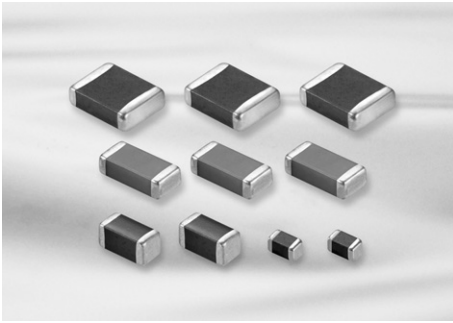


# General Capacitors



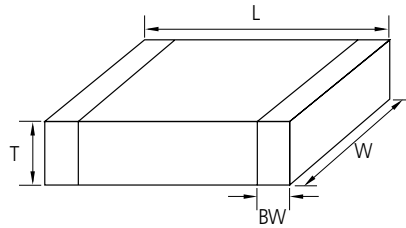
## Feature

- 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±0.15	1.25±0.15	1.25±0.20	Y	0.50±0.30		
				2.00±0.20	1.25±0.20		1.60±0.10	6
				3.20±0.20	1.60±0.20		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			
				1.80±0.20	U			
				2.00±0.20	I			
42	1808	4.50±0.40	2.00±0.20	2.50±0.20	J	0.80±0.30		
				2.50±0.30	v			
43	1812	4.50±0.40	3.20±0.30	3.20±0.30	L	0.80±0.30		
55	2220	5.70±0.40	5.00±0.40	3.20±0.30	L	1.00±0.30		

### ■ Pd MLCC (12<sup>th</sup> code in part number of pd MLCC = A)

- Class I type
- Capacitance < 10pF (Class I . 0402, 0603, 0805 case size)
- Capacitance < 18pF (Class I . 1206 case size)

\* Except the capacitance range mentioned as above, All other the capacitance range is using Ni inner electrode for Class I, Class II type(12<sup>th</sup> code in part number of Ni MLCC = N)

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

### Capacitance Table (General Capacitors)

Size	0402(05)	0603(10)	0805(21)	1206(31)	1210(32)	1812(43)	2220(55)		
TC	COG(C)								
Rated V	50(B)	50(B)	50(B)	25(A)	50(B)	50(B)	25(A)	50(B)	50(B)
Capacitance -pF- (part numbering code) and thickness -mm-									
0.2(0R2)									
0.5(0R5)									
1(010)									
10(100)									
12(120)									
18(180)									
22(220)									
33(330)									
39(390)									
47(470)	0.5 (5)								
56(560)									
100(101)									
150(151)									
180(181)									
220(221)									
270(271)									
330(331)									
390(391)									
470(471)									
560(561)			0.65 (A)						
680(681)									
820(821)									
1000(102)		0.8 (8)							
1200(122)									
1500(152)									
1800(182)									
2200(222)									
2700(272)									
3300(332)									
3900(392)									
4700(472)									
5600(562)									
6800(682)									
8200(822)									
10000(103)									
12000(123)									
15000(153)									
18000(183)									
22000(223)									
27000(273)									
33000(333)									
39000(393)									
43000(433)									
47000(473)									
56000(563)									
68000(683)									
100000(104)									
120000(124)									

:X7R(B)
  :X5R(A)
  :Y5V(F)
  :COG(C)
  :X6S(X)

Part Numbering System

General Capacitors

Ultra High Capacitors

Super Small Capacitors

High Voltage Capacitors

Camera Strobe Circuit Capacitors

Array Type Capacitors

Low ESL Capacitors

Reliability Test Condition

Premium Capacitors for Automotive Applications

Packaging Specification

Application Manual for Surface Mounting



### Capacitance Table (General Capacitors)

Size	0402(05)			0603(10)					0805(21)				
TC	U2J(U)/S2L(L)	T2H(T)	R2H(R)	U2J(U)/S2L(L)	T2H(T)	R2H(R)	S2H(S)	P2H(P)	U2J(U)/S2L(L)	T2H(T)	R2H(R)	S2H(S)	P2H(P)
Rated V	50(B)												
Capacitance -pF- (part numbering code) and thickness -mm-													
0.5(0R5)													
1(010)													
10(100)													
12(120)													
15(150)													
18(180)													
22(220)													
27(270)													
33(330)	0.5 (5)	0.5 (5)	0.5 (5)										
39(390)													
47(470)													
56(560)							0.8 (8)	0.8 (8)					
68(680)													0.65 (A)
82(820)													
100(101)													
120(121)													
150(151)													
180(181)													
220(221)													
270(271)													
330(331)							0.8 (8)					0.65 (A)	
390(391)						0.8 (8)				0.65 (A)			
470(471)					0.8 (8)					0.65 (A)			0.65 (A)
560(561)													
680(681)													
820(821)											0.85 (C)	0.85 (C)	0.85 (C)
1000(102)													
1200(122)										0.85 (C)			
1500(152)										0.85 (C)			

  :X7R(B)  
   :X5R(A)  
   :Y5V(F)  
   :C0G(C)  
   :X6S(X)

### Capacitance Table (General Capacitors)

Size	0402(05)					0603(10)					
TC	X7R(B) / X5R(A) / X6S(X)										
Rated V	4(R)	6.3(Q)	10(P)	16(O)	25(A)	50(B)	6.3(Q)	10(P)	16(O)	25(A)	50(B)
Capacitance -nF- (part numbering code) and thickness -mm-											
0.10(101)						0.5 (5)					0.8 (8)
0.15(151)											
0.22(221)											
0.33(331)											
0.47(471)											
0.68(681)											
1.0(102)						0.5 (5)					
1.5(152)											
2.2(222)											
3.3(332)											0.8 (8)
4.7(472)											
6.8(682)											
10(103)											
15(153)					0.5 (5)						
22(223)											
33(333)			0.5 (5)	0.5 (5)							
47(473)			0.5 (5)	0.5 (5)							
68(683)											
100(104)	0.5 (5)										
150(154)											
220(224)				0.5 (5)	0.5 (5)						
330(334)			0.5 (5)		0.5 (5)						
470(474)								0.8 (8)	0.8 (8)	0.8 (8)	0.8 (8)
680(684)		0.5 (5)									
1000(105)		0.5 (5)	0.5 (5)				0.8 (8)				0.8 (8)
1500(155)									0.5 (5)	0.5 (5)	
2200(225)								0.8 (8)			
3300(335)											
4700(475)							0.8 (8)	0.5 (5)	0.8 (8)	0.8 (8)	
10000(106)	0.5 (5)						0.8 (8)				
22000(226)											

  :X7R(B)  
   :X5R(A)  
   :Y5V(F)  
   :COG(C)  
   :X6S(X)

- Part Numbering System
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- Ultra High Capacitors
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- High Voltage Capacitors
- Camera Strobe Circuit Capacitors
- Array Type Capacitors
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- Reliability Test Condition
- Premium Capacitors for Automotive Applications
- Packaging Specification
- Application Manual for Surface Mounting



### Capacitance Table (General Capacitors)

Size	0805(21)					
TC	X7R(B) / X5R(A) / X6S(X)					
Rated V	4(R)	6.3(Q)	10(P)	16(O)	25(A)	50(B)
Capacitance -nF- (part numbering code) and thickness -mm-						
0.15(151)						
0.22(221)						
0.33(331)						
0.47(471)						
0.68(681)						
1.0(102)						
1.5(152)						
2.2(222)						0.65 (A)
3.3(332)						
4.7(472)						
6.8(682)						
10(103)						
15(153)						
22(223)						
33(333)						
47(473)					0.65 (A)	
68(683)					0.85 (C)	0.85 (C)
100(104)					0.65 (A)	
150(154)					0.85 (C)	
220(224)				0.65 (A)		
330(334)				0.85 (C)		
390(394)				0.85 (C)		1.25 (F)
470(474)						
680(684)						
1000(105)				1.25 (F)	0.6 (6)	1.25 (F)
1500(155)						0.85 (C)
2200(225)						1.25 (F)
3300(335)		1.25 (F)				
4700(475)			1.25 (Q)			1.25 (Q)
6800(685)				0.85 (C)		
10000(106)	0.85 (C)	1.25 (Q)	0.85 (C)	1.25 (Q)	1.25 (Y)	1.25 (Y)
15000(156)						
22000(226)	0.85 (C)					
47000(476)	1.25 (Y)					

