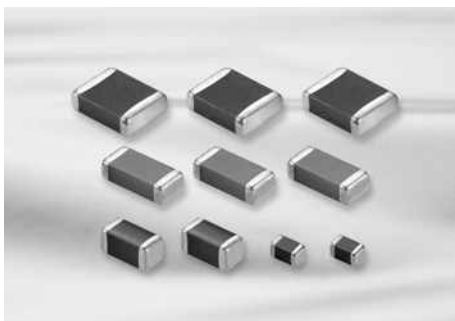


# General Capacitors



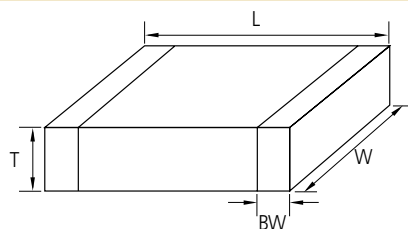
## Feature

- Wide selection of size : from 0402 to 2220
- Highly reliable tolerance and high speed automatic chip placement on PCBs
- Wide capacitance range
- Wide temperature compensation and voltage range : from COG to Y5V and from 6.3V to 50V
- Highly reliable performance
- Highly resistant termination metal
- Tape & reel for surface mount assembly

## Application

- HHP, DSC, DVC, LCD, TV, Car Navigation, Memory Module, PDA, Game Machine
- Tuner (Product code C is suitable.)
- ※ Medical, Aviation, Automobile device should be following a special specification.

## Structure and Dimensions



Size Code	EIA Code	Dimension(mm)				
		L	W	T	Thickness Code	BW
05	0402	1.00±0.05	0.50±0.05	0.50±0.05	5	0.2+0.15/-0.1
10	0603	1.60±0.10	0.80±0.10	0.50+0.0/-0.1	5	0.30±0.20
				0.80±0.10	8	
21	0805	2.00±0.10	1.25±0.10	0.85±0.10	C	0.5+0.2/-0.3
				1.25±0.10	F	
				1.25±0.15	Q	
31	1206	3.20±0.20	1.60±0.20	1.25±0.20	Y	0.50±0.30
				0.60±0.10	6	
				0.85±0.15	C	
32	1210	3.20±0.30	2.50±0.20	0.85±0.10(+)	P	0.60±0.30
				1.15±0.10	F	
				1.60±0.20	H	
				1.60±0.20	H	
42	1808	4.50±0.40	2.00±0.20	0.85±0.15	C	0.80±0.30
				0.85±0.10(+)	C	
				0.90±0.10	9	
				1.60±0.20	H	
				1.80±0.20	U	
43	1812	4.50±0.40	3.20±0.30	2.00±0.20	I	0.80±0.30
				2.50±0.20	J	
55	2220	5.70±0.40	5.00±0.40	2.50±0.30	v	1.00±0.30

■ \* Mark is only applicable to "L" code , 12<sup>th</sup> code in part number.

### General Capacitors Table (COG)

Size(mm)	Vr(V)	Capacitance																					
		pF										nF											
		0.5	1	10	22	47	100	220	330	470	560	1	2.2	3.3	4.7	6.8	10	22	27	33	47	68	100
0402(1005)	25	[Bar chart showing capacitance range for 0402(1005) at 25V]																					
	50	[Bar chart showing capacitance range for 0402(1005) at 50V]																					
0603(1608)	25	[Bar chart showing capacitance range for 0603(1608) at 25V]																					
	50	[Bar chart showing capacitance range for 0603(1608) at 50V]																					
0805(2012)	25	[Bar chart showing capacitance range for 0805(2012) at 25V]																					
	50	[Bar chart showing capacitance range for 0805(2012) at 50V]																					
1206(3216)	16	[Bar chart showing capacitance range for 1206(3216) at 16V]																					
	25	[Bar chart showing capacitance range for 1206(3216) at 25V]																					
	50	[Bar chart showing capacitance range for 1206(3216) at 50V]																					
1210(3225)	50	[Bar chart showing capacitance range for 1210(3225) at 50V]																					
1812(4532)	25	[Bar chart showing capacitance range for 1812(4532) at 25V]																					
	50	[Bar chart showing capacitance range for 1812(4532) at 50V]																					
2220(5750)	50	[Bar chart showing capacitance range for 2220(5750) at 50V]										43nF [Bar chart showing capacitance range for 2220(5750) at 50V]											

Part Numbering System

General Capacitors

High Capacitance Capacitors

Super Small Size Capacitors

Medium-High Voltage Capacitors

Array Type Capacitors

Low ESL Capacitors

Reliability Test Condition

Premium Capacitors for Automotive Applications

Packaging Specification

Application Manual for Surface Mounting



**General Capacitors Table\_Low Profile (X5R)**

Size(mm)	Tmax (mm)	Vr(V)	Capacitance (uF)						
			1	2.2	4.7	10	22	33	47
0402(1005)	0.3	6.3	X6S						
		10							
		16							
0603(1608)	0.5	6.3							
		10							
		16							
		25							
0805(2012)	0.7	10							
		16							
		25							
	0.95	4						(Tmax=1.0)	
		6.3						(Tmax=1.0)	
10									
16									
25					X6S				
1206(3216)	0.7	10							
	0.95	6.3							
		10							
		16							
		25			X6S				
		50		(Tmax=1.0)	(Tmax=1.0)				
1210(3225)	0.95	16							
	2.0	25							
		35							
		50							

- Part Numbering System
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## General Capacitors Table (X7R)

