Innovative Service Around the Globe YAGEO

Product Selection Tables 2005

MLCC

Phycomp brand

Phycomp

www.yageo.com

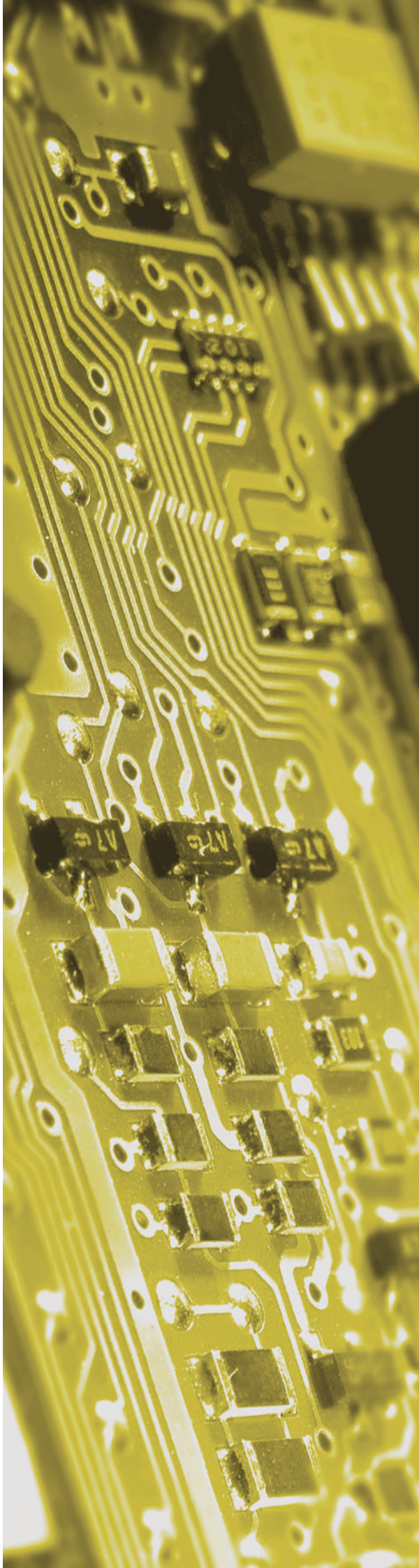


Table of Contents

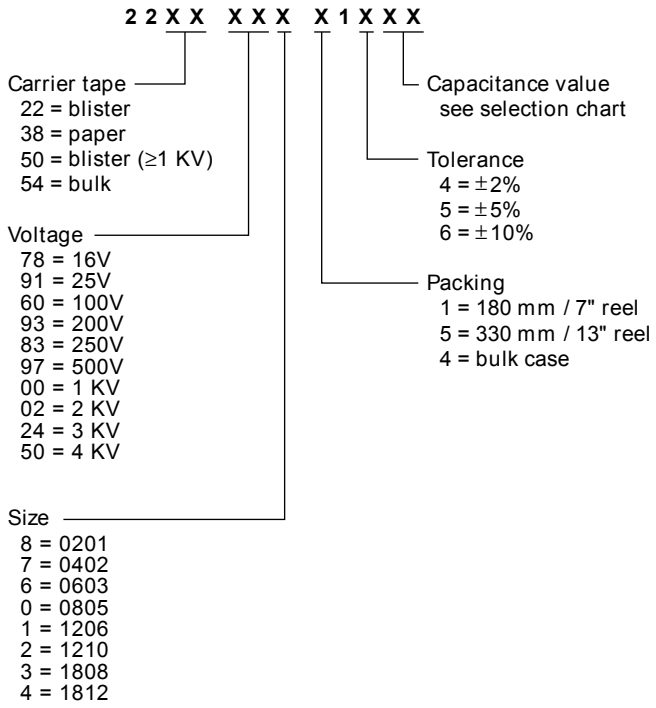
NP0, 16V, general purpose

NP0 - 16V					
General purpose					
Capacitance	Last two digits of 12NC	16V			
		0402	0603	0805	1206
270 pF	42	0.5 ±0.05			
330 pF	43				
390 pF	44				
470 pF	45				
1.8 nF	53		0.8 ±0.07		
2.2 nF	54				
2.7 nF	55				
3.3 nF	56				
5.6 nF	59			0.85 ±0.1	
6.8 nF	61				
8.2 nF	62				
10 nF	63				
12 nF	64				0.6 ±0.1
15 nF	65				0.85 ±0.1
18 nF	66				
22 nF	67				
27 nF	68				1.15 ±0.1
33 nF	69				
Tape width		8mm			

Note: Values in shaded cells indicate thickness class (Unit: mm)

NP0, 16V, general purpose

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

0805CG102J9B200 (example)

0805	CG	102	J	9	B	2	0	0
