

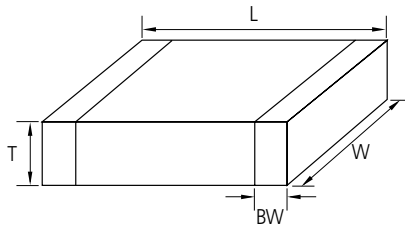
Feature

- Wide selection of size : from 0402 to 1812
- Highly reliable tolerance and high speed automatic chip placement on PCBs
- Wide capacitance range
- Highly reliable performance
- Highly resistant termination metal
- Tape & reel for surface mount assembly

Application

- Desktop PC, Note PC, HHP, DC-DC Converter, DSC
- LCD TV, LCD Monitor

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	0.25±0.10
10	0603	1.60±0.10	0.80±0.10	0.50+0.0/-0.1(*)	5	0.30±0.20
		1.60±0.10	0.80±0.10	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
		2.00±0.10	1.25±0.10	1.15±0.10	M	
		2.00±0.10	1.25±0.10	1.25±0.10	F	
		2.00±0.15	1.25±0.15	1.25±0.15	Q	
		2.00±0.20	1.25±0.20	1.25±0.20	Y	
31	1206	3.20±0.20	1.60±0.20	0.60±0.10(*)	6	0.50±0.30
		3.20±0.15	1.60±0.15	0.85±0.15	C	
		3.20±0.20	1.60±0.20	0.85±0.10(*)	C	
		3.20±0.20	1.60±0.20	1.15±0.10(*)	P	
		3.20±0.15	1.60±0.15	1.25±0.15	F	
32	1210	3.20±0.30	2.50±0.20	0.85±0.10(*)	C	0.60±0.30
		3.20±0.30	2.50±0.20	0.90±0.10(*)	9	
		3.20±0.30	2.50±0.20	1.60±0.20	H	
		3.20±0.30	2.50±0.20	1.80±0.20(*)	U	
		3.20±0.30	2.50±0.20	2.00±0.20	I	
		3.20±0.30	2.50±0.20	2.50±0.20	J	
42	1808	4.50±0.40	2.00±0.20	1.25±0.20	F	0.80±0.30
		4.50±0.40	2.00±0.20	1.40±0.20	G	
		4.50±0.40	2.00±0.20	2.00±0.20	I	
43	1812	4.50±0.40	3.20±0.30	1.25±0.20	F	0.80±0.30
		4.50±0.40	3.20±0.30	2.50±0.20	J	
		4.50±0.40	3.20±0.30	3.20±0.30	L	
55	2220	5.70±0.40	5.00±0.40	2.50±0.20	J	1.00±0.30
		5.70±0.40	5.00±0.40	3.20±0.30	L	

※ * Mark is only applicable to "L" code , 12th code in part number.

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

High Capacitance Table_Low Profile (X5R)

Size(mm)	Tmax (mm)	Vr(V)	Capacitance (μF)					
			1	2.2	4.7	10	22	47
0402(1005)	0.33	6.3	X6S					
		10						
		16						
0603(1608)	0.5	6.3						
		10						
		16						
		25						
0805(2012)	0.7	10						
		16						
		25						
	0.85	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)				
	100	(Tmax=1.0)						
1210(3225)	0.95	16						
		25						
	2.0	35						
		50						

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High Capacitance Table (X7R)

Size(mm)	Vr(V)	Capacitance (μ F)									
		0.1	0.22	0.47	1	2.2	4.7	10	22	47	100
0402(1005)	6.3	[Bar chart showing capacitance range from 0.1 to 10 μ F]									
	10	[Bar chart showing capacitance range from 0.1 to 0.47 μ F, labeled X7S]									
	16	[Bar chart showing capacitance range from 0.1 to 0.22 μ F]									
0603(1608)	6.3	[Bar chart showing capacitance range from 0.1 to 22 μ F]									
	10	[Bar chart showing capacitance range from 0.1 to 4.7 μ F]									
	16	[Bar chart showing capacitance range from 0.1 to 1 μ F]									
	25	[Bar chart showing capacitance range from 0.1 to 0.47 μ F]									
	50	[Bar chart showing capacitance range from 0.1 to 0.1 μ F]									
0805(2012)	6.3	[Bar chart showing capacitance range from 0.1 to 47 μ F]									
	10	[Bar chart showing capacitance range from 0.1 to 10 μ F]									
	16	[Bar chart showing capacitance range from 0.1 to 4.7 μ F]									
	25	[Bar chart showing capacitance range from 0.1 to 2.2 μ F, labeled X7S]									
	35	[Bar chart showing capacitance range from 0.1 to 1 μ F]									
	50	[Bar chart showing capacitance range from 0.1 to 0.47 μ F]									
1206(3216)	6.3	[Bar chart showing capacitance range from 0.1 to 100 μ F]									
	10	[Bar chart showing capacitance range from 0.1 to 22 μ F]									
	16	[Bar chart showing capacitance range from 0.1 to 10 μ F]									
	25	[Bar chart showing capacitance range from 0.1 to 4.7 μ F]									
	35	[Bar chart showing capacitance range from 0.1 to 2.2 μ F]									
	50	[Bar chart showing capacitance range from 0.1 to 1 μ F]									
1210(3225)	6.3	[Bar chart showing capacitance range from 0.1 to 100 μ F, labeled X7T]									
	10	[Bar chart showing capacitance range from 0.1 to 47 μ F]									
	16	[Bar chart showing capacitance range from 0.1 to 22 μ F]									
	25	[Bar chart showing capacitance range from 0.1 to 10 μ F]									
	50	[Bar chart showing capacitance range from 0.1 to 4.7 μ F]									