Size(mm)	Vr(V)	Capacitance (uF)									
		0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
0402(1005)	6.3	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	10	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	16	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
0603(1608)	6.3	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	10	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	16	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	25	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	50	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
0805(2012)	6.3	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	10	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	16	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	25	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	35	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	50	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
1206(3216)	6.3	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	10	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	16	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	25	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	35	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	50	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
1210(3225)	6.3	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	10	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	16	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	25	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
	50	0.1	0.22	0.47	1	2.2	4.7	10	22	47	100

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- Premium Capacitors for Automotive Applications
- Packaging Specification
- Application Manual for Surface Mounting



**Product Lineup (General Capacitors-C0G)**

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
1	CL05C0R5CB5NNN □	1.00×0.50	0.5pF	50	±0.25pF	0.55
2	CL05CR75CB5NNN □		0.75pF	50	±0.25pF	0.55
3	CL05C010CB5NNN □		1.0pF	50	±0.25pF	0.55
4	CL05C1R2CB5NNN □		1.2pF	50	±0.25pF	0.55
5	CL05C1R5CB5NNN □		1.5pF	50	±0.25pF	0.55
6	CL05C1R8CB5NNN □		1.8pF	50	±0.25pF	0.55
7	CL05C020CB5NNN □		2.0pF	50	±0.25pF	0.55
8	CL05C2R2CB5NNN □		2.2pF	50	±0.25pF	0.55
9	CL05C2R4CB5NNN □		2.4pF	50	±0.25pF	0.55
10	CL05C2R5CB5NNN □		2.5pF	50	±0.25pF	0.55
11	CL05C2R7CB5NNN □		2.7pF	50	±0.25pF	0.55
12	CL05C030CB5NNN □		3.0pF	50	±0.25pF	0.55
13	CL05C3R3CB5NNN □		3.3pF	50	±0.25pF	0.55
14	CL05C3R5CB5NNN □		3.5pF	50	±0.25pF	0.55
15	CL05C3R6CB5NNN □		3.6pF	50	±0.25pF	0.55
16	CL05C3R9CB5NNN □		3.9pF	50	±0.25pF	0.55
17	CL05C040CB5NNN □		4.0pF	50	±0.25pF	0.55
18	CL05C4R3CB5NNN □		4.3pF	50	±0.25pF	0.55
19	CL05C4R7CB5NNN □		4.7pF	50	±0.25pF	0.55
20	CL05C050DB5NNN □		5.0pF	50	±0.5pF	0.55
21	CL05C5R6DB5NNN □		5.6pF	50	±0.5pF	0.55
22	CL05C060DB5NNN □		6.0pF	50	±0.5pF	0.55
23	CL05C6R2DB5NNN □		6.2pF	50	±0.5pF	0.55
24	CL05C6R8DB5NNN □		6.8pF	50	±0.5pF	0.55
25	CL05C070DB5NNN □		7.0pF	50	±0.5pF	0.55
26	CL05C080DB5NNN □		8.0pF	50	±0.5pF	0.55
27	CL05C8R2DB5NNN □		8.2pF	50	±0.5pF	0.55
28	CL05C090DB5NNN □		9.0pF	50	±0.5pF	0.55
29	CL05C9R1DB5NNN □		9.1pF	50	±0.5pF	0.55
30	CL05C100JB5NNN □		10pF	50	±5%	0.55
31	CL05C110JB5NNN □		11pF	50	±5%	0.55
32	CL05C120JB5NNN □		12pF	50	±5%	0.55
33	CL05C130JB5NNN □		13pF	50	±5%	0.55
34	CL05C150JB5NNN □		15pF	50	±5%	0.55
35	CL05C160JB5NNN □		16pF	50	±5%	0.55
36	CL05C180JB5NNN □		18pF	50	±5%	0.55
37	CL05C200JB5NNN □		20pF	50	±5%	0.55
38	CL05C220JA5NNN □		22pF	25	±5%	0.55
39	CL05C220JB5NNN □		22pF	50	±5%	0.55
40	CL05C240JB5NNN □		24pF	50	±5%	0.55
41	CL05C270JB5NNN □		27pF	50	±5%	0.55
42	CL05C270JA5NNN □		27pF	25	±5%	0.55
43	CL05C300JB5NNN □		30pF	50	±5%	0.55
44	CL05C330JB5NNN □		33pF	50	±5%	0.55
45	CL05C360JB5NNN □		36pF	50	±5%	0.55
46	CL05C390JB5NNN □		39pF	50	±5%	0.55
47	CL05C430JB5NNN □		43pF	50	±5%	0.55
48	CL05C470JB5NNN □		47pF	50	±5%	0.55
49	CL05C510JB5NNN □		51pF	50	±5%	0.55
50	CL05C560JB5NNN □		56pF	50	±5%	0.55

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p80.

- Part Numbering System
- General Capacitors
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- Array Type Capacitors
- Low ESL Capacitors
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- Premium Capacitors for Automotive Applications
- Packaging Specification
- Application Manual for Surface Mounting