:X7R(B)
  :X5R(A)
  :Y5V(F)
  :COG(C)
  :X6S(X)

### Capacitance Table (General Capacitors)

Size	1206(31)						1210(32)					
TC	X7R(B) / X5R(A) / X6S(X)											
Rated V	4(R)	6.3(Q)	10(P)	16(O)	25(A)	35(L)	50(B)	6.3(Q)	10(P)	16(O)	25(A)	50(B)
Capacitance -nF- (part numbering code) and thickness -mm-												
1.0(102)												
1.5(152)												
2.2(222)												
3.3(332)												
4.7(472)												
6.8(682)												
10(103)												
15(153)												
22(222)												
33(333)												
47(473)												
68(683)												
100(104)												
150(154)							0.85 (C)					
220(224)					0.85 (C)		1.25 (F)					
330(334)					1.25 (F)		1.6 (H)					
470(474)				0.85 (C)	1.25 (F)		1.6 (H)					1.25 (F)
680(684)				1.25 (F)	1.6 (H)		1.6 (H)					1.6 (H)
1000(105)			0.85 (C)	1.25 (F)	1.6 (H)		1.6 (H)				1.25 (F)	2.0 (I)
1500(155)			1.25 (F)	1.6 (H)	1.6 (H)		1.6 (H)				2.0 (I)	2.5 (J)
2200(225)			1.6 (H)	1.6 (H)	1.6 (H)		1.6 (H)			1.25 (F)	2.0 (I)	2.5 (J)
3300(335)			1.6 (H)	1.6 (H)	1.6 (H)		1.6 (H)			1.6 (H)	2.0 (I)	1.8 (U)
4700(475)			1.6 (H)	1.6 (H)	1.6 (H)		1.6 (H)			2.0 (I)	1.8 (U)	1.8 (U)
6800(685)		1.6 (H)	1.6 (H)	1.6 (H)	1.6 (H)		1.6 (H)			2.5 (J)	1.8 (U)	1.8 (U)
10000(106)		1.6 (H)	0.85 (C)	1.6 (H)	1.6 (H)		1.6 (H)			2.0 (I)	2.5 (J)	1.8 (U)
22000(226)			0.85 (C)	1.6 (H)	1.6 (H)		1.6 (H)			2.5 (J)	2.5 (J)	2.5 (J)
33000(336)			1.6 (H)	1.6 (H)	1.6 (H)		1.6 (H)			2.5 (J)	2.5 (J)	2.5 (J)
47000(476)	1.6 (H)	1.6 (H)	1.6 (H)	1.6 (H)	1.6 (H)		1.6 (H)			2.5 (J)	2.5 (J)	2.5 (J)
68000(686)		1.6 (H)	1.6 (H)	1.6 (H)	1.6 (H)		1.6 (H)			2.5 (J)	2.5 (J)	2.5 (J)
100000(107)		1.6 (H)	1.6 (H)	1.6 (H)	1.6 (H)		1.6 (H)			2.5 (J)	2.5 (J)	2.5 (J)

  :X7R(B)  
   :X5R(A)  
   :Y5V(F)  
   :COG(C)  
   :X6S(X)

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

Size	1812(43)					2220(55)		
TC	X7R(B) / X5R(A)							
Rated V	6.3(Q)	10(P)	16(O)	25(A)	50(B)	6.3(Q)	10(P)	25(A)
Capacitance -nF- (part numbering code) and thickness -mm-								
10(103)					1.25 (F)			
1000(105)								
1500(155)								
2200(225)								
3300(335)								
4700(475)				2.5 (J)				
6800(685)								2.5 (J)
10000(106)				3.2 (L)				
15000(156)								
22000(226)		2.5 (J)						
33000(336)							2.5 (J)	
47000(476)	2.5 (J)							
100000(107)	3.2 (L)					2.5 (J)		

Size	0402(05)					0603(10)			
TC	Y5V(F)								
Rated V	6.3(Q)	10(P)	16(O)	25(A)	50(B)	6.3(Q)	10(P)	16(O)	50(B)
Capacitance -nF- (part numbering code) and thickness -mm-									
2.2(222)									
4.7(472)					0.50 (5)				
10(103)									
15(153)									
22(223)				0.50 (5)					
47(473)			0.50 (5)						0.80 (8)
100(104)									
220(224)									
470(474)		0.50 (5)							
1000(105)	0.50 (5)							0.80 (8)	
2200(225)							0.80 (8)		
4700(475)						0.80 (8)			

  :X7R(B)  
   :X5R(A)  
   :Y5V(F)  
   :COG(C)  
   :X6S(X)

### Capacitance Table (General Capacitors)

Size	0805(21)				1206(31)			
TC	Y5V(F)							
Rated V	10(P)	16(O)	25(A)	50(B)	10(P)	16(O)	25(A)	50(B)
Capacitance -nF- (part numbering code) and thickness -mm-								
2.2(222)								
4.7(472)								
10(103)				0.65 (A)				
22(223)								
47(473)								
100(104)								
220(224)			0.65 (A)					0.85 (C)
470(474)		0.65 (A)	0.85 (C)	1.25 (F)				
1000(105)		0.85 (C)					0.85 (C)	1.25 (F)
2200(225)		1.25 (F)	1.25 (F)			0.85 (C)	1.25 (F)	
4700(475)						1.25 (F)		
10000(106)	1.25 (F)					1.6 (H)		
22000(226)					1.6 (H)			

Size	1210(32)			1812(43)		2220(55)
TC	Y5V(F)					
Rated V	10(P)	25(A)	35(L)	16(O)	50(B)	10(P)
Capacitance -nF- (part numbering code) and thickness -mm-						
10(103)						
22(223)						
47(473)						
100(104)						
220(224)						
470(474)						
1000(105)						
2200(225)						
4700(475)		1.6 (H)	1.6 (H)			
10000(106)					2.5 (J)	
22000(226)	2.5 (J)			2.0 (I)		
47000(476)						2.5 (J)
100000(107)						

:X7R(B)
:X5R(A)
:Y5V(F)
:C0G(C)
:X6S(X)

- Part Numbering System
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**Product Line Up (General Capacitors)**