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210 1808 1812	CG = NP0	102 = 1000 pF The third digit signifies the multiplying factor: 8 = x 0.01 9 = x 0.1 0 = x 1 1 = x 10 2 = x 100 3 = x 1000	B = ±0.1 pF C = ±0.25 pF D = ±0.5 pF F = ±1% G = ±2% J = ±5% K = ±10%	7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV G = 3 KV H = 4 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk	0 = no marking	0 = conv. ceramic M = microwave

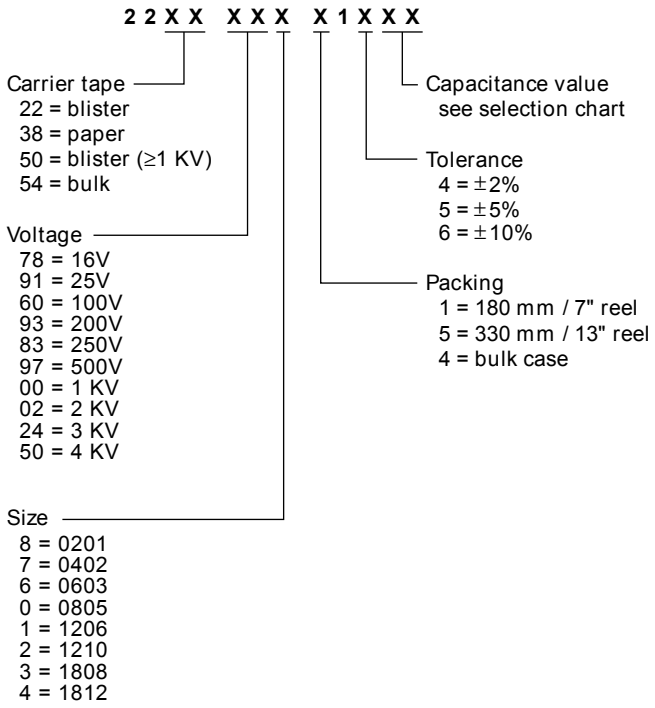
NP0, 25V, general purpose

NP0 - 25V						
General purpose						
Capacitance	Last two digits of 12NC	25V				
		0402	0603	0805	1206	1210
150 pF	38	0.5 ±0.05				
180 pF	39					
220 pF	41					
470 pF	45		0.8 ±0.07			
560 pF	46					
680 pF	47					
820 pF	48					
1000 pF	49					
1.2 nF	51					
1.5 nF	52					
3.3 nF	56			0.85 ±0.1		
3.9 nF	57			1.25 ±0.1		
4.7 nF	58					
8.2 nF	62				0.85 ±0.1	
10 nF	63					
12 nF	64					0.6 ±0.1
15 nF	65					0.85 ±0.1
18 nF	66					
22 nF	67					1.15 ±0.15
Tape width		8mm				

Note: Values in shaded cells indicate thickness class (Unit: mm)

NP0, 25V, general purpose

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

0805CG102J9B200 (example)