Product Lineup (General Capacitors-C0G)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
51	CL05C620JB5NNN □	1.00×0.50	62pF	50	±5%	0.55
52	CL05C680JB5NNN □		68pF	50	±5%	0.55
53	CL05C750JB5NNN □		75pF	50	±5%	0.55
54	CL05C820JB5NNN □		82pF	50	±5%	0.55
55	CL05C910JB5NNN □		91pF	50	±5%	0.55
56	CL05C101JB5NNN □		100pF	50	±5%	0.55
57	CL05C121JB5NNN □		120pF	50	±5%	0.55
58	CL05C151JB5NNN □		150pF	50	±5%	0.55
59	CL05C181JB5NNN □		180pF	50	±5%	0.55
60	CL05C201JB5NNN □		200pF	50	±5%	0.55
61	CL05C221JB5NNN □		220pF	50	±5%	0.55
62	CL05C271JB5NNN □		270pF	50	±5%	0.55
63	CL05C331JB5NNN □		330pF	50	±5%	0.55
64	CL05C391JB5NNN □		390pF	50	±5%	0.55
65	CL05C471JB5NNN □		470pF	50	±5%	0.55
66	CL05C471JO5NNN □		470pF	16	±5%	0.55
67	CL05C681JB5NNN □		680pF	50	±5%	0.55
68	CL05C821JB5NNN □		820pF	50	±5%	0.55
69	CL05C102JB5NNN □		1nF	50	±5%	0.55
70	CL05C102JA5NNN □		1nF	25	±5%	0.55
71	CL05C102JO5NNN □		1nF	16	±5%	0.55
1	CL10C0R3CB8NNN □	1.60×0.80	0.3pF	50	±0.25pF	0.90
2	CL10C0R5CB8NNN □		0.5pF	50	±0.25pF	0.90
3	CL10CR75CB8NNN □		0.75pF	50	±0.25pF	0.90
4	CL10C010CB8NNN □		1.0pF	50	±0.25pF	0.90
5	CL10C1R2CB8NNN □		1.2pF	50	±0.25pF	0.90
6	CL10C1R5CB8NNN □		1.5pF	50	±0.25pF	0.90
7	CL10C1R8CB8NNN □		1.8pF	50	±0.25pF	0.90
8	CL10C020CB8NNN □		2.0pF	50	±0.25pF	0.90
9	CL10C2R2CB8NNN □		2.2pF	50	±0.25pF	0.90
10	CL10C2R4CB8NNN □		2.4pF	50	±0.25pF	0.90
11	CL10C2R5CB8NNN □		2.5pF	50	±0.25pF	0.90
12	CL10C2R7CB8NNN □		2.7pF	50	±0.25pF	0.90
13	CL10C030CB8NNN □		3.0pF	50	±0.25pF	0.90
14	CL10C3R3CB8NNN □		3.3pF	50	±0.25pF	0.90
15	CL10C3R5CB8NNN □		3.5pF	50	±0.25pF	0.90
16	CL10C3R6CB8NNN □		3.6pF	50	±0.25pF	0.90
17	CL10C3R9CB8NNN □		3.9pF	50	±0.25pF	0.90
18	CL10C040CB8NNN □		4.0pF	50	±0.25pF	0.90
19	CL10C4R3CB8NNN □		4.3pF	50	±0.25pF	0.90
20	CL10C4R7CB8NNN □		4.7pF	50	±0.25pF	0.90
21	CL10C050DB8NNN □		5.0pF	50	±0.5pF	0.90
22	CL10C5R6DB8NNN □		5.6pF	50	±0.5pF	0.90
23	CL10C060DB8NNN □		6.0pF	50	±0.5pF	0.90
24	CL10C6R2DB8NNN □		6.2pF	50	±0.5pF	0.90
25	CL10C6R8DB8NNN □		6.8pF	50	±0.5pF	0.90
26	CL10C070DB8NNN □		7.0pF	50	±0.5pF	0.90
27	CL10C7R5DB8NNN □		7.5pF	50	±0.5pF	0.90
28	CL10C080DB8NNN □		8.0pF	50	±0.5pF	0.90
29	CL10C8R2DB8NNN □		8.2pF	50	±0.5pF	0.90

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p80.

**Product Lineup (General Capacitors-C0G)**

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
30	CL10C090DB8NNN □	1.60×0.80	9.0pF	50	±0.5pF	0.90
31	CL10C9R1DB8NNN □		9.1pF	50	±0.5pF	0.90
32	CL10C100JB8NNN □		10pF	50	±5%	0.90
33	CL10C110JB8NNN □		11pF	50	±5%	0.90
34	CL10C120JB8NNN □		12pF	50	±5%	0.90
35	CL10C130JB8NNN □		13pF	50	±5%	0.90
36	CL10C140JB8NNN □		14pF	50	±5%	0.90
37	CL10C150JB8NNN □		15pF	50	±5%	0.90
38	CL10C160JB8NNN □		16pF	50	±5%	0.90
39	CL10C180JB8NNN □		18pF	50	±5%	0.90
40	CL10C200JB8NNN □		20pF	50	±5%	0.90
41	CL10C220JB8NNN □		22pF	50	±5%	0.90
42	CL10C240JB8NNN □		24pF	50	±5%	0.90
43	CL10C250JB8NNN □		25pF	50	±5%	0.90
44	CL10C270JB8NNN □		27pF	50	±5%	0.90
45	CL10C300JB8NNN □		30pF	50	±5%	0.90
46	CL10C330JB8NNN □		33pF	50	±5%	0.90
47	CL10C360JB8NNN □		36pF	50	±5%	0.90
48	CL10C390JB8NNN □		39pF	50	±5%	0.90
49	CL10C430JB8NNN □		43pF	50	±5%	0.90
50	CL10C470JB8NNN □		47pF	50	±5%	0.90
51	CL10C510JB8NNN □		51pF	50	±5%	0.90
52	CL10C560JB8NNN □		56pF	50	±5%	0.90
53	CL10C620JB8NNN □		62pF	50	±5%	0.90
54	CL10C680JB8NNN □		68pF	50	±5%	0.90
55	CL10C750JB8NNN □		75pF	50	±5%	0.90
56	CL10C820JB8NNN □		82pF	50	±5%	0.90
57	CL10C910JB8NNN □		91pF	50	±5%	0.90
58	CL10C101JB8NNN □		100pF	50	±5%	0.90
59	CL10C111JB8NNN □	110pF	50	±5%	0.90	
60	CL10C121JB8NNN □	120pF	50	±5%	0.90	
61	CL10C131JB8NNN □	130pF	50	±5%	0.90	
62	CL10C151JB8NNN □	150pF	50	±5%	0.90	
63	CL10C161JB8NNN □	160pF	50	±5%	0.90	
64	CL10C181JB8NNN □	180pF	50	±5%	0.90	
65	CL10C201JB8NNN □	200pF	50	±5%	0.90	
66	CL10C221JB8NNN □	220pF	50	±5%	0.90	
67	CL10C241JB8NNN □	240pF	50	±5%	0.90	
68	CL10C271JB8NNN □	270pF	50	±5%	0.90	
69	CL10C301JB8NNN □	300pF	50	±5%	0.90	
70	CL10C331JB8NNN □	330pF	50	±5%	0.90	
71	CL10C361JB8NNN □	360pF	50	±5%	0.90	
72	CL10C391JB8NNN □	390pF	50	±5%	0.90	
73	CL10C431JB8NNN □	430pF	50	±5%	0.90	
74	CL10C471JB8NNN □	470pF	50	±5%	0.90	
75	CL10C511JB8NNN □	510pF	50	±5%	0.90	
76	CL10C561JB8NNN □	560pF	50	±5%	0.90	
77	CL10C621JB8NNN □	620pF	50	±5%	0.90	
78	CL10C681JB8NNN □	680pF	50	±5%	0.90	
79	CL10C751JB8NNN □	750pF	50	±5%	0.90	

