

NOMINAL CAPACITANCE

Capacitance expressed in pF. 2 significant digits plus number of zeros.

(example) 106 = 10 $\diamond$ 10⁶ = 10000000 pF

For Values < 10pF, Letter R denotes decimal point.

(example) 1R5 = 1.5 pF

CAPACITANCE TOLERANCE

Temperature Characteristics	Symbol	Tolerance	Applicable Capacitance Range
COG(NPO) or T.C Series	A	$\pm 0.05\text{pF}$	0.5 ~ 10pF
	B	$\pm 0.1\text{pF}$	
	C	$\pm 0.25\text{pF}$	
	D	$\pm 0.5\text{pF}$	
	F	$\pm 1\text{pF}, \pm 1\%^*$	E-24 Series for over 10pF
	G	$\pm 2\%$	
	J	$\pm 5\%$	
	K	$\pm 10\%$	
A(X5R)	J	$\pm 5\%$	E-12 Series
B(X7R)	K	$\pm 10\%$	
X(X6S)	M	$\pm 20\%$	
F(Y5V)	Z	+80%~-20%	E-6 Series

*For Values $\leq 10\text{pF}$, F = $\pm 1\text{pF}$ Values > 10pF, F = $\pm 1\%$

RATED VOLTAGE

Symbol	Rated Voltage(Vdc)	Symbol	Rated Voltage(Vdc)
R	4.0V	D	200V
Q	6.3V	E	250V
P	10V	G	500V
O	16V	H	630V
A	25V	I	1000V
L	35V	J	2000V
B	50V	K	3000V
C	100V		

Please consult us for special voltage.

THICKNESS OPTION

Size	Code	Thickness (mm)	Specification
0201(0603)	3	0.30	± 0.03
0402(1005)	5	0.50	± 0.05
0603(1608)	8	0.80	± 0.10
0805(2012)	A	0.65	± 0.10
	C	0.85	
	D	1.00	± 0.15
	F	1.25	± 0.10
1206(3216)	Q	1.25	± 0.15
	C	0.85	± 0.15
	D	1.00	
	F	1.25	
1210(3225)	H	1.60	± 0.20
	F	1.25	± 0.20
	H	1.60	
	I	2.00	
	J	2.50	
1808(4520)	V	2.50	± 0.30
	F	1.25	± 0.20
	H	1.60	
	I	2.00	
	J	2.50	
1812(4532)	L	3.20	± 0.20
	F	1.25	
	H	1.60	
	I	2.00	
	J	2.50	± 0.20
2220(5750)	L	3.20	
	F	1.25	
	H	1.60	
	I	2.00	
	J	2.50	± 0.30

PRODUCT & PLATING METHOD

Code	Electrode	Termination	Plating Method
A	Pd	Ag	Sn-100%
N	Ni	Cu	Sn-100%
G	Cu	Cu	Sn-100%
L	Ni	Cu	Sn-100%

PRODUCT CODE

Code	Description of the Code	Code	Description of the Code
A	Array(2 - element)	L	LICC
B	Array(4 - element)	N	Normal
C	High - Q	P	Automotive

RESERVED FOR FUTURE USE

Code	Description of the Code
N	Reserved for future use

PACKAGING CODE

Symbol	Packaging
B	Bulk
P	Bulk Case
C	Cardboard Tape, 7" reel
D	Cardboard Tape, 13" reel(10,000ea)
E	Embossed Tape, 7" reel
F	Embossed Tape, 13" reel
L	Cardboard Tape, 13" reel(15,000ea)
O	Cardboard Tape, 10" reel
S	Embossed Tape, 10" reel

■ CAPACITANCE TABLE (General Capacitors)

Size	0402(05)					0603(10)				
TC	X7R(B) / X5R(A)									
Rated V	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 T Dimension -mm-										
0.22(221)										
0.33(331)										
0.39(391)										
0.47(471)										
0.56(561)										
0.68(681)					0.5 (5)					
0.82(821)										
1.0(102)										
1.5(152)										
2.2(222)										
3.3(332)										
4.7(472)										0.8 (8)
6.8(682)					0.5 (5)					
10(103)				0.5 (5)						
15(153)										
22(223)				0.5 (5)						
33(333)										
39(393)										
47(473)										
56(563)										
68(683)	0.5 (5)			0.5 (5)						0.8 (8)
82(823)										
100(104)		0.5 (5)			0.5 (5)					
120(124)										
150(154)		0.5 (5)		0.5 (5)						
220(224)										
330(334)	0.5 (5)									
470(474)										
680(684)						0.8 (8)				
1000(105)							0.8 (8)			
2200(225)						0.8 (8)				
4700(475)										

X7R(B)

X5R(A)

X7R(B), X5R(A)

