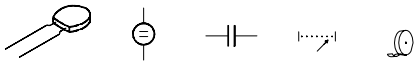
Ordering code system



B37979N 1 100 K 0 54

Packaging

51 ≙ cardboard tape, reel packing (360-mm reel)
54 ≙ Ammo packing (standard)
00 ≙ bulk

Internal coding

Capacitance tolerance

J ≙ ± 5 % (standard for C0G)
K ≙ ± 10 % (standard for X7R)
M ≙ ± 20 % (standard for Z5U (Y5U))

Capacitance, coded (example)
101 ≙ 10 · 10^1 pF = 100 pF
222 ≙ 22 · 10^2 pF = 2,2 nF
473 ≙ 47 · 10^3 pF = 47 nF

Rated voltage

Rated voltage [VDC]	50	100
Code	5	1

Type and size

With radial leads EIA standard	Temperature characteristic C0G	X7R	Z5U (Y5U)
Lead spacing 2,5 mm			
5,5 × 5,0 × 2,5	B37979N	B37981M	B37982N
6,5 × 5,0 × 2,5	B37986N	B37987M	B37988N
Lead spacing 5,0 mm			
5,5 × 5,0 × 2,5	B37979G	B37981F	B37982G
6,5 × 5,0 × 2,5	B37986G	B37987F	B37988G
9,0 × 7,5 × 2,5	—	B37984M	B37985N

Features

- Extremely high volumetric efficiency
- Non-linear capacitance change
- Y5U characteristic is also fulfilled

Applications

- Blocking
- Coupling
- Decoupling
- Interference suppression

Termination

- Parallel wire leads, iron-nickel, tinned
- Crimped leads
- Non-standard lead lengths on request

Marking

- Rated capacitance, tolerance, manufacturer's logo, ceramic material, voltage

Delivery mode

- Cardboard tape in Ammo packing (standard)
- Cardboard tape on 360-mm reel or bulk on request

Electrical data

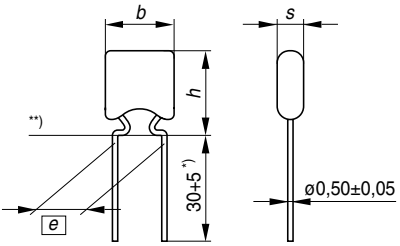
Temperature characteristic		Z5U (Y5U) [1]	
Climatic category (IEC 60068-1)		30/85/56	
Standard		EIA	
Dielectric		Class 2	
Rated voltage [2]	V_R	50	VDC
Test voltage	V_{test}	$2{,}5 \cdot V_R$/5 s	VDC
Capacitance range / E series	C_R	10 nF … 4,7 µF (E6)	
Max. relative capacitance change	$\Delta C/C$	+22/−56	%
Dissipation factor (limit value)	tan δ	$< 50 \cdot 10^{-3}$	
Insulation resistance [3] at +25 °C	R_{ins}	$> 10^4$	MΩ
Time constant [3] at +25 °C	τ	> 500	s
Operating temperature range	T_{op}	−30 … +85	°C
Ageing [4]		yes	

1) Y5U specification is also fulfilled.
2) Note: No operation on AC line.
3) For C_R > 10 nF the time constant $\tau = C \cdot R_{ins}$ is given.
4) Refer to chapter "General Technical Information", page 197.

Capacitance tolerances

Code letter	M
Tolerance	±20%

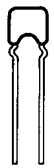
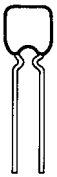
Dimensional drawing

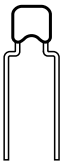
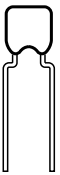


*) Lead length for bulk packaging
**) Seating plane in acc. with IEC 600717

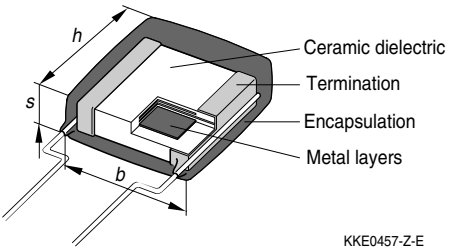
KKE0456-R-E

Dimensions (mm)

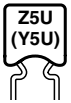
	Lead spacing e = 2,5 +0,6/−0,1 mm	
Type	B37982N	B37988N
		
h_{max}	5,5	6,5
b_{max}	5,0	5,0
s_{max}	2,5	2,5

	Lead spacing e = 5,0 +0,6/−0,1 mm		
Type	B37982G	B37988G	B37985N
			
h_{max}	5,5	6,5	9,0
b_{max}	5,0	5,0	7,5
s_{max}	2,5	2,5	2,5

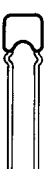
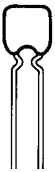
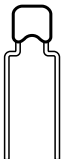
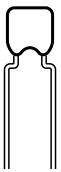
Termination