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- Application Manual for Surface Mounting

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p80.



Product Lineup (General Capacitors-C0G)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
80	CL10C821JB8NNN □	1.60×0.80	820pF	50	±5%	0.90
81	CL10C102JB8NNN □		1nF	50	±5%	0.90
82	CL10C182JB8NNN □		1.8nF	50	±5%	0.90
83	CL10C222JB8NNN □		2.2nF	50	±5%	0.90
84	CL10C562JB8NNN □		5.6nF	50	±5%	0.90
1	CL21CR47CBANNN □	2.00×1.25	0.47pF	50	±0.25pF	0.75
2	CL21C0R5CBANNN □		0.5pF	50	±0.25pF	0.75
3	CL21C010CBANNN □		1.0pF	50	±0.25pF	0.75
4	CL21C1R2CBANNN □		1.2pF	50	±0.25pF	0.75
5	CL21C1R5CBANNN □		1.5pF	50	±0.25pF	0.75
6	CL21C1R8CBANNN □		1.8pF	50	±0.25pF	0.75
7	CL21C020CBANNN □		2.0pF	50	±0.25pF	0.75
8	CL21C2R2CBANNN □		2.2pF	50	±0.25pF	0.75
9	CL21C2R4CBANNN □		2.4pF	50	±0.25pF	0.75
10	CL21C2R5CBANNN □		2.5pF	50	±0.25pF	0.75
11	CL21C2R7CBANNN □		2.7pF	50	±0.25pF	0.75
12	CL21C030CBANNN □		3.0pF	50	±0.25pF	0.75
13	CL21C3R2CBANNN □		3.2pF	50	±0.25pF	0.75
14	CL21C3R3CBANNN □		3.3pF	50	±0.25pF	0.75
15	CL21C3R6CBANNN □		3.6pF	50	±0.25pF	0.75
16	CL21C3R9CBANNN □		3.9pF	50	±0.25pF	0.75
17	CL21C040CBANNN □		4.0pF	50	±0.25pF	0.75
18	CL21C4R7CBANNN □		4.7pF	50	±0.25pF	0.75
19	CL21C5R6DBANNN □		5.6pF	50	±0.5pF	0.75
20	CL21C060DBANNN □		6.0pF	50	±0.5pF	0.75
21	CL21C6R8DBANNN □		6.8pF	50	±0.5pF	0.75
22	CL21C070DBANNN □		7.0pF	50	±0.5pF	0.75
23	CL21C7R5DBANNN □		7.5pF	50	±0.5pF	0.75
24	CL21C080DBANNN □		8.0pF	50	±0.5pF	0.75
25	CL21C8R2DBANNN □		8.2pF	50	±0.5pF	0.75
26	CL21C090DBANNN □		9.0pF	50	±0.5pF	0.75
27	CL21C100JBANNN □		10pF	50	±5%	0.75
28	CL21C120JBANNN □		12pF	50	±5%	0.75
29	CL21C130JBANNN □		13pF	50	±5%	0.75
30	CL21C140JBANNN □		14pF	50	±5%	0.75
31	CL21C150JBANNN □		15pF	50	±5%	0.75
32	CL21C160JBANNN □		16pF	50	±5%	0.75
33	CL21C180JBANNN □		18pF	50	±5%	0.75
34	CL21C200JBANNN □		20pF	50	±5%	0.75
35	CL21C220JBANNN □		22pF	50	±5%	0.75
36	CL21C240JBANNN □		24pF	50	±5%	0.75
37	CL21C250JBANNN □		25pF	50	±5%	0.75
38	CL21C270JBANNN □		27pF	50	±5%	0.75
39	CL21C300JBANNN □		30pF	50	±5%	0.75
40	CL21C330JBANNN □		33pF	50	±5%	0.75
41	CL21C360JBANNN □		36pF	50	±5%	0.75
42	CL21C390JBANNN □		39pF	50	±5%	0.75
43	CL21C430JBANNN □		43pF	50	±5%	0.75
44	CL21C470JBANNN □		47pF	50	±5%	0.75
45	CL21C510JBANNN □		51pF	50	±5%	0.75