0805	CG	102	J	9	B	2	0	0
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210 1808 1812	CG = NP0	102 = 1000 pF The third digit signifies the multiplying factor: 8 = x 0.01 9 = x 0.1 0 = x 1 1 = x 10 2 = x 100 3 = x 1000	B = ±0.1 pF C = ±0.25 pF D = ±0.5 pF F = ±1% G = ±2% J = ±5% K = ±10%	7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV G = 3 KV H = 4 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk	0 = no marking	0 = conv. ceramic M = microwave

NP0, 50V, general purpose

NP0 - 50V							
General purpose							
Capacitance	Last three digits of 12NC	50V					
		0402	0603	0805	1206	1210	1812
0.47 pF	477	0.5 ±0.05	0.8 ±0.07	0.6 ±0.1	0.6 ±0.1		
0.56 pF	567						
0.68 pF	687						
0.82 pF	827						
1 pF	108						
1.2 pF	128						
1.5 pF	158						
1.8 pF	188						
2.2 pF	228						
2.7 pF	278						
3.3 pF	338						
3.9 pF	398						
4.7 pF	478						
5.6 pF	568						
6.8 pF	688						
8.2 pF	828						
10 pF	109						
12 pF	129						
15 pF	159						
18 pF	189						
22 pF	229						
27 pF	279						
33 pF	339						
39 pF	399						
47 pF	479					0.6 ±0.1	
56 pF	569						
68 pF	689						
82 pF	829						
100 pF	101						
120 pF	121						
150 pF	151						
180 pF	181						
220 pF	221						
270 pF	271						
330 pF	331						0.6 ±0.1
390 pF	391						
470 pF	471						
560 pF	561						
680 pF	681						
820 pF	821						
1000 pF	102						
1.2 nF	122			0.85 ±0.1			
1.5 nF	152						
1.8 nF	182						
2.2 nF	222			1.25 ±0.1			
2.7 nF	272						
3.3 nF	332				0.85 ±0.1		
3.9 nF	392						
4.7 nF	472						
5.6 nF	562				1.15 ±0.1	0.85 ±0.1	
6.8 nF	682						

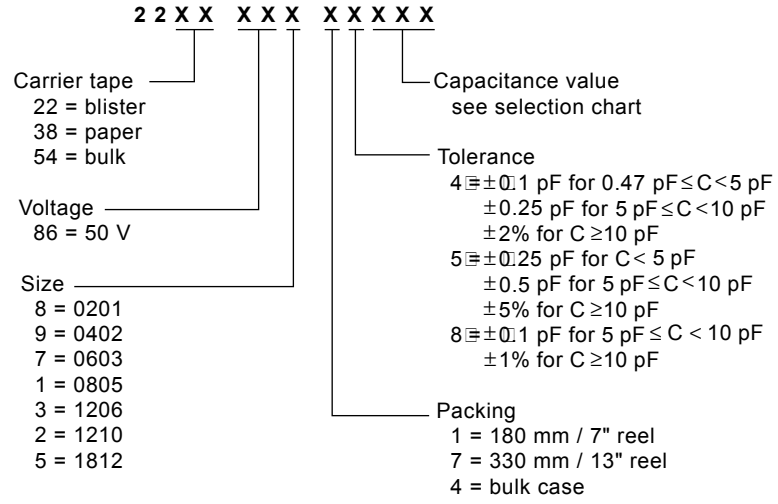
NP0, 50V, general purpose

NP0 - 50V							
General purpose							
Capacitance	Last three digits of 12NC	50V					
		0402	0603	0805	1206	1210	1812
8.2 nF	822						
10 nF	103						
12 nF	123						0.85 ±0.1
15 nF	153						
18 nF	183						1.15 ±0.15
22 nF	223						
Tape width		8mm					12mm

Note: Values in shaded cells indicate thickness class (Unit: mm)

NP0, 50V, general purpose

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

0805CG102J9B200 (example)