■ CAPACITANCE TABLE (General Capacitors)

Size	0805(21)				
TC	X7R(B) / X5R(A)				
Rated V	6.3(Q)	10(P)	16(O)	25(A)	50(B)
Capacitance -nF- (part numbering code) and T Dimension -mm-					
0.22(221)					
0.33(331)					
0.47(471)					
0.68(681)					
0.82(821)					
10(102)					
15(152)					
22(222)					
27(272)					
33(332)					0.65 (A)
47(472)					
56(562)					
68(682)					
10(103)					
15(153)					
22(223)					
27(273)					
33(333)					
39(393)					
47(473)				0.65 (A)	0.85 (C)
56(563)					
68(683)			0.65 (A)		
82(823)				0.85 (C)	
100(104)			0.65 (A)		1.25 (F)
120(124)					
150(154)					
180(184)					
220(224)		0.65 (A)			
270(274)			0.85 (C)	1.25 (F)	
330(334)					
390(394)		0.85 (C)			
470(474)					
560(564)			1.25 (F)		
680(684)		1.25 (F)			
1000(105)	1.25 (F)			1.25 (F)	
2200(225)			1.25 (F)		
3300(335)	0.85 (C)				
4700(475)	1.25 (F)	1.25 (F)	0.85 (C)		
10000(106)	1.25 (F)				
22000(226)	1.25 (Q)				

■ X7R(B) ■ X5R(A) ■ X7R(B), X5R(A)

■ CAPACITANCE TABLE (General Capacitors)

Size	1206(31)					1210(32)				
TC	X7R(B) / X5R(A)									
Rated V	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 T Dimension -mm-										
10(102)										
22(222)										
33(332)										
47(472)										
10(103)										
15(153)					0.85 (C)					
27(273)										
33(333)										
47(473)										
100(104)										1.25 (F)
150(154)										
220(224)				0.85 (C)	1.25 (F)					
330(334)										
390(394)										
470(474)										
560(564)			0.85 (C)	1.25 (F)	1.6 (H)					
680(684)										
820(824)		0.85 (C)		1.6 (H)						1.6 (H)
1000(105)			1.25 (F)						1.25 (F)	
1200(125)					1.6 (H)					2.0 (I)
1500(155)										
1800(185)		1.25 (F)					1.25 (F)	1.25 (F)	1.6 (H) 2.0 (I)	2.5 (J)
2200(225)			1.6 (H)							
3300(335)				1.6 (H)			1.6 (H)	1.6 (H)		
3900(395)		1.6 (H)							2.0 (I)	
4700(475)			1.6 (H)				2.0 (I)	2.0 (I)		
6800(685)	1.6 (H)	1.6 (H)						2.5 (J)		
10000(106)	1.6 (H)									
22000(226)	1.6 (H)					2.5 (J)	2.5 (J)	2.5 (J)		
47000(476)						2.5 (J) 2.5 (V)				
100000(107)										

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)	16(O)	25(A)	50(B)
Capacitance -nF- (part numbering code) and T Dimension -mm-										
10(103)					1.25 (F)					
1000(105)				2.0 (I)						2.0 (I)
2200(225)			2.0 (I)							
4700(475)				2.5 (J)						
10000(106)			2.5 (J)	3.2 (L)					2.5 (J)	
22000(226)		2.5 (J)								
47000(476)	2.5 (J)					2.5 (J)	2.5 (J)			
100000(107)	3.2 (L)									

X7R(B)
 X5R(A)
 X7R(B), X5R(A)

■ CAPACITANCE TABLE (General Capacitors)

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)	25(A)	50(B)
Capacitance -nF- (part numbering code) and T Dimension -mm-										
2.2(222)										
3.3(332)										
4.7(472)										
6.8(682)					0.50 (5)					
10(103)										
15(153)				0.50 (5)						
22(223)										
33(333)										0.80 (8)
47(473)			0.50 (5)							
68(683)										
100(104)									0.80 (8)	
150(154)										
220(224)	0.50 (5)	0.50 (5)								
330(334)							0.80 (8)	0.80 (8)		
470(474)										
680(684)										
1000(105)										
2200(225)						0.80 (8)				

Size	0805(21)				
TC	Y5V(F)				
Rated V	6.3(Q)	10(P)	16(O)	25(A)	50(B)
Capacitance -nF- (part numbering code) and T Dimension -mm-					
22(222)					
4.7(472)					
6.8(682)					0.65 (A)
10(103)					
22(223)					
6.8(683)				0.65 (A)	
100(104)					0.85 (C)
150(154)			0.65 (A)		
220(224)					
270(274)				0.85 (C)	
470(474)					1.25 (F)
680(684)					
1000(105)			0.85 (C)	1.25 (F)	
1500(155)					
2200(225)			1.25 (F)		
3300(335)					
4700(475)					
6800(685)					
10000(106)	1.25 (F)	1.25 (F)			