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High Capacitance Table (Y5V)

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

High Capacitance Table -Low Profile (Y5V)

Size(mm)	Vr(V)	Capacitance (μ F)					
		1	2.2	4.7	10	22	47
0805(2012)	6.3						
	10						

Product Lineup (High Capacitance-X5R)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
1	CL05A224KQ5NNN □	1.00×0.50	0.22 μF	6.3	±10%	0.55
2	CL05A224KR5NNN □		0.22 μF	4	±10%	0.55
3	CL05A224KA5NNN □		0.22 μF	25	±10%	0.55
4	CL05A224KO5NNN □		0.22 μF	16	±10%	0.55
5	CL05A224KP5NNN □		0.22 μF	10	±10%	0.55
6	CL05A334MA5NNN □		0.33 μF	25	±20%	0.55
7	CL05A334KQ5NNN □		0.33 μF	6.3	±10%	0.55
8	CL05A334KR5NNN □		0.33 μF	4	±10%	0.55
9	CL05A474KA5NNN □		0.47 μF	25	±10%	0.55
10	CL05A474KO5NNN □		0.47 μF	16	±10%	0.55
11	CL05A474KP5NNN □		0.47 μF	10	±10%	0.55
12	CL05A474KQ5NNN □		0.47 μF	6.3	±10%	0.55
13	CL05A474KR5NNN □		0.47 μF	4	±10%	0.55
14	CL05A105KA5NQN □		1 μF	25	±10%	0.60
15	CL05A105KO5NNN □		1 μF	16	±10%	0.55
16	CL05A105KO3LQN □		1 μF	16	±10%	0.33
17	CL05A105KP5NNN □		1 μF	10	±10%	0.55
18	CL05A105KP3LNN □		1 μF	10	±10%	0.33
19	CL05A105KQ5NNN □		1 μF	6.3	±10%	0.55
20	CL05A105KQ3LNN □		1 μF	6.3	±10%	0.33
21	CL05A105KR5NNN □		1 μF	4	±10%	0.55
22	CL05A105KR3LNN □		1 μF	4	±10%	0.33
23	CL05A225MA5NUN □		2.2 μF	25	±20%	0.70
24	CL05A225KO5NQN □		2.2 μF	16	±10%	0.60
25	CL05A225MP5NSN □		2.2 μF	10	±20%	0.57
26	CL05A225KP3LRN □		2.2 μF	10	±10%	0.33
27	CL05A225MQ5NNN □		2.2 μF	6.3	±20%	0.55
28	CL05A225KQ3LRN □		2.2 μF	6.3	±10%	0.33
29	CL05A225MR5NNN □		2.2 μF	4	±20%	0.55
30	CL05A225KR3LRN □		2.2 μF	4	±10%	0.33
31	CL05A475MO5NUN □		4.7 μF	16	±20%	0.70
32	CL05A475MP5NRN □		4.7 μF	10	±20%	0.65
33	CL05A475MQ5NRN □		4.7 μF	6.3	±20%	0.65
34	CL05A475MR5NRN □		4.7 μF	4	±20%	0.65
35	CL05A106MP5NUN □		10 μF	10	±20%	0.70
36	CL05A106MQ5NUN □		10 μF	6.3	±20%	0.70
37	CL05A106MR5NRN □		10 μF	4	±20%	0.65
38	CL05A156MR5NUN □		15 μF	4	±20%	0.70
1	CL10A474KB8NNN □	1.60×0.80	0.47 μF	50	±10%	0.90
2	CL10A474KA8NNN □		0.47 μF	25	±10%	0.90
3	CL10A474KP8NNN □		0.47 μF	10	±10%	0.90
4	CL10A474KQ8NNN □		0.47 μF	6.3	±10%	0.90
5	CL10A474KR8NNN □		0.47 μF	4	±10%	0.90
6	CL10A105KB8NNN □		1 μF	50	±10%	0.90
7	CL10A105KA5LNN □		1 μF	25	±10%	0.50
8	CL10A105KA8NNN □		1 μF	25	±10%	0.90
9	CL10A105KO8NNN □		1 μF	16	±10%	0.90
10	CL10A105KO5LNN □		1 μF	16	±10%	0.50
11	CL10A105KP8NNN □		1 μF	10	±10%	0.90
12	CL10A105KP5LNN □		1 μF	10	±10%	0.50
13	CL10A105KQ8NNN □		1 μF	6.3	±10%	0.90
14	CL10A105KQ5LNN □		1 μF	6.3	±10%	0.50