0805	CG	102	J	9	B	2	0	0
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210 1808 1812	CG = NP0	102 = 1000 pF The third digit signifies the multiplying factor: 8 = x 0.01 9 = x 0.1 0 = x 1 1 = x 10 2 = x 100 3 = x 1000	B = ±0.1 pF C = ±0.25 pF D = ±0.5 pF F = ±1% G = ±2% J = ±5% K = ±10%	7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV G = 3 KV H = 4 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk	0 = no marking	0 = conv. ceramic M = microwave

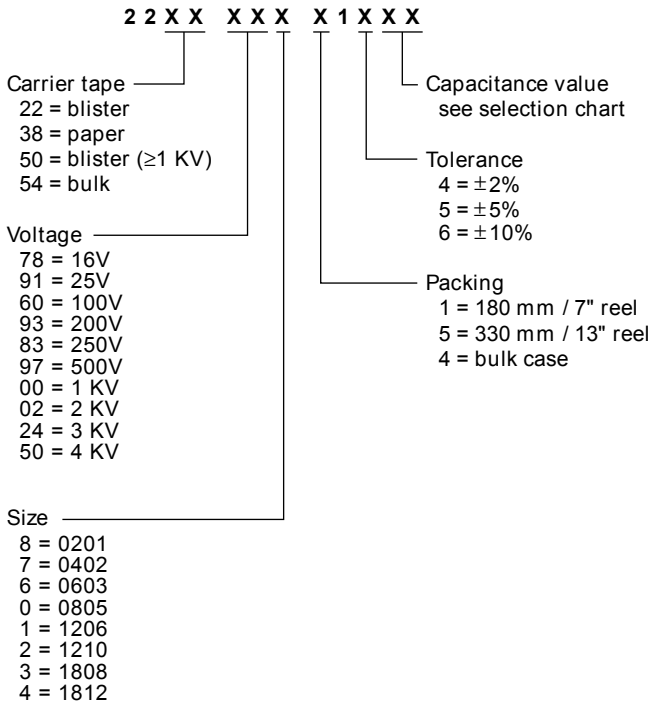
NP0, 100V, general purpose

NP0 - 100V						
General purpose						
Capacitance	Last two digits of 12NC	100V				
		0603	0805	1206	1210	1812
10 pF	23	0.8 ±0.07	0.6 ±0.1	0.6 ±0.1		
12 pF	24					
15 pF	25					
18 pF	26					
22 pF	27					
27 pF	28					
33 pF	29					
39 pF	31					
47 pF	32					
56 pF	33					
68 pF	34					
82 pF	35					
100 pF	36					
120 pF	37					
150 pF	38					
180 pF	39					
220 pF	41					
270 pF	42					
330 pF	43					
390 pF	44					
470 pF	45					
560 pF	46					
680 pF	47					
820 pF	48					
1000 pF	49					
1.2 nF	51		0.85 ±0.1			
1.5 nF	52					
1.8 nF	53					
2.2 nF	54		1.25 ±0.1			
2.7 nF	55					
3.3 nF	56			0.85 ±0.1		
3.9 nF	57					
4.7 nF	58					
5.6 nF	59			1.15 ±0.1		
6.8 nF	61					
8.2 nF	62				0.85 ±0.1	
10 nF	63					
12 nF	64					0.85 ±0.1
15 nF	65					
18 nF	66					1.15 ±0.15
22 nF	67					
Tape width		8mm				12mm

Note: Values in shaded cells indicate thickness class (Unit: mm)

NP0, 100V, general purpose

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

0805CG102J9B200 (example)