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Product Lineup (General Capacitors-C0G)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
46	CL21C560JBANNN □	2.00×1.25	56pF	50	±5%	0.75
47	CL21C620JBANNN □		62pF	50	±5%	0.75
48	CL21C680JBANNN □		68pF	50	±5%	0.75
49	CL21C750JBANNN □		75pF	50	±5%	0.75
50	CL21C820JBANNN □		82pF	50	±5%	0.75
51	CL21C910JBANNN □		91pF	50	±5%	0.75
52	CL21C101JBANNN □		100pF	50	±5%	0.75
53	CL21C111JBANNN □		110pF	50	±5%	0.75
54	CL21C121JBANNN □		120pF	50	±5%	0.75
55	CL21C131JBANNN □		130pF	50	±5%	0.75
56	CL21C151JBANNN □		150pF	50	±5%	0.75
57	CL21C161JBANNN □		160pF	50	±5%	0.75
58	CL21C181JBANNN □		180pF	50	±5%	0.75
59	CL21C201JBANNN □		200pF	50	±5%	0.75
60	CL21C221JBANNN □		220pF	50	±5%	0.75
61	CL21C241JBANNN □		240pF	50	±5%	0.75
62	CL21C271JBANNN □		270pF	50	±5%	0.75
63	CL21C301JBANNN □		300pF	50	±5%	0.75
64	CL21C331JBANNN □		330pF	50	±5%	0.75
65	CL21C361JBANNN □		360pF	50	±5%	0.75
66	CL21C391JBANNN □		390pF	50	±5%	0.75
67	CL21C431JBANNN □		430pF	50	±5%	0.75
68	CL21C471JBANNN □		470pF	50	±5%	0.75
69	CL21C511JBANNN □		510pF	50	±5%	0.75
70	CL21C561JBANNN □		560pF	50	±5%	0.75
71	CL21C621JBCNNN □		620pF	50	±5%	0.95
72	CL21C681JBCNNN □		680pF	50	±5%	0.95
73	CL21C751JBCNNN □		750pF	50	±5%	0.95
74	CL21C821JBCNNN □		820pF	50	±5%	0.95
75	CL21C102JBCNNN □		1nF	50	±5%	0.95
76	CL21C122JBFNNN □		1.2nF	50	±5%	1.35
77	CL21C152JBFNNN □		1.5nF	50	±5%	1.35
78	CL21C182JBFNNN □		1.8nF	50	±5%	1.35
79	CL21C222JBFNNN □		2.2nF	50	±5%	1.35
80	CL21C332JAFNNN □		3.3nF	25	±5%	1.35
81	CL21C332JBFNNN □		3.3nF	50	±5%	1.35
82	CL21C392JAANNN □		3.9nF	25	±5%	0.75
83	CL21C392JBFNNN □		3.9nF	50	±5%	1.35
84	CL21C472JAFNNN □	4.7nF	25	±5%	1.35	
85	CL21C472JBFNNN □	4.7nF	50	±5%	1.35	
86	CL21C562JBFNNN □	5.6nF	50	±5%	1.35	
87	CL21C822JAFNNN □	8.2nF	25	±5%	1.35	
88	CL21C103JBFNNN □	10nF	50	±5%	1.35	
1	CL31C0R5CBCNNN □	3.20×1.60	0.5pF	50	±0.25pF	1.0
2	CL31C010CBCNNN □		1.0pF	50	±0.25pF	1.0
3	CL31C1R5CBCNNN □		1.5pF	50	±0.25pF	1.0
4	CL31C1R8CBCNNN □		1.8pF	50	±0.25pF	1.0
5	CL31C020CBCNNN □		2.0pF	50	±0.25pF	1.0
6	CL31C2R2CBCNNN □		2.2pF	50	±0.25pF	1.0
7	CL31C2R7CBCNNN □		2.7pF	50	±0.25pF	1.0

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- Part Numbering System
- General Capacitors
- High Capacitance Capacitors
- Super Small Size Capacitors
- Medium-High Voltage Capacitors
- Array Type Capacitors
- Low ESL Capacitors
- Reliability Test Condition
- Premium Capacitors for Automotive Applications
- Packaging Specification
- Application Manual for Surface Mounting