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Packaging Specification

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 (High Capacitance-X5R)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)	
15	CL10A105KR8N [□]	1.60×0.80	1 μF	4	±10%	0.90	
16	CL10A105KR5L [□]		1 μF	4	±10%	0.50	
17	CL10A105KA5L [□]		1 μF	25	±10%	0.50	
18	CL10A225KA8N [□]		2.2 μF	25	±10%	0.90	
19	CL10A225KA5L [□]		2.2 μF	25	±10%	0.50	
20	CL10A225KO8N [□]		2.2 μF	16	±10%	0.90	
21	CL10A225KO5L [□]		2.2 μF	16	±10%	0.50	
22	CL10A225KP8N [□]		2.2 μF	10	±10%	0.90	
23	CL10A225KP5L [□]		2.2 μF	10	±10%	0.50	
24	CL10A225KQ8N [□]		2.2 μF	6.3	±10%	0.90	
25	CL10A225KQ5L [□]		2.2 μF	6.3	±10%	0.50	
26	CL10A225KR8N [□]		2.2 μF	4	±10%	0.90	
27	CL10A225KR5L [□]		2.2 μF	4	±10%	0.50	
28	CL10A335KQ8N [□]		3.3 μF	6.3	±10%	0.90	
29	CL10A335KR8N [□]		3.3 μF	4	±10%	0.90	
30	CL10A475KA8NQ [□]		4.7 μF	25	±10%	0.95	
31	CL10A475KQ8N [□]		4.7 μF	16	±10%	0.90	
32	CL10A475KP8N [□]		4.7 μF	10	±10%	0.90	
33	CL10A475KP5L [□]		4.7 μF	10	±10%	0.50	
34	CL10A475KQ5L [□]		4.7 μF	6.3	±10%	0.50	
35	CL10A475KQ8N [□]		4.7 μF	6.3	±10%	0.90	
36	CL10A475KR5L [□]		4.7 μF	4	±10%	0.50	
37	CL10A475KR8N [□]		4.7 μF	4	±10%	0.90	
38	CL10A106KR8N [□]		10 μF	4	±10%	0.90	
39	CL10A106MR5LR [□]		10 μF	4	±20%	0.50	
40	CL10A106KQ8N [□]		10 μF	6.3	±10%	0.90	
41	CL10A106MQ5LR [□]		10 μF	6.3	±20%	0.50	
42	CL10A106MP8N [□]		10 μF	10	±20%	0.90	
43	CL10A106MO8NQ [□]		10 μF	16	±20%	0.95	
44	CL10A106MA8NR [□]		10 μF	25	±20%	1.00	
45	CL10A226MR8NR [□]		22 μF	4	±20%	1.00	
46	CL10A226MQ8NR [□]		22 μF	6.3	±20%	1.00	
47	CL10A226MP8NR [□]		22 μF	10	±20%	1.00	
48	CL10A226MP8NUN [□]		22 μF	10	±20%	1.05	
49	CL10A476MR8NZ [□]		47 μF	4	±20%	1.10	
1	CL21A105KBQNN [□]		2.00×1.25	1 μF	50	±10%	1.40
2	CL21A105KAFNN [□]			1 μF	25	±10%	1.35
3	CL21A105KA6LNN [□]			1 μF	25	±10%	0.70
4	CL21A105KOFNN [□]			1 μF	16	±10%	1.35
5	CL21A105KO6LNN [□]			1 μF	16	±10%	0.70
6	CL21A105KQFNN [□]			1 μF	6.3	±10%	1.35
7	CL21A105KRFNN [□]			1 μF	4	±10%	1.35
8	CL21A225KBQNN [□]			2.2 μF	50	±10%	1.40
9	CL21A225KAFNN [□]			2.2 μF	25	±10%	1.35
10	CL21A225KO6LNN [□]			2.2 μF	16	±10%	0.70
11	CL21A225KOFNN [□]			2.2 μF	16	±10%	1.35
12	CL21A225KPFNN [□]			2.2 μF	10	±10%	1.35
13	CL21A225KQFNN [□]			2.2 μF	6.3	±10%	1.35
14	CL21A225KRFNN [□]			2.2 μF	4	±10%	1.35
15	CL21A475KBQNN [□]	4.7 μF		50	±10%	1.40	
16	CL21A475KAQNN [□]	4.7 μF		25	±10%	1.40	
17	CL21A475KACL [□]	4.7 μF		25	±10%	0.95	
18	CL21A475KOFNN [□]	4.7 μF		16	±10%	1.35	

