

Multilayer Leaded Capacitors, EIA Standard

C0G/NP0

Features

- Good thermal stability
- High insulation resistance
- Low dissipation factor
- Low inductance

Applications

- Resonant circuits
- Filter circuits
- Timing elements
- Coupling and filtering, particularly in RF circuits

Terminals

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

Marking

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

Packing

Optionally	Last 2 digits of ordering code
Tape & reel (2500 pcs)	51
AMMO pack (2500 pcs)	54
Bulk	00

Standard packing in bold print

Maximum ratings

- Climatic category in accordance with IEC 60068-1: 55/125/56

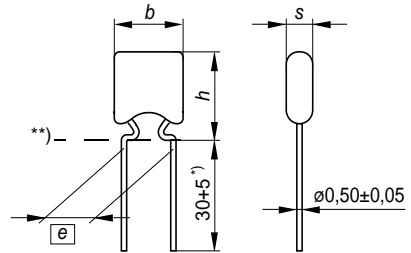
Available capacitance tolerances

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

Standard tolerance in bold print

Rated voltage values



$V_R = 50\text{ V}, 100\text{ V}$





) Lead length for bulk packaging
 **) Seating plane in acc. with IEC 600717 KKE0456-R

Dimensions (mm)

Lead spacing $[e] = 2,5 \pm 0,1$ mm

h_{max}	5,5	6,5
b_{max}	5,0	5,0
s_{max}	2,5	2,5
		
Type	B37979N	B37986N

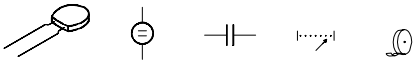
Lead spacing $[e] = 5,0 \pm 0,1$ mm

h_{max}	5,5	6,5
b_{max}	5,0	5,0
s_{max}	2,5	2,5
		
Type	B37979G	B37986G



Multilayer Leaded Capacitors, EIA Standard
COG/NPO

Ordering code system



B37979N 1 100 K 0 54

Packaging (standard packing bold)

51 = reel dia. 360 mm
54 = Ammo pack
 00 = bulk

Internal Code

Capacitance tolerance
 (tolerance code in acc. with IEC 62, standard values bold)

COG / NPO

J = ± 5 %
K = ± 10 %

Capacitance, coded 100 = 10 pF 102 = 1 nF 104 = 100 nF 223 = 22 nF
 101 = 100 pF 103 = 10 nF 105 = 1 μF 474 = 470 nF

Rated voltage 5 = 50 Vdc, 1 = 100 Vdc

Type and size	
With radial leads EIA standard	Temperature characteristics COG / NPO
Lead spacing 2,5 mm 5,5 × 5,0 × 2,5 6,5 × 5,0 × 2,5	B37979N B37986N
Lead spacing 5,0 mm 5,5 × 5,0 × 2,5 6,5 × 5,0 × 2,5	B37979G B37986G


Electrical characteristics

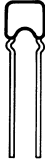
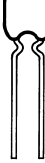


Temperature characteristic Standard	C0G/NP0 EIA
Dielectric	Class 1
Rated voltage V_R Vdc ¹⁾	50/100
Climatic category (IEC 68-1)	55/125/56
Temperature range	- 55 ... + 125 °C
Available capacitance values C_R E series	10 pF ... 10 nF E12
Capacitance tolerance (standard in bold print)	± 5 % ± 10 %
Temperature coefficient (tolerance)	$0 \pm 30 \cdot 10^{-6}/K$
Voltage test	$2,5 \cdot V_R/5$ s
Dissipation factor $\tan \delta$ (limit value)	$< 1,0 \cdot 10^{-3}$
Insulation resistance ²⁾ at 25 °C 125 °C	$> 10^5$ M Ω $> 10^4$ M Ω
Time constant τ ²⁾ at 25 °C 125 °C	> 1000 s > 100 s

1) **Note:** No operation at AC lines.