Part Number	Size L×W (1.0×0.5mm)							Capacitance (pF)	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	C	P	R	S	T	U	L				
	COG	P2H	R2H	S2H	T2H	U2J	S2L				
CL05○0R2CB5ANN □	●				●	●		0.20	±0.25pF	50	0.55
CL05○0R5CB5ANN □	●				●	●		0.50	±0.25pF	50	0.55
CL05○0R8CB5ANN □	●				●	●		0.80	±0.25pF	50	0.55
CL05○R82CB5ANN □	●				●	●		0.82	±0.25pF	50	0.55
CL05○0R9CB5ANN □	●				●	●		0.90	±0.25pF	50	0.55
CL05○010CB5ANN □	●				●	●		1.00	±0.25pF	50	0.55
CL05○1R2CB5ANN □	●				●	●		1.20	±0.25pF	50	0.55
CL05○1R5CB5ANN □	●				●	●		1.50	±0.25pF	50	0.55
CL05○1R8CB5ANN □	●				●	●		1.80	±0.25pF	50	0.55
CL05○020CB5ANN □	●				●	●		2.00	±0.25pF	50	0.55
CL05○2R2CB5ANN □	●				●	●		2.20	±0.25pF	50	0.55
CL05○2R7CB5ANN □	●				●	●		2.70	±0.25pF	50	0.55
CL05○030CB5ANN □	●				●	●		3.00	±0.25pF	50	0.55
CL05○3R3CB5ANN □	●				●	●		3.30	±0.25pF	50	0.55
CL05○3R9CB5ANN □	●				●	●		3.90	±0.25pF	50	0.55
CL05○040CB5ANN □	●				●	●		4.00	±0.25pF	50	0.55
CL05○4R7CB5ANN □	●				●	●		4.70	±0.25pF	50	0.55
CL05○050DB5ANN □	●				●	●		5.00	±0.5pF	50	0.55
CL05○5R6DB5ANN □	●				●	●		5.60	±0.5pF	50	0.55
CL05○060DB5ANN □	●				●	●		6.00	±0.5pF	50	0.55
CL05○6R8DB5ANN □	●				●	●		6.80	±0.5pF	50	0.55
CL05○070DB5ANN □	●				●	●		7.00	±0.5pF	50	0.55
CL05○080DB5ANN □	●				●	●		8.00	±0.5pF	50	0.55
CL05○8R2DB5ANN □	●				●	●		8.20	±0.5pF	50	0.55
CL05○090DB5ANN □	●				●	●		9.00	±0.5pF	50	0.55
CL05○100JB5NNN □	●							10	±5%	50	0.55
CL05○120JB5NNN □	●							12	±5%	50	0.55
CL05○120JB5ANN □					●	●		12	±5%	50	0.55
CL05○150JB5NNN □	●							15	±5%	50	0.55
CL05○180JB5NNN □	●							18	±5%	50	0.55
CL05○220JB5NNN □	●							22	±5%	50	0.55
CL05○270JB5NNN □	●							27	±5%	50	0.55
CL05○270JB5ANN □					●	●		27	±5%	50	0.55
CL05○330JB5NNN □	●							33	±5%	50	0.55
CL05○330JB5ANN □					●	●		33	±5%	50	0.55

※○mark means temperature characteristic code. The parts with mark ●are available to produce.

※□mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

Product Line Up (General Capacitors)

Part Number	Size L × W (1.0 × 0.5mm)							Capacitance (pF)	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	C	P	R	S	T	U	L				
	COG	P2H	R2H	S2H	T2H	U2J	S2L				
CL05 ○ 390JB5N NN □	●							39	±5%	50	0.55
CL05 ○ 390JB5AN NN □					●	●		39	±5%	50	0.55
CL05 ○ 470JB5N NN □	●							47	±5%	50	0.55
CL05 ○ 470JB5AN NN □					●	●		47	±5%	50	0.55
CL05 ○ 560JB5N NN □	●							56	±5%	50	0.55
CL05 ○ 560JB5AN NN □					●	●		56	±5%	50	0.55
CL05 ○ 680JB5N NN □	●							68	±5%	50	0.55
CL05 ○ 680JB5AN NN □					●	●		68	±5%	50	0.55
CL05 ○ 820JB5N NN □	●							82	±5%	50	0.55
CL05 ○ 820JB5AN NN □						●		82	±5%	50	0.55
CL05 ○ 101JB5N NN □	●							100	±5%	50	0.55
CL05 ○ 101JB5AN NN □						●		100	±5%	50	0.55
CL05 ○ 121JB5N NN □	●							120	±5%	50	0.55
CL05 ○ 151JB5N NN □	●							150	±5%	50	0.55
CL05 ○ 151JB5AN NN □						●		150	±5%	50	0.55
CL05 ○ 181JB5N NN □	●							180	±5%	50	0.55
CL05 ○ 221JB5N NN □	●							220	±5%	50	0.55
CL05 ○ 271JB5N NN □	●							270	±5%	50	0.55
CL05 ○ 331JB5N NN □	●							330	±5%	50	0.55
CL05 ○ 471JB5N NN □	●							470	±5%	50	0.55

Part Numbering System

General Capacitors

Ultra High Capacitors

Super Small Capacitors

High Voltage Capacitors

Camera Strobe Circuit Capacitors

Array Type Capacitors

Low ESL Capacitors

Reliability Test Condition

Premium Capacitors for Automotive Applications

Packaging Specification

Application Manual for Surface Mounting

Part Number	Size L × W (1.6 × 0.8mm)							Capacitance (pF)	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	C	P	R	S	T	U	L				
	COG	P2H	R2H	S2H	T2H	U2J	S2L				
CL10 ○ 0R2CB8AN NN □	●		●	●	●	●	●	0.20	±0.25pF	50	0.90
CL10 ○ 0R3CB8AN NN □	●		●	●	●	●	●	0.30	±0.25pF	50	0.90
CL10 ○ 0R4CB8AN NN □	●		●	●	●	●	●	0.40	±0.25pF	50	0.90
CL10 ○ R47CB8AN NN □	●		●	●	●	●	●	0.47	±0.25pF	50	0.90
CL10 ○ 0R5CB8AN NN □	●		●	●	●	●	●	0.50	±0.25pF	50	0.90
CL10 ○ R56CB8AN NN □	●		●	●	●	●	●	0.56	±0.25pF	50	0.90
CL10 ○ R68CB8AN NN □	●		●	●	●	●	●	0.68	±0.25pF	50	0.90
CL10 ○ 0R7CB8AN NN □	●		●	●	●	●	●	0.70	±0.25pF	50	0.90
CL10 ○ 0R8CB8AN NN □	●		●	●	●	●	●	0.80	±0.25pF	50	0.90

※ ○ mark means temperature characteristic code. The parts with mark ● are available to produce.

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.



## Product Line Up (General Capacitors)

Part Number	Size L×W (1.6×0.8mm)							Capacitance (pF)	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	C	P	R	S	T	U	L				
	COG	P2H	R2H	S2H	T2H	U2J	S2L				
CL10○R82CB8ANN □	●		●	●	●	●	●	0.82	±0.25pF	50	0.90
CL10○010CB8ANN □	●		●	●	●	●	●	1.00	±0.25pF	50	0.90
CL10○1R2CB8ANN □	●		●	●	●	●	●	1.20	±0.25pF	50	0.90
CL10○1R5CB8ANN □	●		●	●	●	●	●	1.50	±0.25pF	50	0.90
CL10○1R8CB8ANN □	●		●	●	●	●	●	1.80	±0.25pF	50	0.90
CL10○020CB8ANN □	●		●	●	●	●	●	2.00	±0.25pF	50	0.90
CL10○2R2CB8ANN □	●		●	●	●	●	●	2.20	±0.25pF	50	0.90
CL10○2R7CB8ANN □	●		●	●	●	●	●	2.70	±0.25pF	50	0.90
CL10○030CB8ANN □	●		●	●	●	●	●	3.00	±0.25pF	50	0.90
CL10○3R3CB8ANN □	●		●	●	●	●	●	3.30	±0.25pF	50	0.90
CL10○3R9CB8ANN □	●		●	●	●	●	●	3.90	±0.25pF	50	0.90
CL10○040CB8ANN □	●		●	●	●	●	●	4.00	±0.25pF	50	0.90
CL10○4R7CB8ANN □	●		●	●	●	●	●	4.70	±0.25pF	50	0.90
CL10○050DB8ANN □	●		●	●	●	●	●	5.00	±0.5pF	50	0.90
CL10○5R6DB8ANN □	●		●	●	●	●	●	5.60	±0.5pF	50	0.90
CL10○060DB8ANN □	●		●	●	●	●	●	6.00	±0.5pF	50	0.90
CL10○6R8DB8ANN □	●		●	●	●	●	●	6.80	±0.5pF	50	0.90
CL10○070DB8ANN □	●		●	●	●	●	●	7.00	±0.5pF	50	0.90
CL10○080DB8ANN □	●		●	●	●	●	●	8.00	±0.5pF	50	0.90
CL10○8R2DB8ANN □	●		●	●	●	●	●	8.20	±0.5pF	50	0.90
CL10○090DB8ANN □	●		●	●	●	●	●	9.00	±0.5pF	50	0.90
CL10○100JB8NNN □	●							10	±5%	50	0.90
CL10○100JB8ANN □			●	●	●	●	●	10	±5%	50	0.90
CL10○120JB8NNN □	●							12	±5%	50	0.90
CL10○120JB8ANN □			●	●	●	●	●	12	±5%	50	0.90
CL10○150JB8NNN □	●							15	±5%	50	0.90
CL10○150JB8ANN □			●	●	●	●	●	15	±5%	50	0.90
CL10○180JB8NNN □	●							18	±5%	50	0.90
CL10○180JB8ANN □			●	●	●	●	●	18	±5%	50	0.90
CL10○220JB8NNN □	●							22	±5%	50	0.90
CL10○220JB8ANN □			●	●	●	●	●	22	±5%	50	0.90
CL10○270JB8NNN □	●							27	±5%	50	0.90
CL10○270JB8ANN □			●		●	●	●	27	±5%	50	0.90
CL10○330JB8NNN □	●							33	±5%	50	0.90
CL10○330JB8ANN □			●		●	●	●	33	±5%	50	0.90