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Product Lineup (High Capacitance-X5R)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
19	CL21A475KOCLNN □	2.00×1.25	4.7 μF	16	±10%	0.95
20	CL21A475KPFNNN □		4.7 μF	10	±10%	1.35
21	CL21A475KPCLNN □		4.7 μF	10	±10%	0.95
22	CL21A475KQFNNN □		4.7 μF	6.3	±10%	1.35
23	CL21A475KQCLNN □		4.7 μF	6.3	±10%	0.95
24	CL21A475KRFNNN □		4.7 μF	4	±10%	1.35
25	CL21A475KRCLNN □		4.7 μF	4	±10%	0.95
26	CL21A106KAYNNN □		10 μF	25	±10%	1.45
27	CL21A106KACLNN □		10 μF	25	±10%	0.95
28	CL21A106KA7LQN □		10 μF	25	±10%	0.80
29	CL21A106KOFNNN □		10 μF	16	±10%	1.35
30	CL21A106KOQNNN □		10 μF	16	±10%	1.40
31	CL21A106KOCLRN □		10 μF	16	±10%	0.95
32	CL21A106KOCL3R □		10 μF	16	±10%	0.95
33	CL21A106KPFNNN □		10 μF	10	±10%	1.35
34	CL21A106KPCLQN □		10 μF	10	±10%	0.95
35	CL21A106KQFNNN □		10 μF	6.3	±10%	1.35
36	CL21A106KQCLNN □		10 μF	6.3	±10%	0.95
37	CL21A106KRFNNN □		10 μF	4	±10%	1.35
38	CL21A106KRCLNN □		10 μF	4	±10%	0.95
39	CL21A226MAQNNN □		22 μF	25	±20%	1.40
40	CL21A226MPQNNN □		22 μF	10	±20%	1.40
41	CL21A226MPCLRN □		22 μF	10	±20%	0.95
42	CL21A226MQQNNN □		22 μF	6.3	±20%	1.40
43	CL21A226MQCLRN □		22 μF	6.3	±20%	0.95
44	CL21A226MRQNNN □		22 μF	4	±20%	1.40
45	CL21A226MRCLRN □		22 μF	4	±20%	0.95
46	CL21A336MQELNN □		33 μF	6.3	±20%	1.20
47	CL21A336MQ9LNN □		33 μF	6.3	±20%	1.00
48	CL21A336MRELNN □		33 μF	4	±20%	1.20
49	CL21A336MR9LNN □		33 μF	4	±20%	1.00
50	CL21A476MQYNNN □		47 μF	6.3	±20%	1.45
51	CL21A476MRYNNN □	47 μF	4	±20%	1.45	
52	CL21A476MQ9LRN □	47 μF	6.3	±20%	1.00	
1	CL31A225KC9LNN □	3.20×1.60	2.2 μF	100	±10%	1.00
2	CL31A475KBHNNN □		4.7 μF	50	±10%	1.80
3	CL31A475KB9LNN □		4.7 μF	50	±10%	1.00
4	CL31A475KAHNNN □		4.7 μF	25	±10%	1.80
5	CL31A475KACLNN □		4.7 μF	25	±10%	0.95
6	CL31A475KOHNNN □		4.7 μF	16	±10%	1.80
7	CL31A475KOCLNN □		4.7 μF	16	±10%	0.95
8	CL31A475KPHNNN □		4.7 μF	10	±10%	1.80
9	CL31A475KQHNNN □		4.7 μF	6.3	±10%	1.80
10	CL31A475KRHNNN □		4.7 μF	4	±10%	1.80
11	CL31A106KBHNNN □		10 μF	50	±10%	1.80
12	CL31A106KAHNNN □		10 μF	25	±10%	1.80
13	CL31A106KACLNN □		10 μF	25	±10%	0.95
14	CL31A106KOHNNN □		10 μF	16	±10%	1.80
15	CL31A106KOCLNN □		10 μF	16	±10%	0.95
16	CL31A106KPHNNN □		10 μF	10	±10%	1.80
17	CL31A106KPCLNN □		10 μF	10	±10%	0.95
18	CL31A106KQHNNN □		10 μF	6.3	±10%	1.80
19	CL31A106KRHNNN □		10 μF	4	±10%	1.80
20	CL31A156KQHNNN □		15 μF	6.3	±10%	1.80