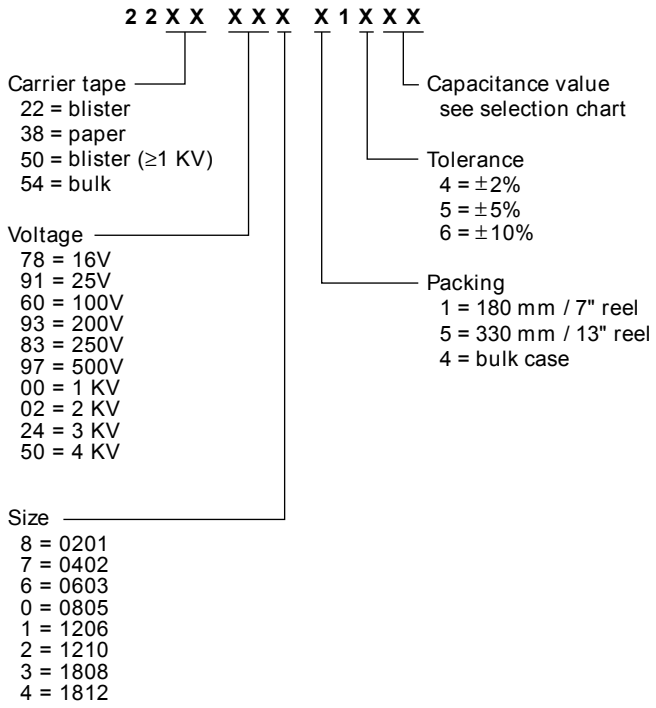
0805	CG	102	J	9	B	2	0	0
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210 1808 1812	CG = NP0	102 = 1000 pF The third digit signifies the multiplying factor: 8 = x 0.01 9 = x 0.1 0 = x 1 1 = x 10 2 = x 100 3 = x 1000	B = ±0.1 pF C = ±0.25 pF D = ±0.5 pF F = ±1% G = ±2% J = ±5% K = ±10%	7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV G = 3 KV H = 4 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk	0 = no marking	0 = conv. ceramic M = microwave

NP0, 200V, 250V and 500V, medium voltage

NP0 - 200V, 250V and 500V												
Medium voltage												
Capacitance	Last two digits of 12NC	200V				250V				500V		
		0805	1206	1210	1812	0805	1206	1210	1812	1206	1210	1812
10 pF	23	0.6 ±0.1	0.6 ±0.1			0.6 ±0.1	0.6 ±0.1			0.6 ±0.1		
12 pF	24											
15 pF	25											
18 pF	26											
22 pF	27											
27 pF	28											
33 pF	29											
39 pF	31											
47 pF	32										0.85 ±0.1	
56 pF	33											
68 pF	34											
82 pF	35											
100 pF	36											
120 pF	37											
150 pF	38											
180 pF	39											
220 pF	41	0.85 ±0.1	0.85 ±0.1			0.85 ±0.1	0.85 ±0.1			0.85 ±0.1		
270 pF	42											
330 pF	43											
390 pF	44											
470 pF	45											
560 pF	46	1.25 ±0.1				1.25 ±0.1				1.15 ±0.1		
680 pF	47											
820 pF	48											
1000 pF	49										1.15 ±0.15	
1.2 nF	51											
1.5 nF	52		1.15 ±0.1				1.15 ±0.1					
1.8 nF	53			0.85 ±0.1				0.85 ±0.1				
2.2 nF	54											1.15 ±0.15
2.7 nF	55			1.15 ±0.15				1.15 ±0.15				
3.3 nF	56											
3.9 nF	57				0.85 ±0.1				0.85 ±0.1			
4.7 nF	58				1.15 ±0.15				1.15 ±0.15			
5.6 nF	59											
Tape width		8mm			12mm	8mm			12mm	8mm		12mm

Note: Values in shaded cells indicate thickness class (Unit: mm)

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

0805CG102J9B200 (example)

0805	CG	102	J	9	B	2	0	0
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210 1808 1812	CG = NP0	102 = 1000 pF The third digit signifies the multiplying factor: 8 = x 0.01 9 = x 0.1 0 = x 1 1 = x 10 2 = x 100 3 = x 1000	B = ±0.1 pF C = ±0.25 pF D = ±0.5 pF F = ±1% G = ±2% J = ±5% K = ±10%	7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV G = 3 KV H = 4 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk	0 = no marking	0 = conv. ceramic M = microwave