※○mark means temperature characteristic code. The parts with mark ●are available to produce.

※□mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

**Product Line Up (General Capacitors)**

Part Number	Size L × W (1.6 × 0.8mm)							Capacitance (pF)	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	C	P	R	S	T	U	L				
	COG	P2H	R2H	S2H	T2H	U2J	S2L				
CL10○390JB8NNN □	●							39	±5%	50	0.90
CL10○390JB8ANN □			●		●	●	●	39	±5%	50	0.90
CL10○470JB8NNN □	●							47	±5%	50	0.90
CL10○470JB8ANN □			●		●	●	●	47	±5%	50	0.90
CL10○560JB8NNN □	●							56	±5%	50	0.90
CL10○560JB8ANN □			●		●	●		56	±5%	50	0.90
CL10○680JB8NNN □	●							68	±5%	50	0.90
CL10○680JB8ANN □			●		●	●		68	±5%	50	0.90
CL10○820JB8NNN □	●							82	±5%	50	0.90
CL10○820JB8ANN □			●		●	●		82	±5%	50	0.90
CL10○101JB8NNN □	●							100	±5%	50	0.90
CL10○101JB8ANN □			●		●	●		100	±5%	50	0.90
CL10○121JB8NNN □	●							120	±5%	50	0.90
CL10○121JB8ANN □			●		●	●		120	±5%	50	0.90
CL10○151JB8NNN □	●							150	±5%	50	0.90
CL10○151JB8ANN □			●		●	●		150	±5%	50	0.90
CL10○181JB8NNN □	●							180	±5%	50	0.90
CL10○181JB8ANN □			●		●	●		180	±5%	50	0.90
CL10○221JB8NNN □	●							220	±5%	50	0.90
CL10○221JB8ANN □					●	●		220	±5%	50	0.90
CL10○271JB8NNN □	●							270	±5%	50	0.90
CL10○271JB8ANN □					●	●		270	±5%	50	0.90
CL10○331JB8NNN □	●							330	±5%	50	0.90
CL10○331JB8ANN □					●	●		330	±5%	50	0.90
CL10○391JB8NNN □	●							390	±5%	50	0.90
CL10○471JB8NNN □	●							470	±5%	50	0.90
CL10○471JB8ANN □						●		470	±5%	50	0.90
CL10○561JB8NNN □	●							560	±5%	50	0.90
CL10○681JB8NNN □	●							680	±5%	50	0.90
CL10○681JB8ANN □						●		680	±5%	50	0.90
CL10○821JB8NNN □	●							820	±5%	50	0.90
CL10○102JB8NNN □	●							1000	±5%	50	0.90
CL10○122JB8NNN □	●							1200	±5%	50	0.90
CL10○222JB8NNN □	●							2200	±5%	50	0.90
CL10○332JA8NNN □	●							3300	±5%	25	0.90

※ ○ mark means temperature characteristic code. The parts with mark ● are available to produce.  
 ※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

- Part Numbering System
- General Capacitors
- Ultra High Capacitors
- Super Small Capacitors
- High Voltage Capacitors
- Camera Strobe Circuit Capacitors
- Array Type Capacitors
- Low ESL Capacitors
- Reliability Test Condition
- Premium Capacitors for Automotive Applications
- Packaging Specification
- Application Manual for Surface Mounting

**Product Line Up (General Capacitors)**

Part Number	Size L×W (2.0×1.25mm)							Capacitance (pF)	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	C	P	R	S	T	U	L				
	COG	P2H	R2H	S2H	T2H	U2J	S2L				
CL21○R47CBAANN □	●	●	●	●	●	●	●	0.47	±0.25pF	50	0.75
CL21○0R5CBAANN □	●	●	●	●	●	●	●	0.50	±0.25pF	50	0.75
CL21○R68CBAANN □	●	●	●	●	●	●	●	0.68	±0.25pF	50	0.75
CL21○R82CBAANN □	●	●	●	●	●	●	●	0.82	±0.25pF	50	0.75
CL21○010CBAANN □	●	●	●	●	●	●	●	1.00	±0.25pF	50	0.75
CL21○1R2CBAANN □	●	●	●	●	●	●	●	1.20	±0.25pF	50	0.75
CL21○1R5CBAANN □	●	●	●	●	●	●	●	1.50	±0.25pF	50	0.75
CL21○1R8CBAANN □	●	●	●	●	●	●	●	1.80	±0.25pF	50	0.75
CL21○020CBAANN □	●	●	●	●	●	●	●	2.00	±0.25pF	50	0.75
CL21○2R2CBAANN □	●	●	●	●	●	●	●	2.20	±0.25pF	50	0.75
CL21○2R7CBAANN □	●	●	●	●	●	●	●	2.70	±0.25pF	50	0.75
CL21○030CBAANN □	●	●	●	●	●	●	●	3.00	±0.25pF	50	0.75
CL21○3R3CBAANN □	●	●	●	●	●	●	●	3.30	±0.25pF	50	0.75
CL21○3R9CBAANN □	●	●	●	●	●	●	●	3.90	±0.25pF	50	0.75
CL21○040CBAANN □	●	●	●	●	●	●	●	4.00	±0.25pF	50	0.75
CL21○4R7CBAANN □	●	●	●	●	●	●	●	4.70	±0.25pF	50	0.75
CL21○050DBAANN □	●	●	●	●	●	●	●	5.00	±0.5pF	50	0.75
CL21○5R6DBAANN □	●	●	●	●	●	●	●	5.60	±0.5pF	50	0.75
CL21○060DBAANN □	●	●	●	●	●	●	●	6.00	±0.5pF	50	0.75
CL21○6R8DBAANN □	●	●	●	●	●	●	●	6.80	±0.5pF	50	0.75
CL21○070DBAANN □	●	●	●	●	●	●	●	7.00	±0.5pF	50	0.75
CL21○080DBAANN □	●	●	●	●	●	●	●	8.00	±0.5pF	50	0.75
CL21○8R2DBAANN □	●	●	●	●	●	●	●	8.20	±0.5pF	50	0.75
CL21○090DBAANN □	●	●	●	●	●	●	●	9.00	±0.5pF	50	0.75
CL21○100JBANNN □	●							10	±5%	50	0.75
CL21○100JBAANN □			●	●	●	●	●	10	±5%	50	0.75
CL21○120JBANNN □	●							12	±5%	50	0.75
CL21○120JBAANN □			●	●	●	●	●	12	±5%	50	0.75
CL21○150JBANNN □	●							15	±5%	50	0.75
CL21○180JBANNN □	●							18	±5%	50	0.75
CL21○220JBANNN □	●							22	±5%	50	0.75
CL21○270JBANNN □	●							27	±5%	50	0.75
CL21○330JBANNN □	●							33	±5%	50	0.75
CL21○390JBANNN □	●							39	±5%	50	0.75
CL21○470JBANNN □	●							47	±5%	50	0.75

※○mark means temperature characteristic code. The parts with mark ●are available to produce.