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Packaging Specification

Application Manual for Surface Mounting

Product Lineup (High Capacitance-X5R)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)	
21	CL31A156KRHNNN □	3.20×1.60	15μF	4	±10%	1.80	
22	CL31A226KAHNNN □		22μF	25	±10%	1.80	
23	CL31A226KOHNNN □		22μF	16	±10%	1.80	
24	CL31A226KOCLNN □		22μF	16	±10%	0.95	
25	CL31A226KPHNNN □		22μF	10	±10%	1.80	
26	CL31A226KPCLNN □		22μF	10	±10%	0.95	
27	CL31A226KQHNNN □		22μF	6.3	±10%	1.80	
28	CL31A226KRHNNN □		22μF	4	±10%	1.80	
29	CL31A476MQHNNN □		47μF	6.3	±20%	1.80	
30	CL31A476MRHNNN □		47μF	4	±20%	1.80	
31	CL31A107MQHNNN □		100μF	6.3	±20%	1.80	
32	CL31A107MRHNNN □		100μF	4	±20%	1.80	
33	CL31A107MPHNNN □		100μF	10	±20%	1.80	
1	CL32A106KQCLNN □		3.20×2.50	10μF	6.3	±10%	0.95
2	CL32A106KRCLNN □			10μF	4	±10%	0.95
3	CL32A106KBULNN □			10μF	50	±10%	2.00
4	CL32A106KAJNNN □	10μF		25	±10%	2.70	
5	CL32A106KAULNN □	10μF		25	±10%	2.00	
6	CL32A106KOJNNN □	10μF		16	±10%	2.70	
7	CL32A106KPJNNN □	10μF		10	±10%	2.70	
8	CL32A226KAJNNN □	22μF		25	±10%	2.70	
9	CL32A226KOJNNN □	22μF		16	±10%	2.70	
10	CL32A226KOCLNN □	22μF		16	±10%	0.95	
11	CL32A226KPJNNN □	22μF		10	±10%	2.70	
12	CL32A226KQJNNN □	22μF		6.3	±10%	2.70	
13	CL32A226MQCLNN □	22μF		6.3	±20%	0.95	
14	CL32A226KRJNNN □	22μF		4	±10%	2.70	
15	CL32A226MRCLNN □	22μF		4	±20%	0.95	
16	CL32A476KOJNNN □	47μF		16	±10%	2.70	
17	CL32A476KPJNNN □	47μF		10	±10%	2.70	
18	CL32A476MQJNNN □	47μF		6.3	±20%	2.70	
19	CL32A476MRJNNN □	47μF		4	±20%	2.70	
20	CL32A107MPVNNN □	100μF		10	±20%	2.80	
21	CL32A107MQVNNN □	100μF		6.3	±20%	2.80	
22	CL32A107MRVNNN □	100μF		4	±20%	2.80	
23	CL32A157MQVNNN □	150μF		6.3	±20%	2.80	
24	CL32A227MQVNNN □	220μF		6.3	±20%	2.80	
1	CL43A476MQJNNN □	4.50×3.20	47μF	6.3	±20%	2.70	
2	CL43A476MRJNNN □		47μF	4	±20%	2.70	
3	CL43A107KQLNNN □		100μF	6.3	±10%	3.50	
4	CL43A107KRLNNN □		100μF	4	±10%	3.50	

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 80.