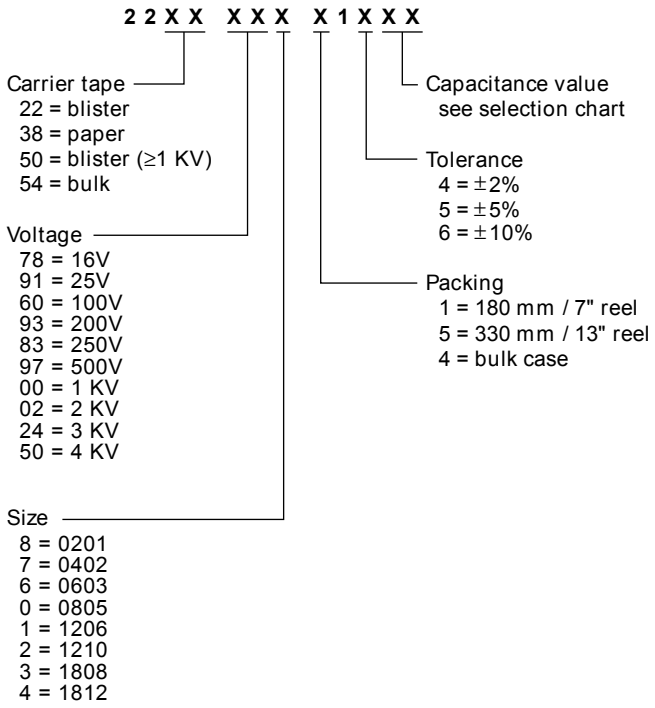
NP0, 1kV to 4kV, high voltage

NP0 - 1kV to 4kV								
High Voltage								
Capacitance	Last two digits of 12NC	1kV		2kV	3kV		4kV	
		1206	1812	1206	1808	1812	1808	1812
3.3 pF	16				1.15 ±0.15			
3.9 pF	17							
4.7 pF	18							
5.6 pF	19							
6.8 pF	21							
8.2 pF	22							
10 pF	23					1.15 ±0.15	1.5 ±0.1	1.5 ±0.1
12 pF	24							
15 pF	25							
18 pF	26							
22 pF	27			1.0 ±0.1				
27 pF	28							
33 pF	29							
39 pF	31							
47 pF	32							
56 pF	33							
68 pF	34							
82 pF	35							
100 pF	36		0.85 ±0.1					
120 pF	37	1.0 ±0.1						
150 pF	38							
180 pF	39							
220 pF	41							
270 pF	42							
330 pF	43							
390 pF	44	1.15 ±0.1						
470 pF	45							
560 pF	46							
680 pF	47							
820 pF	48							
1000 pF	49		1.15 ±0.15					
1.2 nF	51							
1.5 nF	52		1.25 ±0.1					
Tape Width		8mm	12mm	8mm	12 mm			

Note: Values in shaded cells indicate thickness class (Unit: mm)

NP0, 1kV to 4kV, high voltage

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

0805CG102J9B200 (example)								
0805	CG	102	J	9	B	2	0	0
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210 1808 1812	CG = NP0	102 = 1000 pF The third digit signifies the multiplying factor: 8 = x 0.01 9 = x 0.1 0 = x 1 1 = x 10 2 = x 100 3 = x 1000	B = ±0.1 pF C = ±0.25 pF D = ±0.5 pF F = ±1% G = ±2% J = ±5% K = ±10%	7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV G = 3 KV H = 4 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk	0 = no marking	0 = conv. ceramic M = microwave