Product Lineup (General Capacitors-C0G)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
8	CL31C030CBCNNN □	3.20×1.60	3.0pF	50	±0.25pF	1.0
9	CL31C3R3CBCNNN □		3.3pF	50	±0.25pF	1.0
10	CL31C040CBCNNN □		4.0pF	50	±0.25pF	1.0
11	CL31C4R7CBCNNN □		4.7pF	50	±0.25pF	1.0
12	CL31C100JBCNNN □		10pF	50	±5%	1.0
13	CL31C120JBCNNN □		12pF	50	±5%	1.0
14	CL31C150JBCNNN □		15pF	50	±5%	1.0
15	CL31C180JBCNNN □		18pF	50	±5%	1.0
16	CL31C200JBCNNN □		20pF	50	±5%	1.0
17	CL31C220JBCNNN □		22pF	50	±5%	1.0
18	CL31C270JBCNNN □		27pF	50	±5%	1.0
19	CL31C300JBCNNN □		30pF	50	±5%	1.0
20	CL31C330JBCNNN □		33pF	50	±5%	1.0
21	CL31C390JBCNNN □		39pF	50	±5%	1.0
22	CL31C470JBCNNN □		47pF	50	±5%	1.0
23	CL31C510JBCNNN □		51pF	50	±5%	1.0
24	CL31C560JBCNNN □		56pF	50	±5%	1.0
25	CL31C680JBCNNN □		68pF	50	±5%	1.0
26	CL31C750JBCNNN □		75pF	50	±5%	1.0
27	CL31C820JBCNNN □		82pF	50	±5%	1.0
28	CL31C101JBCNNN □		100pF	50	±5%	1.0
29	CL31C121JBCNNN □		120pF	50	±5%	1.0
30	CL31C151JBCNNN □		150pF	50	±5%	1.0
31	CL31C181JBCNNN □		180pF	50	±5%	1.0
32	CL31C221JBCNNN □		220pF	50	±5%	1.0
33	CL31C271JBCNNN □		270pF	50	±5%	1.0
34	CL31C331JBCNNN □		330pF	50	±5%	1.0
35	CL31C391JBCNNN □		390pF	50	±5%	1.0
36	CL31C471JBCNNN □		470pF	50	±5%	1.0
37	CL31C561JBCNNN □		560pF	50	±5%	1.0
38	CL31C681JBCNNN □		680pF	50	±5%	1.0
39	CL31C821JBCNNN □	820pF	50	±5%	1.0	
40	CL31C102JBCNNN □	1nF	50	±5%	1.0	
41	CL31C122JBCNNN □	1.2nF	50	±5%	1.0	
42	CL31C152JBCNNN □	1.5nF	50	±5%	1.0	
43	CL31C182JBCNNN □	1.8nF	50	±5%	1.0	
44	CL31C222JBCNNN □	2.2nF	50	±5%	1.0	
45	CL31C272JBFNNN □	2.7nF	50	±5%	1.4	
46	CL31C332JBFNNN □	3.3nF	50	±5%	1.4	
47	CL31C472JBFNNN □	4.7nF	50	±5%	1.4	
48	CL31C682JBHNNN □	6.8nF	50	±5%	1.8	
49	CL31C103JAFNNN □	10nF	25	±5%	1.4	
50	CL31C223JBHNNN □	22nF	50	±5%	1.8	
51	CL31C333JBHNNN □	33nF	50	±5%	1.8	
1	CL32C472JBFNNN □	3.20×2.50	4.7nF	50	±5%	1.45
2	CL32C103JBFNNN □		10nF	50	±5%	1.45
3	CL32C223JBHNNN □		22nF	50	±5%	1.80

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p80.

**Product Lineup (General Capacitors-X7R)**

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
1	CL05B471KB5NNN □	1.00×0.50	470pF	50	±10%	0.55
2	CL05B221KB5NNN □		220pF	50	±10%	0.55
3	CL05B681KB5NNN □		680pF	50	±10%	0.55
4	CL05B102KB5NNN □		1nF	50	±10%	0.55
5	CL05B102KA5NNN □		1nF	25	±10%	0.55
6	CL05B222KB5NNN □		2.2nF	50	±10%	0.55
7	CL05B472KB5NNN □		4.7nF	50	±10%	0.55
8	CL05B472KA5NNN □		4.7nF	25	±10%	0.55
9	CL05B682KB5NNN □		6.8nF	50	±10%	0.55
10	CL05B682KA5NNN □		6.8nF	25	±10%	0.55
11	CL05B103KB5NNN □		10nF	50	±10%	0.55
12	CL05B103KA5NNN □		10nF	25	±10%	0.55
13	CL05B223KA5NNN □		22nF	25	±10%	0.55
14	CL05B473KO5NNN □		47nF	16	±10%	0.55
15	CL05B473KP5NNN □		47nF	10	±10%	0.55
16	CL05B683KO5NNN □		68nF	16	±10%	0.55
17	CL05B683KP5NNN □		68nF	10	±10%	0.55
18	CL05B104KO5NNN □		100nF	16	±10%	0.55
19	CL05B104KP5NNN □		100nF	10	±10%	0.55
20	CL05B104KQ5NNN □		100nF	6.3	±10%	0.55
1	CL10B101KB8NNN □	1.60×0.80	100pF	50	±10%	0.9
2	CL10B221KB8NNN □		220pF	50	±10%	0.9
3	CL10B471KB8NNN □		470pF	50	±10%	0.9
4	CL10B681KB8NNN □		680pF	50	±10%	0.9
5	CL10B102KB8NNN □		1nF	50	±10%	0.9
6	CL10B102KA8NNN □		1nF	25	±10%	0.9
7	CL10B222KB8NNN □		2.2nF	50	±10%	0.9
8	CL10B472KB8NNN □		4.7nF	50	±10%	0.9
9	CL10B472KA8NNN □		4.7nF	25	±10%	0.9
10	CL10B682KB8NNN □		6.8nF	50	±10%	0.9
11	CL10B103KB8NNN □		10nF	50	±10%	0.9
12	CL10B103KA8NNN □		10nF	25	±10%	0.9
13	CL10B223KA8NNN □		22nF	25	±10%	0.9
14	CL10B473KB8NNN □		47nF	50	±10%	0.9
15	CL10B473KA8NNN □		47nF	25	±10%	0.9
16	CL10B683KB8NNN □		68nF	50	±10%	0.9
17	CL10B683KA8NNN □		68nF	25	±10%	0.9
18	CL10B104KB8NNN □		100nF	50	±10%	0.9
19	CL10B224KA8NNN □		220nF	25	±10%	0.9
20	CL10B224KO8NNN □		220nF	16	±10%	0.9
21	CL10B225KQ8NNN □		2.2uF	63	±10%	0.9
1	CL21B221KBANNN □	2.00×1.25	220pF	50	±10%	0.75
2	CL21B471KBANNN □		470pF	50	±10%	0.75
3	CL21B681KBANNN □		680pF	50	±10%	0.75
4	CL21B102KBANNN □		1nF	50	±10%	0.75
5	CL21B102KBCNNN □		1nF	50	±10%	0.95
6	CL21B222KBANNN □		2.2nF	50	±10%	0.75
7	CL21B222KBCNNN □		2.2nF	50	±10%	0.95
8	CL21B682KBANNN □		6.8nF	50	±10%	0.75
9	CL21B103KBANNN □		10nF	50	±10%	0.75

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※ For parts of higher capacitance than those above listed, refer to the product lineup of 'High Cacaitance' subcategory.