Product Lineup (High Capacitance-X6S)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
1	CL05X224KP5NNN □	1.00×0.50	0.22 μF	10	±10%	0.55
2	CL05X224KQ5NNN □		0.22 μF	6.3	±10%	0.55
3	CL05X224KR5NNN □		0.22 μF	4	±10%	0.55
4	CL05X474KP5NNN □		0.47 μF	10	±10%	0.55
5	CL05X474KQ5NNN □		0.47 μF	6.3	±10%	0.55
6	CL05X474KR5NNN □		0.47 μF	4	±10%	0.55
7	CL05X105KP5NNN □		1 μF	10	±10%	0.55
8	CL05X105MQ3LNN □		1 μF	6.3	±20%	0.33
9	CL05X105KQ5NNN □		1 μF	6.3	±10%	0.55
10	CL05X105MR3LNN □		1 μF	4	±20%	0.33
11	CL05X105KR5NNN □		1 μF	4	±10%	0.55
12	CL05X225MQ5NSN □		2.2 μF	6.3	±20%	0.57
13	CL05X225MR5NSN □		2.2 μF	4	±20%	0.57
1	CL10X474KA8NNN □	1.60×0.80	0.47 μF	25	±10%	0.90
2	CL10X474KO8NNN □		0.47 μF	16	±10%	0.90
3	CL10X474KP8NNN □		0.47 μF	10	±10%	0.90
4	CL10X474KQ8NNN □		0.47 μF	6.3	±10%	0.90
5	CL10X474KR8NNN □		0.47 μF	4	±10%	0.90
6	CL10X105KA8NNN □		1 μF	25	±10%	0.90
7	CL10X105KO8NNN □		1 μF	16	±10%	0.90
8	CL10X105KP8NNN □		1 μF	10	±10%	0.90
9	CL10X105KQ8NNN □		1 μF	6.3	±10%	0.90
10	CL10X105KR8NNN □		1 μF	4	±10%	0.90
11	CL10X225KO8NNN □		2.2 μF	16	±10%	0.90
12	CL10X225KP8NNN □		2.2 μF	10	±10%	0.90
13	CL10X225KQ8NNN □		2.2 μF	6.3	±10%	0.90
14	CL10X225KR8NNN □		2.2 μF	4	±10%	0.90
15	CL10X475KA8NQN □		4.7 μF	25	±10%	0.95
16	CL10X475KO8NQN □		4.7 μF	16	±10%	0.95
17	CL10X475KP5NNN □		4.7 μF	10	±10%	0.90
18	CL10X475KQ8NNN □		4.7 μF	6.3	±10%	0.90
19	CL10X475KR8NNN □		4.7 μF	4	±10%	0.90
20	CL10X106MP8NNN □		10 μF	10	±20%	0.90
21	CL10X106KQ8NNN □		10 μF	6.3	±10%	0.90
22	CL10X106KR8NNN □		10 μF	4	±10%	0.90
1	CL21X105KAFNNN □	2.00×1.25	1 μF	25	±10%	1.35
2	CL21X105KOFNNN □		1 μF	16	±10%	1.35
3	CL21X105KPFNNN □		1 μF	10	±10%	1.35
4	CL21X105KQFNNN □		1 μF	6.3	±10%	1.35
5	CL21X105KRFNNN □		1 μF	4	±10%	1.35
6	CL21X225KAFNNN □		2.2 μF	25	±10%	1.35
7	CL21X225KOFNNN □		2.2 μF	16	±10%	1.35
8	CL21X225KPFNNN □		2.2 μF	10	±10%	1.35
9	CL21X225KQFNNN □		2.2 μF	6.3	±10%	1.35
10	CL21X225KRFNNN □		2.2 μF	4	±10%	1.35
11	CL21X475KAQNNN □		4.7 μF	25	±10%	1.40
12	CL21X475KOFNNN □		4.7 μF	16	±10%	1.35
13	CL21X475KPFNNN □		4.7 μF	10	±10%	1.35
14	CL21X475KQFNNN □		4.7 μF	6.3	±10%	1.35

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 80.

- 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 (High Capacitance -X6S)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)	
15	CL21X475KRFNNN □	2.00×1.25	4.7μF	4	±10%	1.35	
16	CL21X106KACLRN □		10μF	25	±10%	0.95	
17	CL21X106KAYNNN □		10μF	25	±10%	1.45	
18	CL21X106KOYNNN □		10μF	16	±10%	1.45	
19	CL21X106KPCLNN □		10μF	10	±10%	0.95	
20	CL21X106KPYNNN □		10μF	10	±10%	1.45	
21	CL21X106KQQNNN □		10μF	6.3	±10%	1.40	
22	CL21X106KRQNNN □		10μF	4	±10%	1.40	
23	CL21X106KRCLNN □		10μF	4	±10%	0.95	
24	CL21X226MQQNNN □		22μF	6.3	±20%	1.40	
25	CL21X226MRQNNN □		22μF	4	±20%	1.40	
26	CL21X476MRYNNN □		47μF	4	±20%	1.45	
1	CL31X475KAHNNN □		3.20×1.60	4.7μF	25	±10%	1.80
2	CL31X475KACLNN □			4.7μF	25	±10%	0.95
3	CL31X475KOHNNN □	4.7μF		16	±10%	1.80	
4	CL31X475KPHNNN □	4.7μF		10	±10%	1.80	
5	CL31X475MQHNNN □	4.7μF		6.3	±20%	1.80	
6	CL31X475KRHNNN □	4.7μF		4	±10%	1.80	
7	CL31X106KACLNN □	10μF		25	±10%	0.95	
8	CL31X106KAHNNN □	10μF		25	±10%	1.80	
9	CL31X106KOHNNN □	10μF		16	±10%	1.80	
10	CL31X106KPHNNN □	10μF		10	±10%	1.80	
11	CL31X106KQHNNN □	10μF		6.3	±10%	1.80	
12	CL31X106KRHNNN □	10μF		4	±10%	1.80	
13	CL31X226KOHNNN □	22μF		16	±10%	1.80	
14	CL31X226KPHNNN □	22μF		10	±10%	1.80	
15	CL31X226KQHNNN □	22μF		6.3	±10%	1.80	
16	CL31X226KRHNNN □	22μF		4	±10%	1.80	
17	CL31X107MQHNNN □	100μF		6.3	±20%	1.80	
18	CL31X107MRHNNN □	100μF		4	±20%	1.80	
1	CL32X106KAUNNN □	3.20×2.50	10μF	25	±10%	2.00	
2	CL32X106KOJNNN □		10μF	16	±10%	2.70	
3	CL32X106KPJNNN □		10μF	10	±10%	2.70	
4	CL32X106KQJNNN □		10μF	6.3	±10%	2.70	
5	CL32X106KRJNNN □		10μF	4	±10%	2.70	
6	CL32X226KAJNNN □		22μF	25	±10%	2.70	
7	CL32X226KOJNNN □		22μF	16	±10%	2.70	
8	CL32X226KPJNNN □		22μF	10	±10%	2.70	
9	CL32X226KQJNNN □		22μF	6.3	±10%	2.70	
10	CL32X226KRJNNN □		22μF	4	±10%	2.70	
11	CL32X476MPJNNN □		47μF	10	±20%	2.70	
12	CL32X476KQJNNN □		47μF	6.3	±10%	2.70	
13	CL32X476KRJNNN □		47μF	4	±10%	2.70	
14	CL32X107MQVNNN □		100μF	6.3	±20%	2.80	
15	CL32X107MRVNNN □		100μF	4	±20%	2.80	

