3$	$3,2 \pm 0,3$	1,3 max.	0,5
2220	$5,7 \pm 0,4$	$5,0 \pm 0,4$	1,3 max.	0,5

C_R	Ordering code	Min. qty.	Max. qty.					
nF								
B37941; $V_R = 25 \text{ Vdc}$		Size 0805		Capacitance tolerance $\pm 10\%$				
68	B37941-K0683-K60	8000	40000					
100	B37941-K0104-K62	6000	30000					
B37872; $V_R = 25 \text{ Vdc}$		Size 1206		Capacitance tolerance $\pm 10\%$				
220	B37872-K0224-K62	6000	30000					

C_R	Ordering code	Min. qty.	Max. qty.					
nF								
B37931; $V_R = 50 \text{ Vdc}$		Size 0603		Capacitance tolerance $\pm 10\%$				
220 pF	B37931-K5221-K60	8000	40000					
330 pF	B37931-K5331-K60	8000	40000					
470 pF	B37931-K5471-K60	8000	40000					
680 pF	B37931-K5681-K60	8000	40000					
1,0	B37931-K5102-K60	8000	40000					
1,5	B37931-K5152-K60	8000	40000					
2,2	B37931-K5222-K60	8000	40000					
3,3	B37931-K5332-K60	8000	40000					
4,7	B37931-K5472-K60	8000	40000					
6,8	B37931-K5682-K60	8000	40000					
10	B37931-K5103-K60	8000	40000					



1) Tolerance as per CECC 32 101-801