※□mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

**Product Line Up (General Capacitors)**

Part Number	Size L×W (2.0×1.25mm)							Capacitance (pF)	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	C	P	R	S	T	U	L				
	COG	P2H	R2H	S2H	T2H	U2J	S2L				
CL21○560JBANNN □	●							56	±5%	50	0.75
CL21○680JBANNN □	●							68	±5%	50	0.75
CL21○820JBANNN □	●							82	±5%	50	0.75
CL21○101JBANNN □	●							100	±5%	50	0.75
CL21○101JBAANN □			●	●	●	●	●	100	±5%	50	0.75
CL21○121JBANNN □	●							120	±5%	50	0.75
CL21○151JBANNN □	●							150	±5%	50	0.75
CL21○181JBANNN □	●							180	±5%	50	0.75
CL21○221JBANNN □	●							220	±5%	50	0.75
CL21○271JBANNN □	●							270	±5%	50	0.75
CL21○331JBANNN □	●							330	±5%	50	0.75
CL21○331JBAANN □			●	●	●	●	●	330	±5%	50	0.75
CL21○391JBANNN □	●							390	±5%	50	0.75
CL21○471JBANNN □	●							470	±5%	50	0.75
CL21○471JBAANN □			●	●	●	●	●	470	±5%	50	0.75
CL21○561JBANNN □	●							560	±5%	50	0.75
CL21○821JBCNNN □	●							820	±5%	50	0.95
CL21○821JBAANN □			●	●	●	●	●	820	±5%	50	0.75
CL21○102JBCNNN □	●							1000	±5%	50	0.95
CL21○122JBFNNN □	●							1200	±5%	50	1.35
CL21○152JBFNNN □	●							1500	±5%	50	1.35
CL21○182JBFNNN □	●							1800	±5%	50	1.35
CL21○222JBFNNN □	●							2200	±5%	50	1.35
CL21○332JAFNNN □	●							3300	±5%	25	1.35
CL21○332JBFNNN □	●							3300	±5%	50	1.35
CL21○392JBFNNN □	●							3900	±5%	50	1.35
CL21○472JAFNNN □	●							4700	±5%	25	1.35
CL21○472JBFNNN □	●							4700	±5%	50	1.35
CL21○562JBFNNN □	●							5600	±5%	50	1.35
CL21○103JBFNNN □	●							10000	±5%	50	1.35

※ ○ mark means temperature characteristic code. The parts with mark ● are available to produce.  
 ※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

- Part Numbering System
- General Capacitors
- Ultra High Capacitors
- Super Small Capacitors
- High Voltage Capacitors
- Camera Strobe Circuit Capacitors
- Array Type Capacitors
- Low ESL Capacitors
- Reliability Test Condition
- Premium Capacitors for Automotive Applications
- Packaging Specification
- Application Manual for Surface Mounting



## Product Line Up (General Capacitors)

Part Number	Size L×W (3.2×1.6(2.5)mm)							Capacitance (pF)	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	C	P	R	S	T	U	L				
	COG	P2H	R2H	S2H	T2H	U2J	S2L				
CL31 ○ 122JBCNNN □	●							1200	±5%	50	0.75
CL31 ○ 152JBCNNN □	●							1500	±5%	50	0.75
CL31 ○ 182JBCNNN □	●							1800	±5%	50	0.75
CL31 ○ 222JBCNNN □	●							2200	±5%	50	0.75
CL31 ○ 472JBFNNN □	●							4700	±5%	50	1.35
CL31 ○ 562JBHNNN □	●							5600	±5%	50	1.80
CL31 ○ 682JBHNNN □	●							6800	±5%	50	1.80
CL31 ○ 103JAFNNN □	●							10000	±5%	25	1.35
CL32 ○ 103JBFNNN □	●							10000	±5%	50	1.35

Part Number	Size L×W (1.0×0.5mm)			Capacitance	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	A	B	F				
	X5R(EIA)	X7R(EIA)	Y5V(EIA)				
CL05 ○ 221KB5NNN □		●		0.22nF	±10%	50	0.55
CL05 ○ 331KB5NNN □		●		0.33nF	±10%	50	0.55
CL05 ○ 471KB5NNN □		●		0.47nF	±10%	50	0.55
CL05 ○ 681KB5NNN □		●		0.68nF	±10%	50	0.55
CL05 ○ 102KB5NNN □		●		1.0nF	±10%	50	0.55
CL05 ○ 152KB5NNN □		●		1.5nF	±10%	50	0.55
CL05 ○ 222KB5NNN □		●		2.2nF	±10%	50	0.55
CL05 ○ 332KB5NNN □		●		3.3nF	±10%	50	0.55
CL05 ○ 472KB5NNN □		●		4.7nF	±10%	50	0.55
CL05 ○ 682KB5NNN □		●		6.8nF	±10%	50	0.55
CL05 ○ 103KB5NNN □		●		10nF	±10%	50	0.55
CL05 ○ 103ZB5NNN □			●	10nF	+80%~-20%	50	0.55
CL05 ○ 153ZB5NNN □			●	15nF	+80%~-20%	50	0.55
CL05 ○ 102KA5NNN □		●		1nF	±10%	25	0.55
CL05 ○ 222KA5NNN □		●		2.2nF	±10%	25	0.55
CL05 ○ 332KA5NNN □		●		3.3nF	±10%	25	0.55
CL05 ○ 472KA5NNN □		●		4.7nF	±10%	25	0.55
CL05 ○ 682KA5NNN □		●		6.8nF	±10%	25	0.55
CL05 ○ 103KA5NNN □		●		10nF	±10%	25	0.55

※ ○ mark means temperature characteristic code. The parts with mark ● are available to produce.