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

Product Lineup (High Capacitance -X7R, X7S)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
1	CL05B224KO5NNN □	1.00×0.50	0.22 μF	16	±10%	0.55
2	CL05B224KP5NNN □		0.22 μF	10	±10%	0.55
3	CL05B224KQ5NNN □		0.22 μF	6.3	±10%	0.55
4	CL05B474KP5NNN □		0.47 μF	10	±10%	0.55
5	CL05B105KQ5NQN □		1 μF	6.3	±10%	0.60
1	CL05Y474KP5NNN □	1.00×0.50	0.47 μF	10	±10%	0.55
1	CL10B474KA8NNN □	1.60×0.80	0.47 μF	25	±10%	0.90
2	CL10B474KO8NNN □		0.47 μF	16	±10%	0.90
3	CL10B474KP8NNN □		0.47 μF	10	±10%	0.90
4	CL10B474KQ8NNN □		0.47 μF	6.3	±10%	0.90
5	CL10B105KA8NNN □		1 μF	25	±10%	0.90
6	CL10B105KO8NNN □		1 μF	16	±10%	0.90
7	CL10B105KP8NNN □		1 μF	10	±10%	0.90
8	CL10B105KQ8NNN □		1 μF	6.3	±10%	0.90
9	CL10B225KP8NNN □		2.2 μF	10	±10%	0.90
10	CL10B225KQ8NNN □		2.2 μF	6.3	±10%	0.90
11	CL10B106MQ8NRN □		10 μF	6.3	±20%	1.00
1	CL21B105KBFNNN □	2.00×1.25	1 μF	50	±10%	1.35
2	CL21B105KLFNNN □		1 μF	35	±10%	1.35
3	CL21B105KAFNNN □		1 μF	25	±10%	1.35
4	CL21B105KOFNNN □		1 μF	16	±10%	1.35
5	CL21B105KPFNNN □		1 μF	10	±10%	1.35
6	CL21B105KQFNNN □		1 μF	6.3	±10%	1.35
7	CL21B225KAFNNN □		2.2 μF	25	±10%	1.35
8	CL21B225KOFNNN □		2.2 μF	16	±10%	1.35
9	CL21B225KPFNNN □		2.2 μF	10	±10%	1.35
10	CL21B225KQFNNN □		2.2 μF	6.3	±10%	1.35
11	CL21B475KOFNFN □		4.7 μF	16	±10%	1.35
12	CL21B475KPFNFN □		4.7 μF	10	±10%	1.35
13	CL21B475KQNNN □		4.7 μF	6.3	±10%	1.40
14	CL21B106KAYNNN □		10 μF	25	±10%	1.45
15	CL21B106KOQNNN □		10 μF	16	±10%	1.40
16	CL21B106KPQNNN □		10 μF	10	±10%	1.40
17	CL21B106KQQNNN □		10 μF	6.3	±10%	1.40
18	CL21B226MQQNN □		22 μF	6.3	±20%	1.40
1	CL31B475KBHNNN □	3.20×1.60	4.7 μF	50	±10%	1.80
2	CL31B475KLHNNN □		4.7 μF	35	±10%	1.80
3	CL31B475KAHNNN □		4.7 μF	25	±10%	1.80
4	CL31B475KOHNNN □		4.7 μF	16	±10%	1.80
5	CL31B475KPHNNN □		4.7 μF	10	±10%	1.80
6	CL31B106KBHNSN □		4.7 μF	6.3	±10%	1.80
7	CL31B106KLHNNN □		10 μF	35	±10%	1.80
8	CL31B106KAHNNN □		10 μF	25	±10%	1.80
9	CL31B106KOHNNN □		10 μF	16	±10%	1.80
10	CL31B106KPHNNN □		10 μF	10	±10%	1.80
11	CL31B106KQHNNN □		10 μF	6.3	±10%	1.80
12	CL31B226KPHNNN □		22 μF	10	±10%	1.80
1	CL32B106KBJNNN □	3.20×2.50	10 μF	50	±10%	2.70
2	CL32B106KAJNNN □		10 μF	25	±10%	2.70
3	CL32B106KOJNNN □		10 μF	16	±10%	2.70
4	CL32B106KPIJNNN □		10 μF	10	±10%	2.20
5	CL32B106KQJNNN □		10 μF	6.3	±10%	2.70
6	CL32B226KAJNNN □		22 μF	25	±10%	2.70
7	CL32B226KOJNNN □		22 μF	16	±10%	2.70
8	CL32B226KPIJNNN □		22 μF	10	±10%	2.70
9	CL32B226KQJNNN □		22 μF	6.3	±10%	2.70
10	CL32B476MQJNNN □		47 μF	6.3	±20%	2.70
11	CL32B476MPJNNN □		47 μF	10	±20%	2.70