■ **CAPACITANCE TABLE (General Capacitors)**

Size	1206(31)					1210(32)					
TC	Y5V(F)										
Rated V	6.3(Q)	10(P)	16(O)	25(A)	50(B)	6.3(Q)	10(P)	16(O)	25(A)	35(L)	50(B)
Capacitance -nF- (part numbering code) and T Dimension -mm-											
10(103)											
15(153)											
22(223)											
33(333)											
47(473)											
68(683)					0.85 (C)						
100(104)											
150(154)											
220(224)											
330(334)											1.25 (F)
470(474)				0.85 (C)							
680(684)					1.25 (F)						
1000(105)			0.85 (C)						1.25 (F)		
1500(155)				1.25 (F)							
2200(225)					1.6 (H)						
3300(335)			1.25 (F)					1.25 (F)			
4700(475)		1.25 (F)							1.6 (H)		
6800(685)			1.6 (H)								
10000(106)										1.6 (H)	
15000(156)		1.6 (H)						2.0 (I)			
22000(226)											
33000(336)											
47000(476)						2.0 (I)					
100000(107)						2.5 (J)					

* 1.1(E) & 1.6(H)
1.15(M) & 2.5(J)
1.15(M) & 1.6(H)

Size	1812(43)			2220(55)
TC	Y5V(F)			
Rated V	16(O)	25(A)	50(B)	10(P)
Capacitance -nF- (part numbering code) and T Dimension -mm-				
10000(106)		2.5 (J)	2.5 (J)	
15000(156)				
22000(226)	2.0 (I)			
33000(336)				
47000(476)				
68000(686)				
100000(107)				2.5 (J)

■ **CAPACITANCE TABLE (General Capacitors)**

Size	0402(05)			0603(10)		0805(21)		1206(31)		1210(32)	1812(43)		2220(55)
TC	COG(C)												
Rated V	6.3(Q)	25(A)	50(B)	25(A)	50(B)	25(A)	50(B)	25(A)	50(B)	50(B)	25(A)	50(B)	50(B)
Capacitance -pF- (part numbering code) and T Dimension -mm-													
0.5(0R5)													
1(010)													
10(100)													
18(180)													
33(330)													
47(470)													
56(560)		0.5 (5)	0.5 (5)										
100(100)							0.65 (A)						
150(150)													
180(180)				0.8 (8)	0.8 (8)					0.85 (C)			
220(220)													
330(330)													
470(470)	0.5 (5)												
560(560)													
680(680)							0.85 (C)						
1000(100)													
1200(120)													
1500(150)													
1800(180)													
2200(220)								0.85 (C)					
3300(330)													
3900(390)							1.25 (F)		1.25 (F)			1.25 (F)	
4700(470)													
5600(560)						1.25 (F)		1.25 (F)					
6800(680)													
8200(820)													
10000(100)													
12000(120)													
15000(150)													
18000(180)													
22000(220)													
27000(270)													
33000(330)													
43000(430)													1.6 (H)
47000(470)													
62000(620)													
68000(680)													
91000(910)													2.0 (I)
100000(100)													
1000000(100)											1.6 (H)		
10000000(100)													2.5 (J)

■ CAPACITANCE TABLE (General Capacitors)

Size	0402(05)	0603(10)	0805(21)	0402(05)	0603(10)	0805(21)	0402(05)	0603(10)	0805(21)	0603(10)	0805(21)	0603(10)	0805(21)
TC	U2J(U), S2L(L)			T2H(T)			R2H(R)			S2H(S)		P2H(P)	
Rated V	50(B)	50(B)	50(B)	50(B)	50(B)	50(B)	50(B)	50(B)	50(B)	50(B)	50(B)	50(B)	50(B)
Capacitance -pF- (part numbering code) and T Dimension -mm-													
0.5(0R5)													
1(010)													
10(100)													
12(120)													
15(150)													
24(240)													
33(330)	0.5			0.5			0.5						
47(470)	(5)			(5)			(5)						
56(560)													
68(680)													
82(820)							0.8		0.65	0.8		0.8	0.65
100(101)					0.8	0.65	(8)	(A)					
120(121)		0.8	0.65		(8)	(A)					0.65		
150(151)		(8)	(A)										
180(181)													
220(221)													
270(271)													
330(331)													
390(391)													
470(471)													
560(561)													
680(681)													
820(821)													
910(911)									0.85		0.85		0.85
1000(102)						0.85			(C)		(C)		(C)
1200(122)						(C)							
1500(152)			0.85			(C)							
2200(222)													
2700(272)													
3300(332)													
3900(392)													