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

Product Line Up (General Capacitors)

Part Number	Size L × W (1.0 × 0.5mm)			Capacitance	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	A	B	F				
	X5R(EIA)	X7R(EIA)	Y5V(EIA)				
CL05 ○ 153KA5NND □		●		15nF	±10%	25	0.55
CL05 ○ 223KA5NND □		●		22nF	±10%	25	0.55
CL05 ○ 223ZA5NND □			●	22nF	+80%~-20%	25	0.55
CL05 ○ 333ZA5NND □			●	33nF	+80%~-20%	25	0.55
CL05 ○ 104KA5NND □	●			100nF	±10%	25	0.55
CL05 ○ 102KO5NND □		●		1.0nF	±10%	16	0.55
CL05 ○ 472KO5NND □		●		4.7nF	±10%	16	0.55
CL05 ○ 682KO5NND □		●	●	6.8nF	±10%	16	0.55
CL05 ○ 103KO5NND □		●		10nF	±10%	16	0.55
CL05 ○ 103ZO5NND □			●	10nF	+80%~-20%	16	0.55
CL05 ○ 153KO5NND □		●		15nF	±10%	16	0.55
CL05 ○ 223KO5NND □		●		22nF	±10%	16	0.55
CL05 ○ 223ZO5NND □			●	22nF	+80%~-20%	16	0.55
CL05 ○ 333KO5NND □		●		33nF	±10%	16	0.55
CL05 ○ 473KO5NND □		●		47nF	±10%	16	0.55
CL05 ○ 473ZO5NND □			●	47nF	+80%~-20%	16	0.55
CL05 ○ 683KO5NND □		●		68nF	±10%	16	0.55
CL05 ○ 104KO5NND □	●	●		100nF	±10%	16	0.55
CL05 ○ 104ZO5NND □			●	100nF	+80%~-20%	16	0.55
CL05 ○ 224ZO5NND □			●	220nF	+80%~-20%	16	0.55
CL05 ○ 103KP5NND □		●		10nF	±10%	10	0.55
CL05 ○ 333KP5NND □		●		33nF	±10%	10	0.55
CL05 ○ 473KP5NND □	●	●		47nF	±10%	10	0.55
CL05 ○ 683KP5NND □		●		68nF	±10%	10	0.55
CL05 ○ 104KP5NND □	●	●		100nF	±10%	10	0.55
CL05 ○ 224ZP5NND □			●	220nF	+80%~-20%	10	0.55
CL05 ○ 474ZP5NND □			●	470nF	+80%~-20%	10	0.55
CL05 ○ 104KQ5NND □	●	●		100nF	±10%	6.3	0.55
CL05 ○ 154KQ5NND □	●			150nF	±10%	6.3	0.55
CL05 ○ 474KQ5NND □			●	470nF	+80%~-20%	6.3	0.55

※ ○ mark means temperature characteristic code. The parts with mark ● are available to produce.  
 ※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

Part Numbering System

General Capacitors

Ultra High Capacitors

Super Small Capacitors

High Voltage Capacitors

Camera Strobe Circuit Capacitors

Array Type Capacitors

Low ESL Capacitors

Reliability Test Condition

Premium Capacitors for Automotive Applications

Packaging Specification

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**Product Line Up (General Capacitors)**

Part Number	Size L×W (1.6×0.8mm)			Capacitance	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	A	B	F				
	X5R(EIA)	X7R(EIA)	Y5V(EIA)				
CL10○101KB8NNN □		●		0.10nF	±10%	50	0.90
CL10○151KB8NNN □		●		0.15nF	±10%	50	0.90
CL10○221KB8NNN □		●		0.22nF	±10%	50	0.90
CL10○331KB8NNN □		●		0.33nF	±10%	50	0.90
CL10○471KB8NNN □		●		0.47nF	±10%	50	0.90
CL10○681KB8NNN □		●		0.68nF	±10%	50	0.90
CL10○102KB8NNN □		●		1.0nF	±10%	50	0.90
CL10○152KB8NNN □		●		1.5nF	±10%	50	0.90
CL10○222KB8NNN □		●		2.2nF	±10%	50	0.90
CL10○332KB8NNN □		●		3.3nF	±10%	50	0.90
CL10○472KB8NNN □		●		4.7nF	±10%	50	0.90
CL10○682KB8NNN □		●		6.8nF	±10%	50	0.90
CL10○103KB8NNN □		●		10nF	±10%	50	0.90
CL10○103ZB8NNN □			●	10nF	+80%~-20%	50	0.90
CL10○153KB8NNN □		●		15nF	±10%	50	0.90
CL10○223KB8NNN □		●		22nF	±10%	50	0.90
CL10○223ZB8NNN □			●	22nF	+80%~-20%	50	0.90
CL10○333KB8NNN □		●		33nF	±10%	50	0.90
CL10○473KB8NNN □		●		47nF	±10%	50	0.90
CL10○473ZB8NNN □			●	47nF	+80%~-20%	50	0.90
CL10○683KB8NNN □		●		68nF	±10%	50	0.90
CL10○104KB8NNN □		●		100nF	±10%	50	0.90
CL10○104ZB8NNN □			●	100nF	+80%~-20%	50	0.90
CL10○224ZB8NNN □			●	220nF	+80%~-20%	50	0.90
CL10○474ZB8NNN □			●	470nF	+80%~-20%	50	0.90
CL10○102KA8NNN □		●		1.0nF	±10%	25	0.90
CL10○472KA8NNN □		●		4.7nF	±10%	25	0.90
CL10○682KA8NNN □		●		6.8nF	±10%	25	0.90
CL10○103KA8NNN □		●		10nF	±10%	25	0.90
CL10○153KA8NNN □		●		15nF	±10%	25	0.90
CL10○223KA8NNN □		●		22nF	±10%	25	0.90
CL10○223ZA8NNN □			●	22nF	+80%~-20%	25	0.90
CL10○333KA8NNN □		●		33nF	±10%	25	0.90
CL10○473KA8NNN □		●		47nF	±10%	25	0.90
CL10○473ZA8NNN □			●	47nF	+80%~-20%	25	0.90

※○mark means temperature characteristic code. The parts with mark ●are available to produce.

※□mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

Product Line Up (General Capacitors)

Part Number	Size L × W (1.6 × 0.8mm)			Capacitance	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	A	B	F				
	X5R(EIA)	X7R(EIA)	Y5V(EIA)				
CL10 ○ 683KA8NNN □		●		68nF	±10%	25	0.90
CL10 ○ 104KA8NNN □		●		100nF	±10%	25	0.90
CL10 ○ 104ZA8NNN □			●	100nF	+80%~-20%	25	0.90
CL10 ○ 224KA8NNN □	●			220nF	±10%	25	0.90
CL10 ○ 224ZA8NNN □			●	220nF	+80%~-20%	25	0.90
CL10 ○ 334KA8NNN □	●			330nF	±10%	25	0.90
CL10 ○ 474ZA8NNN □			●	470nF	+80%~-20%	25	0.90
CL10 ○ 105KA8NNN □		●		1.0nF	±10%	25	0.90
CL10 ○ 102KO8NNN □		●		1.0nF	±10%	16	0.90
CL10 ○ 103KO8NNN □		●		10nF	±10%	16	0.90
CL10 ○ 153KO8NNN □		●		15nF	±10%	16	0.90
CL10 ○ 223KO8NNN □		●		22nF	±10%	16	0.90
CL10 ○ 333KO8NNN □		●		33nF	±10%	16	0.90
CL10 ○ 473KO8NNN □		●	●	47nF	±10%	16	0.90
CL10 ○ 473ZO8NNN □			●	47nF	+80%~-20%	16	0.90
CL10 ○ 683KO8NNN □		●		68nF	±10%	16	0.90
CL10 ○ 104KO8NNN □		●	●	100nF	±10%	16	0.90
CL10 ○ 104ZO8NNN □			●	100nF	+80%~-20%	16	0.90
CL10 ○ 154KO8NNN □		●		150nF	±10%	16	0.90
CL10 ○ 224KO8NNN □		●		220nF	±10%	16	0.90
CL10 ○ 224ZO8NNN □			●	220nF	+80%~-20%	16	0.90
CL10 ○ 334KO8NNN □		●		330nF	±10%	16	0.90
CL10 ○ 474KO8NNN □		●		470nF	±10%	16	0.90
CL10 ○ 474ZO8NNN □			●	470nF	+80%~-20%	16	0.90
CL10 ○ 105KO8NNN □		●		1.0μF	±10%	16	0.90
CL10 ○ 105ZO8NNN □			●	1.0μF	+80%~-20%	16	0.90
CL10 ○ 154KP8NNN □		●		150nF	±10%	10	0.90
CL10 ○ 224KP8NNN □	●	●		220nF	±10%	10	0.90
CL10 ○ 334KP8NNN □		●		330nF	±10%	10	0.90
CL10 ○ 474KP8NNN □		●		470nF	±10%	10	0.90
CL10 ○ 474ZP8NNN □			●	470nF	+80%~-20%	10	0.90
CL10 ○ 105ZP8NNN □			●	1.0μF	+80%~-20%	10	0.90
CL10 ○ 474KQ8NNN □		●		470nF	±10%	6.3	0.90
CL10 ○ 684KQ8NNN □		●		680	±10%	6.3	0.90
CL10 ○ 105KQ8NNN □		●		1.0μF	±10%	6.3	0.90
CL10 ○ 225KQ8NNN □		●		2.2μF	±10%	6.3	0.90