KKE0457-Z-E



Product range leaded capacitors

	Z5U (Y5U)									
Lead spacing	2,5 mm				5,0 mm					
										
$h \times b \times s$ (mm)	5,5 × 5,0 × 2,5		6,5 × 5,0 × 2,5		5,5 × 5,0 × 2,5		6,5 × 5,0 × 2,5		9,0 × 7,5 × 2,5	
Type	B37982N		B37988N		B37982G		B37988G		B37985N	
C_R \ V_R (VDC)	50		50		50		50		50	
10 nF	■				■					
15 nF	■				■					
22 nF	■				■					
33 nF	■				■					
47 nF	■				■					
68 nF	■				■					
100 nF	■				■					
150 nF	■				■					
220 nF			■				■			
330 nF			■				■			
470 nF			■				■			
680 nF			■				■			
1,0 µF			■				■			
1,5 µF									■	
2,2 µF									■	
3,3 µF									■	
4,7 µF									■	

Ordering codes and packing for Z5U (Y5U), 50 VDC, lead spacing 2,5 mm

C_R	Ordering code[1)]	Ammo packing ** ≙ 54 pcs	Reel packing ** ≙ 51 pcs/reel	Bulk ** ≙ 00 pcs
B37982, 50 VDC, 5,5 × 5,0 × 2,5 mm				
10 nF	B37982N5103M0**	2500	2500	2000
15 nF	B37982N5153M0**	2500	2500	2000
22 nF	B37982N5223M0**	2500	2500	2000
33 nF	B37982N5333M0**	2500	2500	2000
47 nF	B37982N5473M0**	2500	2500	2000
68 nF	B37982N5683M0**	2500	2500	2000
100 nF	B37982N5104M0**	2500	2500	2000
150 nF	B37982N5154M0**	2500	2500	2000
B37988, 50 VDC, 6,5 × 5,0 × 2,5 mm				
220 nF	B37988N5224M0**	2500	2500	2000
330 nF	B37988N5334M0**	2500	2500	2000
470 nF	B37988N5474M0**	2500	2500	2000
680 nF	B37988N5684M0**	2500	2500	2000
1,0 µF	B37988N5105M0**	2500	2500	2000

1) The table contains the ordering codes for the standard capacitance tolerance.
For other available capacitance tolerances see page 174.

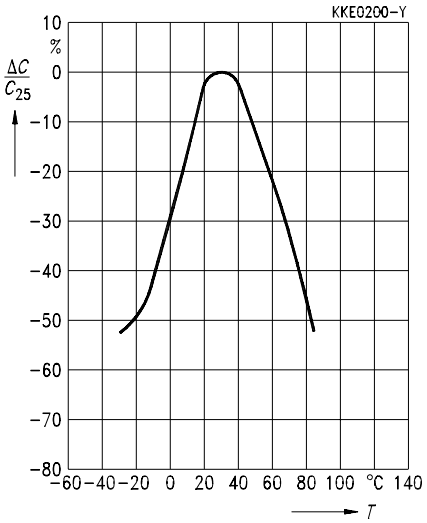
Ordering codes and packing for Z5U (Y5U), 50 VDC, lead spacing 5,0 mm

C_R	Ordering code[1)]	Ammo packing ** ≙ 54 pcs	Reel packing ** ≙ 51 pcs/reel	Bulk ** ≙ 00 pcs
B37982, 50 VDC, 5,5 × 5,0 × 2,5 mm				
10 nF	B37982G5103M0**	2500	2500	2000
15 nF	B37982G5153M0**	2500	2500	2000
22 nF	B37982G5223M0**	2500	2500	2000
33 nF	B37982G5333M0**	2500	2500	2000
47 nF	B37982G5473M0**	2500	2500	2000
68 nF	B37982G5683M0**	2500	2500	2000
100 nF	B37982G5104M0**	2500	2500	2000
150 nF	B37982G5154M0**	2500	2500	2000
B37988, 50 VDC, 6,5 × 5,0 × 2,5 mm				
220 nF	B37988G5224M0**	2500	2500	2000
330 nF	B37988G5334M0**	2500	2500	2000
470 nF	B37988G5474M0**	2500	2500	2000
680 nF	B37988G5684M0**	2500	2500	2000
1,0 µF	B37988G5105M0**	2500	2500	2000
B37985, 50 VDC, 9,0 × 7,5 × 2,5 mm				
1,5 µF	B37985N5155M0**	2000	2000	1000
2,2 µF	B37985N5225M0**	2000	2000	1000
3,3 µF	B37985N5335M0**	2000	2000	1000
4,7 µF	B37985N5475M0**	2000	2000	1000