Product Lineup (General Capacitors-X7R)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)	
10	CL21B103KBCNNN □	2.00×1.25	10nF	50	±10%	0.95	
11	CL21B223KBANNN □		22nF	50	±10%	0.75	
12	CL21B223KBCNNN □		22nF	50	±10%	0.95	
13	CL21B473KBANNN □		47nF	50	±10%	0.75	
14	CL21B473KBCNNN □		47nF	50	±10%	0.95	
15	CL21B683KAANNN □		68nF	25	±10%	0.75	
16	CL21B683KBCNNN □		68nF	50	±10%	0.95	
17	CL21B683KBFNNN □		68nF	50	±10%	1.35	
18	CL21B104KBCNNN □		100nF	50	±10%	0.95	
19	CL21B104KBFNNN □		100nF	50	±10%	1.35	
20	CL21B224KBFNNN □		220nF	50	±10%	1.35	
21	CL21B224KAFNNN □		220nF	25	±10%	1.35	
22	CL21B224KOCNNN □		220nF	16	±10%	0.95	
23	CL21B224KOFNNN □		220nF	16	±10%	1.35	
24	CL21B474KBFNNN □		470nF	50	±10%	1.35	
25	CL21B474KAFNNN □		470nF	25	±10%	1.35	
26	CL21B474KOFNNN □		470nF	16	±10%	1.35	
27	CL21B684KOFNNN □		680nF	16	±10%	1.35	
28	CL21B684KPFNNN □		680nF	10	±10%	1.35	
1	CL31B221KBCNNN □		3.20×1.60	220pF	50	±10%	1.0
2	CL31B471KBCNNN □			470pF	50	±10%	1.0
3	CL31B681KBCNNN □			680pF	50	±10%	1.0
4	CL31B102KBCNNN □			1nF	50	±10%	1.0
5	CL31B222KBCNNN □			2.2nF	50	±10%	1.0
6	CL31B472KBCNNN □			4.7nF	50	±10%	1.0
7	CL31B682KBCNNN □			6.8nF	50	±10%	1.0
8	CL31B103KBCNNN □			10nF	50	±10%	1.0
9	CL31B223KBCNNN □			22nF	50	±10%	1.0
10	CL31B473KBCNNN □	47nF		50	±10%	1.0	
11	CL31B683KBCNNN □	68nF		50	±10%	1.0	
12	CL31B104KBCNNN □	100nF		50	±10%	1.0	
13	CL31B104KACNNN □	100nF		25	±10%	1.0	
14	CL31B224KBCNNN □	220nF		50	±10%	1.0	
15	CL31B224KAFNNN □	220nF		25	±10%	1.4	
16	CL31B474KBFNNN □	470nF		50	±10%	1.4	
17	CL31B474KAHNNN □	470nF		25	±10%	1.8	
18	CL31B474KOCNNN □	470nF		16	±10%	1.0	
19	CL31B684KBHNNN □	680nF		50	±10%	1.8	
20	CL31B684KAHNNN □	680nF		25	±10%	1.8	
21	CL31B105KBHNNN □	1μF		50	±10%	1.8	
22	CL31B105KAHNNN □	1μF		25	±10%	1.8	
23	CL31B105KOFNNN □	1μF		16	±10%	1.4	
24	CL31B225KBHNNN □	2.2μF		50	±10%	1.8	
25	CL31B225KAHNNN □	2.2μF		25	±10%	1.8	
26	CL31B225KOHNNN □	2.2μF		16	±10%	1.8	
27	CL31B225KPFNNN □	2.2μF		10	±10%	1.4	
1	CL32B104KBFNNN □	3.20×2.50	100nF	50	±10%	1.45	
2	CL32B224KBFNNN □		220nF	50	±10%	1.45	
3	CL32B105KBFNNN □		1μF	50	±10%	1.45	
4	CL32B105KAHNNN □		1μF	25	±10%	1.8	

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p80.

※ For parts of higher capacitance than those above listed, refer to the product lineup of 'High Capacitance' subcategory.

**Product Lineup (General Capacitors-X7R)**

	Part Number	Size L × W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
5	CL32B104KBFNNN □	3.20×2.50	100nF	50	±10%	1.45
6	CL32B224KBFNNN □		220nF	50	±10%	1.45
7	CL32B105KBFNNN □		1μF	50	±10%	1.45
8	CL32B105KAHNNN □		1μF	25	±10%	1.8
9	CL32B225KBINNN □		2.2μF	50	±10%	2.2
10	CL32B225KAJNNN □		2.2μF	25	±10%	2.7
11	CL32B474KBFNNN □		470nF	50	±10%	1.45
12	CL32B474KAFNNN □		470nF	25	±10%	1.45
13	CL32B475KOINNN □		4.7μF	16	±10%	2.2
1	CL43B224KBFNNN □		4.50×3.20	220nF	50	±10%
2	CL43B474KBFNNN □	470nF		50	±10%	1.45
3	CL43B684KBFNNN □	680nF		50	±10%	1.45
4	CL43B105KBFNNN □	1μF		50	±10%	1.45
5	CL43B106KALNNN □	10μF		25	±10%	3.5
6	CL43B226KPJNNN □	22μF		10	±10%	2.7
1	CL55B475KBJNNN □	5.70×5.00	4.7μF	50	±10%	2.7