※ ○ mark means temperature characteristic code. The parts with mark ● are available to produce.  
 ※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

Part Numbering System

General Capacitors

Ultra High Capacitors

Super Small Capacitors

High Voltage Capacitors

Camera Strobe Circuit Capacitors

Array Type Capacitors

Low ESL Capacitors

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**Product Line Up (General Capacitors)**

Part Number	Size L×W (2.0×1.25mm)			Capacitance	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	A	B	F				
	X5R(EIA)	X7R(EIA)	Y5V(EIA)				
CL21○151KBANNN □		●		0.15nF	±10%	50	0.75
CL21○221KBANNN □		●		0.22nF	±10%	50	0.75
CL21○331KBANNN □		●		0.33nF	±10%	50	0.75
CL21○471KBANNN □		●		0.47nF	±10%	50	0.75
CL21○681KBANNN □		●		0.68nF	±10%	50	0.75
CL21○102KBANNN □		●		1.0nF	±10%	50	0.75
CL21○152KBANNN □		●		1.5nF	±10%	50	0.75
CL21○222KBANNN □		●		2.2nF	±10%	50	0.75
CL21○332KBANNN □		●		3.3nF	±10%	50	0.75
CL21○332KBCNNN □		●		3.3nF	±10%	50	0.95
CL21○472KBANNN □		●		4.7nF	±10%	50	0.75
CL21○682KBANNN □		●		6.8nF	±10%	50	0.75
CL21○103KBANNN □		●		10nF	±10%	50	0.75
CL21○103KBCNNN □		●		10nF	±10%	50	0.95
CL21○103ZBANNN □			●	10nF	+80%~-20%	50	0.75
CL21○153KBANNN □		●		15nF	±10%	50	0.75
CL21○223KBANNN □		●		22nF	±10%	50	0.75
CL21○223ZBANNN □			●	22nF	+80%~-20%	50	0.75
CL21○333KBANNN □		●		33nF	±10%	50	0.75
CL21○473ZBANNN □			●	47nF	+80%~-20%	50	0.75
CL21○683KBCNNN □		●		68nF	±10%	50	0.95
CL21○104KBCNNN □		●		100nF	±10%	50	0.95
CL21○104ZBANNN □			●	100nF	+80%~-20%	50	0.75
CL21○104ZBCNNN □			●	100nF	+80%~-20%	50	0.95
CL21○154KBFNNN □		●		150nF	±10%	50	1.35
CL21○224KBFNNN □		●		220nF	±10%	50	1.35
CL21○224ZBCNNN □			●	220nF	+80%~-20%	50	0.95
CL21○474ZBFNNN □			●	470nF	+80%~-20%	50	1.35
CL21○105KBFNNN □		●		1.0μF	±10%	50	1.35
CL21○105ZBFNNN □			●	1.0μF	+80%~-20%	50	1.35
CL21○102KAANNN □		●		1.0nF	±10%	25	0.75
CL21○103KAANNN □		●		10nF	±10%	25	0.75
CL21○473KAANNN □		●		47nF	±10%	25	0.75
CL21○683KAANNN □		●		68nF	±10%	25	0.75
CL21○104KACNNN □		●		100nF	±10%	25	0.95
CL21○104ZANNN □			●	100nF	+80%~-20%	25	0.75

※ ○ mark means temperature characteristic code. The parts with mark ● are available to produce.

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

Product Line Up (General Capacitors)

Part Number	Size L × W (2.0 × 1.25mm)			Capacitance	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	A	B	F				
	X5R(EIA)	X7R(EIA)	Y5V(EIA)				
CL21 ○ 154KAFNNN □		●		150nF	±10%	25	1.35
CL21 ○ 224KAFNNN □		●		220nF	±10%	25	1.35
CL21 ○ 224ZAANNN □			●	220nF	+80%~-20%	25	0.75
CL21 ○ 334KAFNNN □		●		330nF	±10%	25	1.35
CL21 ○ 474KAFNNN □		●		470nF	±10%	25	1.35
CL21 ○ 474ZACNNN □			●	470nF	+80%~-20%	25	0.95
CL21 ○ 105KAFNNN □		●		1.0μF	±10%	25	1.35
CL21 ○ 105ZAFNNN □			●	1.0μF	+80%~-20%	25	1.35
CL21 ○ 225ZAFNNN □			●	2.2μF	+80%~-20%	25	1.35
CL21 ○ 153KOANNN □		●		15nF	±10%	16	0.75
CL21 ○ 333KOANNN □		●		33nF	±10%	16	0.75
CL21 ○ 104KOANNN □		●		100nF	±10%	16	0.75
CL21 ○ 104ZOANNN □			●	100nF	+80%~-20%	16	0.75
CL21 ○ 154KOANNN □		●		150nF	±10%	16	0.75
CL21 ○ 224KOCNNN □		●		220nF	±10%	16	0.95
CL21 ○ 224ZOANNN □			●	220nF	+80%~-20%	16	0.75
CL21 ○ 334KOCNNN □		●		330nF	±10%	16	0.95
CL21 ○ 474KOFNNN □		●		470nF	±10%	16	1.35
CL21 ○ 474ZOANNN □			●	470nF	+80%~-20%	16	0.75
CL21 ○ 474ZOCNNN □			●	470nF	+80%~-20%	16	0.95
CL21 ○ 684KOFNNN □		●		680nF	±10%	16	1.35
CL21 ○ 105KOFNNN □		●		1.0μF	±10%	16	1.35
CL21 ○ 105ZOCNNN □			●	1.0μF	+80%~-20%	16	0.95
CL21 ○ 105ZOFNNN □			●	1.0μF	+80%~-20%	16	1.35
CL21 ○ 225ZOFNNN □			●	2.2μF	+80%~-20%	16	1.35
CL21 ○ 475ZOFNNN □			●	4.7μF	+80%~-20%	16	1.35
CL21 ○ 474KPCNNN □		●		470nF	±10%	10	0.95
CL21 ○ 684KPFNNN □		●		680nF	±10%	10	1.35
CL21 ○ 105KPFNNN □		●		1.0μF	±10%	10	1.35
CL21 ○ 225ZPFNNN □			●	2.2μF	+80%~-20%	10	1.35
CL21 ○ 475ZPFNNN □			●	4.7μF	+80%~-20%	10	1.35

※ ○ mark means temperature characteristic code. The parts with mark ● are available to produce.