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



Product range

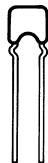



		C0G/NP0							
Lead spacing		2,5 mm				5,0 mm			
									
$h \times b \times s$ (mm)		5,5 × 5,0 × 2,5		6,5 × 5,0 × 2,5		5,5 × 5,0 × 2,5		6,5 × 5,0 × 2,5	
Type		B37979N		B37986N		B37979G		B37986G	
V_R (Vdc)		50	100	50	100	50	100	50	100
10 pF									
12 pF									
15 pF									
18 pF									
22 pF									
27 pF									
33 pF									
39 pF									
47 pF									
56 pF									
68 pF									
82 pF									
100 pF									
120 pF									
150 pF									
180 pF									
220 pF									
270 pF									
330 pF									
390 pF									
470 pF									
560 pF									
680 pF									
820 pF									

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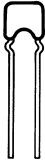
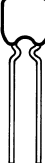




Product range

C0G/NP0								
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	
Type	B37979N		B37986N		B37979G		B37986G	
V_R (Vdc)	50	100	50	100	50	100	50	100
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								
10 nF								

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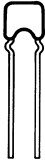
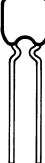


Ordering codes for C0G/NP0, 50 Vdc

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
C_R	Ordering code ¹⁾			
	B37979	B37986	B37979	B37986
100 pF	N5101K054		G5101K054	
120 pF	N5121K054		G5121K054	
150 pF	N5151K054		G5151K054	
180 pF	N5181K054		G5181K054	
220 pF	N5221K054		G5221K054	
270 pF	N5271K054		G5271K054	
330 pF	N5331K054		G5331K054	
390 pF	N5391K054		G5391K054	
470 pF	N5471K054		G5471K054	
560 pF	N5561K054		G5561K054	
680 pF	N5681K054		G5681K054	
820 pF	N5821K054		G5821K054	
1,0 nF	N5102K054		G5102K054	
1,2 nF	N5122K054		G5122K054	
1,5 nF	N5152K054		G5152K054	
1,8 nF	N5182K054		G5182K054	
2,2 nF	N5222K054		G5222K054	
2,7 nF		N5272K054		G5272K054
3,3 nF		N5332K054		G5332K054
3,9 nF		N5392K054		G5392K054
4,7 nF		N5472K054		G5472K054
5,6 nF		N5562K054		G5562K054
6,8 nF		N5682K054		G5682K054
8,2 nF		N5822K054		G5822K054
10 nF		N5103K054		G5103K054

1) The tables contain the ordering codes for
 – standard capacitance tolerance: **K** = ± 10 %. Example: B37979K5101K054
 Other available capacitance tolerances: see page 1
 – standard packing: **54** = **AMMO pack**. Example: B37979K5101K054
 Other packing modes: see page 1