Part Numbering System

General Capacitors

High Capacitance Capacitors

Super Small Size Capacitors

Medium-High Voltage Capacitors

Array Type Capacitors

Low ESL Capacitors

Reliability Test Condition

Premium Capacitors for Automotive Applications

Packaging Specification

Application Manual for Surface Mounting

**Product Lineup (General Capacitors-X5R)**

	Part Number	Size L × W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
1	CL05A223KO5NNN □	1.00×0.50	22nF	16	±10%	0.55
2	CL05A104KA5NNN □		100nF	25	±10%	0.55
3	CL05A104KO5NNN □		100nF	16	±10%	0.55
4	CL05A104KP5NNN □		100nF	10	±10%	0.55
5	CL05A104KQ5NNN □		100nF	6.3	±10%	0.55

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p80.

※ For parts of higher capacitance than those above listed, refer to the product lineup of 'High Capacitance' subcategory.



## Product Lineup (General Capacitors-Y5V)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
1	CL05F103ZB5NNN □	1.00×0.50	10nF	50	+80%~-20%	0.55
2	CL05F103ZO5NNN □		10nF	16	+80%~-20%	0.55
3	CL05F223ZA5NNN □		22nF	25	+80%~-20%	0.55
4	CL05F223ZO5NNN □		22nF	16	+80%~-20%	0.55
5	CL05F473ZO5NNN □		47nF	16	+80%~-20%	0.55
6	CL05F683ZO5NNN □		68nF	16	+80%~-20%	0.55
7	CL05F104ZO5NNN □		100nF	16	+80%~-20%	0.55
1	CL10F103ZB8NNN □	1.60×0.80	10nF	50	+80%~-20%	0.9
2	CL10F223ZB8NNN □		22nF	50	+80%~-20%	0.9
3	CL10F473ZB8NNN □		47nF	50	+80%~-20%	0.9
4	CL10F473ZA8NNN □		47nF	25	+80%~-20%	0.9
5	CL10F473ZO8NNN □		47nF	16	+80%~-20%	0.9
6	CL10F683ZB8NNN □		68nF	50	+80%~-20%	0.9
7	CL10F104ZB8NNN □		100nF	50	+80%~-20%	0.9
8	CL10F104ZA8NNN □		100nF	25	+80%~-20%	0.9
9	CL10F224ZB8NNN □		220nF	50	+80%~-20%	0.9
10	CL10F224ZA8NNN □		220nF	25	+80%~-20%	0.9
11	CL10F225ZP8NNN □		2.2μF	10	+80%~-20%	0.9
12	CL10F225ZQ8NNN □		2.2μF	6.3	+80%~-20%	0.9
1	CL21F103ZBANNN □	2.00×1.25	10nF	50	+80%~-20%	0.75
2	CL21F223ZBANNN □		22nF	50	+80%~-20%	0.75
3	CL21F473ZBANNN □		47nF	50	+80%~-20%	0.75
4	CL21F683ZBANNN □		68nF	50	+80%~-20%	0.75
5	CL21F104ZBANNN □		100nF	50	+80%~-20%	0.75
6	CL21F104ZBCNNN □		100nF	50	+80%~-20%	0.95
7	CL21F224ZBCNNN □		220nF	50	+80%~-20%	0.95
8	CL21F224ZBFNNN □		220nF	50	+80%~-20%	1.35
9	CL21F224ZOANNN □		220nF	16	+80%~-20%	0.75
10	CL21F474ZACNNN □		470nF	25	+80%~-20%	0.95
11	CL21F474ZBFNNN □		470nF	50	+80%~-20%	1.35
12	CL21F474ZBFNNN □		470nF	50	+80%~-20%	1.35
13	CL21F684ZAFNNN □		680nF	25	+80%~-20%	1.35
14	CL21F684ZOANNN □		680nF	16	+80%~-20%	0.75
15	CL21F225ZAFNNN □		2.2μF	25	+80%~-20%	1.35
16	CL21F225ZOFNNN □		2.2μF	16	+80%~-20%	1.35
1	CL31F103ZBCNNN □	3.20×1.60	10nF	50	+80%~-20%	1.0
2	CL31F104ZBCNNN □		100nF	50	+80%~-20%	1.0
3	CL31F224ZBCNNN □		220nF	50	+80%~-20%	1.0
4	CL31F474ZBCNNN □		470nF	50	+80%~-20%	1.0
5	CL31F105ZBCNNN □		1μF	50	+80%~-20%	1.0
6	CL31F105ZAFNNN □		1μF	25	+80%~-20%	1.4
7	CL31F105ZOCNNN □		1μF	16	+80%~-20%	1.0
8	CL31F225ZAFNNN □		2.2μF	25	+80%~-20%	1.4
9	CL31F225ZOCNNN □		2.2μF	16	+80%~-20%	1.0
1	CL32F475ZAHNNN □	3.20×2.50	4.7μF	25	+80%~-20%	1.8
1	CL43A476MQJNNN □	4.50×3.20	10μF	6.3	+80%~-20%	2.7
2	CL43A107MQLNNN □		100μF	6.3	+80%~-20%	3.5

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p80.

※ For parts of higher capacitance than those above listed, refer to the product lineup of 'High Capacitance' subcategory.