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

Part Numbering System

General Capacitors

Ultra High Capacitors

Super Small Capacitors

High Voltage Capacitors

Camera Strobe Circuit Capacitors

Array Type Capacitors

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**Product Line Up (General Capacitors)**

Part Number	Size L × W (3.2 × 1.6mm)			Capacitance	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	A	B	F				
	X5R(EIA)	X7R(EIA)	Y5V(EIA)				
CL31 ○ 154KBCNNN □		●		150nF	±10%	50	1.00
CL31 ○ 334KBFNNN □		●		330nF	±10%	50	1.40
CL31 ○ 474KBHNNN □		●		470nF	±10%	50	1.8
CL31 ○ 474ZBCNNN □			●	470nF	+80%~-20%	50	1.00
CL31 ○ 684KBHNNN □		●		680nF	±10%	50	1.8
CL31 ○ 105KBHNNN □		●		1.0μF	±10%	50	1.8
CL31 ○ 105ZBFNNN □			●	1.0μF	+80%~-20%	50	1.40
CL31 ○ 225KBHNNN □	●			2.2μF	±10%	50	1.8
CL31 ○ 104KACNNN □		●		100nF	±10%	25	1.00
CL31 ○ 154KACNNN □		●		150nF	±10%	25	1.00
CL31 ○ 224KACNNN □		●		220nF	±10%	25	1.00
CL31 ○ 334KACNNN □		●		330nF	±10%	25	1.00
CL31 ○ 684KAHNNN □		●		680nF	±10%	25	1.8
CL31 ○ 105KAPNNN □		●		1.0μF	±10%	25	1.25
CL31 ○ 105KAHNNN □		●		1.0μF	±10%	25	1.8
CL31 ○ 105ZACNNN □			●	1.0μF	+80%~-20%	25	1.00
CL31 ○ 225KAHNNN □	●	●		2.2μF	±10%	25	1.8
CL31 ○ 225ZAFNNN □			●	2.2μF	+80%~-20%	25	1.40
CL31 ○ 334KOCNNN □		●		330nF	±10%	16	1.00
CL31 ○ 474KOCNNN □		●		470nF	±10%	16	1.00
CL31 ○ 684KOCNNN □		●		680nF	±10%	16	1.00
CL31 ○ 105ZOCNNN □			●	1.0μF	+80%~-20%	16	1.00
CL31 ○ 155KOFNNN □		●		1.5μF	±10%	16	1.40
CL31 ○ 225KOHNNN □		●		2.2μF	±10%	16	1.8
CL31 ○ 225ZOCNNN □			●	2.2μF	+80%~-20%	16	1.00
CL31 ○ 335KOCLNN □	●			3.3μF	±10%	16	0.95
CL31 ○ 335KOHNNN □	●	●		3.3μF	±10%	16	1.8
CL31 ○ 475ZOENNN □			●	4.7μF	+80%~-20%	16	1.25
CL31 ○ 475ZOFNNN □			●	4.7μF	+80%~-20%	16	1.40
CL31 ○ 106ZOHNNN □			●	10μF	+80%~-20%	16	1.8
CL31 ○ 105KPCNNN □		●		1.0μF	±10%	10	1.00
CL31 ○ 225KPENNN □		●		2.2μF	±10%	10	1.25
CL31 ○ 475KPHNNN □		●		4.7μF	±10%	10	1.8
CL31 ○ 106ZPENNN □			●	10μF	+80%~-20%	10	1.25
CL31 ○ 106ZPFNNN □			●	10μF	+80%~-20%	10	1.40
CL31 ○ 685KQHNNN □		●		6.8μF	±10%	6.3	1.8
CL31 ○ 106KQHNNN □		●		10μF	±10%	6.3	1.8

※ ○ mark means temperature characteristic code. The parts with mark ● are available to produce.

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

Product Line Up (General Capacitors)

Part Number	Size L × W (3.2 × 2.5mm)			Capacitance	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	A	B	F				
	X5R(EIA)	X7R(EIA)	Y5V(EIA)				
CL32 ○ 474KBFNNN □		●		470nF	±10%	50	1.45
CL32B475KBUYNN □		●		4.7μF	±10%	50	2.00
CL32 ○ 105KBHNNN □		●		1.0μF	±10%	50	1.80
CL32 ○ 225KBJNNN □		●		2.2μF	±10%	50	2.70
CL32 ○ 475KBUYNN □		●		4.7μF	±10%	50	2.00
CL32 ○ 475KLULNN □	●			4.7μF	±10%	35	2.00
CL32 ○ 106KLULNN □	●			10μF	±10%	35	2.00
CL32 ○ 106ZLHNNN □			●	10μF	+80%~-20%	35	1.80
CL32 ○ 105KAFNNN □		●		1.0μF	±10%	25	1.45
CL32 ○ 225KANNNN □		●		2.2μF	±10%	25	2.20
CL32 ○ 475KAULNN □	●			4.7μF	±10%	25	2.00
CL32 ○ 475KAIINN □	●			4.7μF	±10%	25	2.20
CL32 ○ 475ZAHNNN □			●	4.7μF	+80%~-20%	25	1.80
CL32 ○ 106KA9LNN □	●			10μF	±10%	25	1.00
CL32 ○ 106KATLNN □	●			10μF	±10%	25	1.70
CL32 ○ 106KAULNN □	●			10μF	±10%	25	2.00
CL32 ○ 106KAJNNN □		●		10μF	±10%	25	2.70
CL32 ○ 106KAJSNN □		●		10μF	±10%	25	2.70
CL32 ○ 106ZAHNNN □			●	10μF	+80%~-20%	25	1.80
CL32 ○ 106ZASLNN □			●	10μF	+80%~-20%	25	1.50
CL32 ○ 475KOINN □		●		4.7μF	±10%	16	2.20
CL32 ○ 475ZO9LNN □			●	4.7μF	+80%~-20%	16	1.00
CL32 ○ 475ZOFNNN □			●	4.7μF	+80%~-20%	16	1.45
CL32 ○ 106KOCLNN □	●			10μF	±10%	16	0.95
CL32 ○ 106KO9LNN □	●			10μF	±10%	16	1.00
CL32 ○ 106KOMLNN □	●			10μF	±10%	16	1.25
CL32 ○ 106KOTLNN □	●			10μF	±10%	16	1.70
CL32 ○ 106KOJNNN □	●	●		10μF	±10%	16	2.70
CL32 ○ 106ZOELNN □			●	10μF	+80%~-20%	16	1.20
CL32 ○ 106ZOHNNN □			●	10μF	+80%~-20%	16	1.80
CL32 ○ 106ZOMLNN □			●	10	+80%~-20%	16	1.25
CL32 ○ 106KPIINN □	●	●		10μF	±10%	10	2.20

Part Number	Size L × W (4.5 × 3.2mm)			Capacitance	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	A	B	F				
	X5R(EIA)	X7R(EIA)	Y5V(EIA)				
CL43 ○ 684KBFNNN □		●		680nF	±10%	50	1.45
CL43 ○ 105KBFNNN □		●		1μF	±10%	50	1.45
CL43 ○ 106KALNNN □		●		10μF	±10%	25	3.40

Part Number	Size L × W (5.7 × 5.0mm)			Capacitance	Capacitance Tolerance	Rated Voltage (Vdc)	Thickness Max. (mm)
	A	B	F				
	X5R(EIA)	X7R(EIA)	Y5V(EIA)				
CL55 ○ 105KBIINN □		●		1μF	±10%	50	2.20
CL55 ○ 476KPIJNN □	●			47μF	±10%	10	2.70
CL55 ○ 107KQJNNN □	●			100μF	±10%	6.3	2.70
CL55 ○ 107ZPJNNN □			●	100μF	+80%~-20%	10	2.70

※ ○ mark means temperature characteristic code. The parts with mark ● are available to produce.

※ □ mark means packaging code. If you want to learn the code or quantity in detail, please see p 81.

Part Numbering System

General Capacitors

Ultra High Capacitors

Super Small Capacitors

High Voltage Capacitors

Camera Strobe Circuit Capacitors

Array Type Capacitors

Low ESL Capacitors

Reliability Test Condition

Premium Capacitors for Automotive Applications

Packaging Specification

Application Manual for Surface Mounting