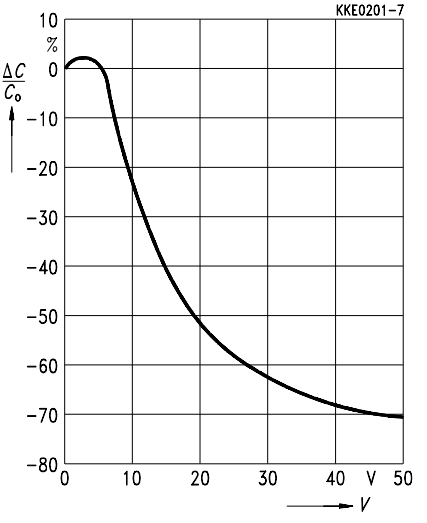
1) The table contains the ordering codes for the standard capacitance tolerance.
For other available capacitance tolerances see page 174.

Typical characteristics

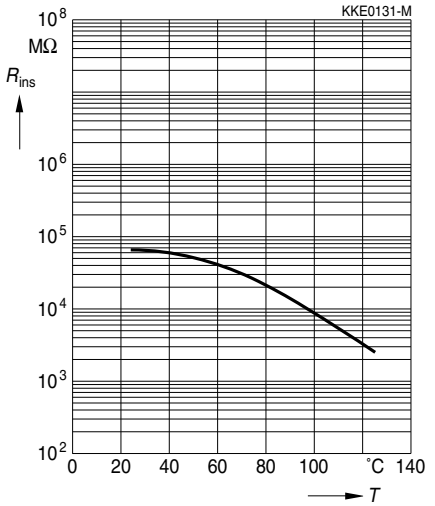
Capacitance change $\Delta C/C_{25}$ versus temperature T



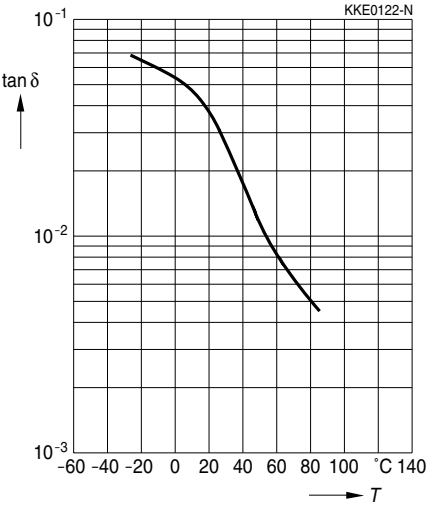
Capacitance change $\Delta C/C_0$ versus superimposed DC voltage V



Insulation resistance R_{ins} versus temperature T

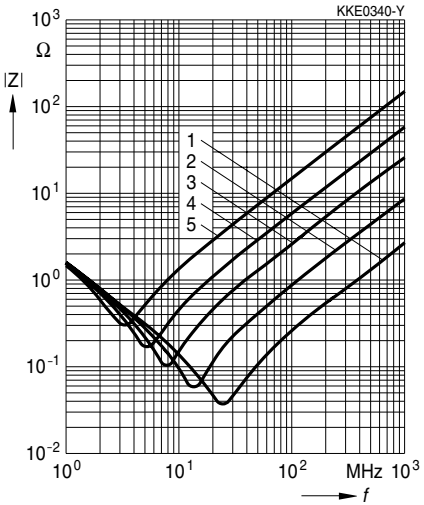


Dissipation factor tan δ versus temperature T

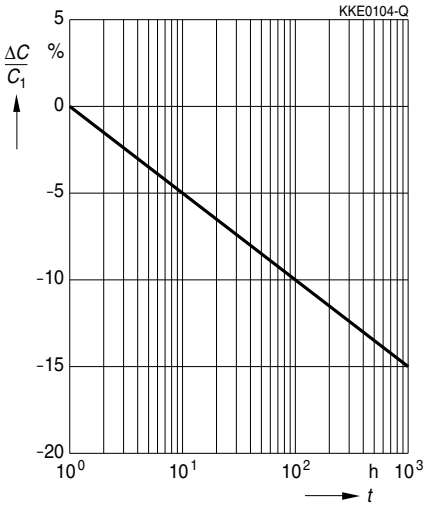


Typical characteristics

Impedance $|Z|$ versus frequency f



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



1: Chip
2: 1,5 mm lead length
3: 5,0 mm lead length
4: 10,0 mm lead length
5: 20,0 mm lead length

Herausgegeben von EPCOS AG
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