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C0G/NP0

Ordering codes for C0G/NP0, 100 Vdc

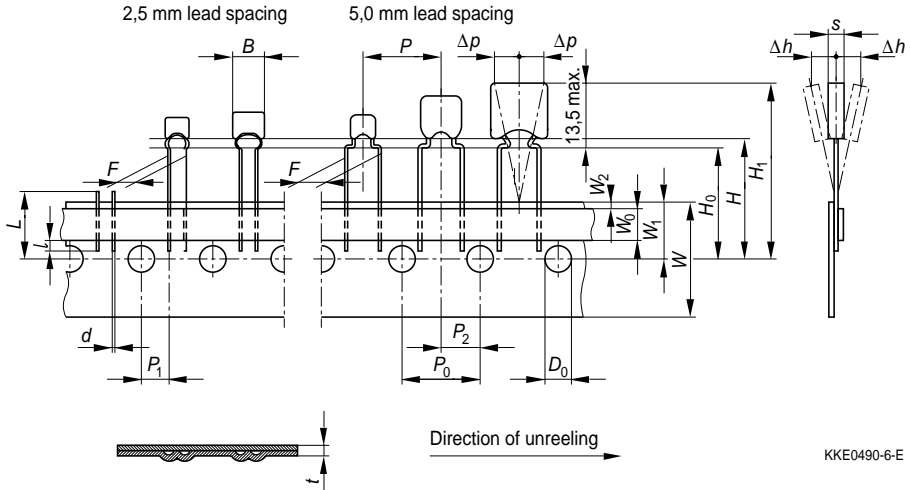
Lead spacing	2,5 mm		5,0 mm	
				
$h \times b \times s$ (mm)	5,5 × 5,0 × 2,5	6,5 × 5,0 × 2,5	5,5 × 5,0 × 2,5	6,5 × 5,0 × 2,5
C_R	Ordering code ¹⁾			
	B37979	B37986	B37979	B37986
10 pF	N1100K054		G1100K054	
12 pF	N1120K054		G1120K054	
15 pF	N1150K054		G1150K054	
18 pF	N1180K054		G1180K054	
22 pF	N1220K054		G1220K054	
27 pF	N1270K054		G1270K054	
33 pF	N1330K054		G1330K054	
39 pF	N1390K054		G1390K054	
47 pF	N1470K054		G1470K054	
56 pF	N1560K054		G1560K054	
68 pF	N1680K054		G1680K054	
82 pF	N1820K054		G1820K054	
100 pF	N1101K054		G1101K054	
120 pF	N1121K054		G1121K054	
150 pF	N1151K054		G1151K054	
180 pF	N1181K054		G1181K054	
220 pF	N1221K054		G1221K054	
270 pF	N1271K054		G1271K054	
330 pF	N1331K054		G1331K054	
390 pF	N1391K054		G1391K054	
470 pF	N1471K054		G1471K054	
560 pF	N1561K054		G1561K054	
680 pF	N1681K054		G1681K054	
820 pF	N1821K054		G1821K054	
1,0 nF	N1102K054		G1102K054	
1,2 nF		N1122K054		G1122K054
1,5 nF		N1152K054		G1152K054
1,8 nF		N1182K054		G1182K054
2,2 nF		N1222K054		G1222K054

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 – standard capacitance tolerance: **K** = ± 10 %. Example: B37979K5101K054
 Other available capacitance tolerances: see page 1
 – standard packing: **54** = **AMMO pack**. Example: B37979K5101K054. Other packing modes: see page 1

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Taping and Packing

1 Taping of leaded capacitors (in accordance with IEC 60286-2)



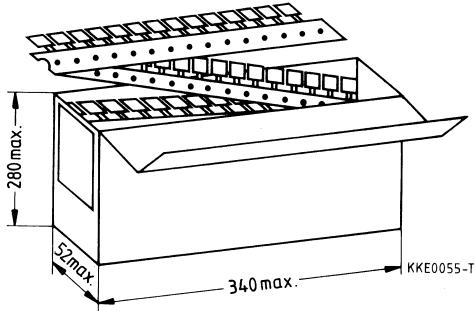
Dimensions(mm)	Lead spacing		Tolerance	Comments
	2,5 mm	5,0 mm		
B	11,0	11,0	max.	
s	2,5	2,5	max.	
d	0,55	0,55	± 0,05	
P	12,7	12,7	± 1,0	
P ₀	12,7	12,7	± 0,2	± 1 mm / 20 hole spaces
P ₁	5,1	3,85	± 0,7	
P ₂	6,35	6,35	± 1,3	
F	2,5	5,0	+ 0,6/ - 0,1	
Δh	0	0	± 2,0	Measured at top of component body
Δp	0	0	± 1,3	
W	18,0	18,0	± 0,5	
W ₀	5,5	5,5	min.	Peel force ≥ 5 N
W ₁	9,0	9,0	± 0,5	
W ₂	1,0	1,0	- 0,5	
H	18,0	18,0	+ 2,0/ - 0	
H ₀	16,0	16,0	± 0,5	
H ₁	32,2	32,2	max.	
D ₀	4,0	4,0	± 0,2	
t	0,7	0,7	+ 0,2	
L	11,0	11,0	max.	
l	1,0	1,0	max.	

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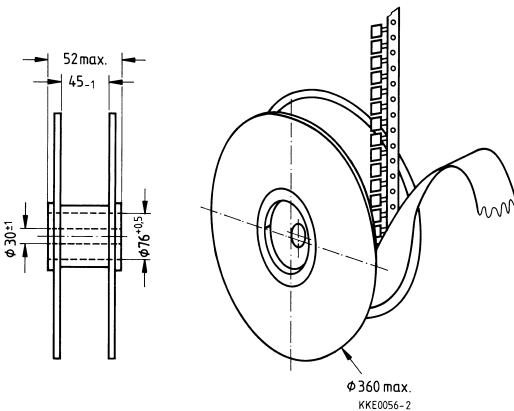
Taping and Packing

2 Types of packing

Ammo packing (2500 pcs/box)



Reel packing (2500 pcs/reel)



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