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 (High Capacitance -Y5V)

	Part Number	Size L×W (mm)	Capacitance	Rated Voltage (Vdc)	Capacitance Tolerance	Thickness Max. (mm)
1	CL05F224ZO5NNN □	1.00×0.50	0.22μF	16	+80/-20%	0.55
2	CL05F224ZP5NNN □		0.22μF	10	+80/-20%	0.55
3	CL05F224ZQ5NNN □		0.22μF	6.3	+80/-20%	0.55
4	CL05F474ZP5NNN □		0.47μF	10	+80/-20%	0.55
5	CL05F474ZQ5NNN □		0.47μF	6.3	+80/-20%	0.55
6	CL05F105ZQ5NNN □		1μF	6.3	+80/-20%	0.55
1	CL10F474ZB8NNN □	1.60×0.80	0.47μF	50	+80/-20%	0.90
2	CL10F474ZA8NNN □		0.47μF	25	+80/-20%	0.90
3	CL10F474ZO8NNN □		0.47μF	16	+80/-20%	0.90
4	CL10F474ZP8NNN □		0.47μF	10	+80/-20%	0.90
5	CL10F105ZO8NNN □		1μF	16	+80/-20%	0.90
6	CL10F105ZP8NNN □		1μF	10	+80/-20%	0.90
7	CL10F225ZP8NNN □		2.2μF	10	+80/-20%	0.90
8	CL10F225ZQ8NNN □		2.2μF	6.3	+80/-20%	0.90
9	CL10F475ZQ8NNN □		4.7μF	6.3	+80/-20%	0.90
1	CL21F105ZBFNNN □	2.00×1.25	1μF	50	+80/-20%	1.35
2	CL21F105ZAFNNN □		1μF	25	+80/-20%	1.35
3	CL21F105ZOFNNN □		1μF	16	+80/-20%	1.35
4	CL21F225ZAFNNN □		2.2μF	25	+80/-20%	1.35
5	CL21F225ZOFNNN □		2.2μF	16	+80/-20%	1.35
6	CL21F475ZQFNNN □		4.7μF	6.3	+80/-20%	1.35
7	CL21F475ZOFNNN □		4.7μF	16	+80/-20%	1.35
8	CL21F475ZPFNNN □		4.7μF	10	+80/-20%	1.35
9	CL21F106ZPFNNN □		10μF	10	+80/-20%	1.35
10	CL21F106ZPCLNN □		10μF	10	+80/-20%	0.95
11	CL21F106ZQFNNN □		10μF	6.3	+80/-20%	1.35
12	CL21F106ZQCLNN □		10μF	6.3	+80/-20%	0.95
1	CL31F475ZOFNNN □	3.20×1.60	4.7μF	16	+80/-20%	1.40
2	CL31F475ZPFNNN □		4.7μF	10	+80/-20%	1.40
3	CL31F475ZQFNNN □		4.7μF	6.3	+80/-20%	1.40
4	CL31F106ZOHNNN □		10μF	16	+80/-20%	1.80
5	CL31F106ZPHNNN □		10μF	10	+80/-20%	1.80
6	CL31F106ZQHNNN □		10μF	6.3	+80/-20%	1.80
7	CL31F226ZPHNNN □		22μF	10	+80/-20%	1.80
8	CL31F226ZQHNNN □		22μF	6.3	+80/-20%	1.80
1	CL32F106ZAHNNN □	3.20×2.50	10μF	25	+80/-20%	1.80
2	CL32F106ZOELNN □		10μF	16	+80/-20%	1.20
3	CL32F226ZPJNNN □		22μF	10	+80/-20%	2.70
4	CL32F226ZPJLNN □		22μF	10	+80/-20%	2.70
5	CL32F476ZQINNN □		47μF	6.3	+80/-20%	2.20
6	CL32F107ZQJNNN □		100μF	6.3	+80/-20%	2.70

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