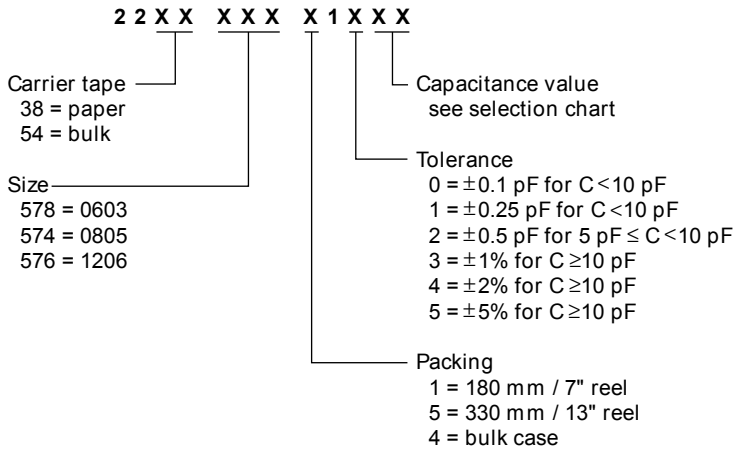
NP0, 50V, microwave

NP0 - 50V				
Microwave				
Capacitance	Last two digits of 12NC	50V		
		0603	0805	1206
0.47 pF	05	0.8 ±0.07	0.6 ±0.1	0.6 ±0.1
0.56 pF	06			
0.68 pF	07			
0.82 pF	08			
1 pF	09			
1.2 pF	11			
1.5 pF	12			
1.8 pF	13			
2.2 pF	14			
2.7 pF	15			
3.3 pF	16			
3.9 pF	17			
4.7 pF	18			
5.6 pF	19			
6.8 pF	21			
8.2 pF	22			
10 pF	23			
12 pF	24			
15 pF	25			
18 pF	26			
22 pF	27			
27 pF	28			
33 pF	29			
39 pF	31			
47 pF	32			
56 pF	33			
68 pF	34			
82 pF	35			
100 pF	36			
120 pF	37			
Tape width		8mm		

Note: Values in shaded cells indicate thickness class (Unit: mm)

NP0, 50V, microwave

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

0805CG102J9B200 (example)

0805	CG	102	J	9	B	2	0	0
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210 1808 1812	CG = NP0	102 = 1000 pF The third digit signifies the multiplying factor: 8 = x 0.01 9 = x 0.1 0 = x 1 1 = x 10 2 = x 100 3 = x 1000	B = ±0.1 pF C = ±0.25 pF D = ±0.5 pF F = ±1% G = ±2% J = ±5% K = ±10%	7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV G = 3 KV H = 4 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk	0 = no marking	0 = conv. ceramic M = microwave

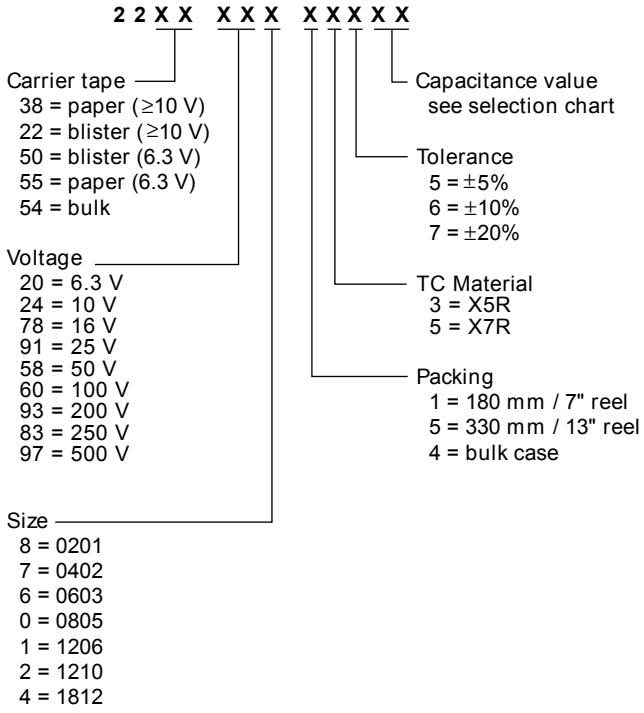
X7R, 10V, general purpose

X7R- 10V					
General purpose					
Cpacitance	Last two digits of 12NC	10V			
		0402	0603	0805	1206
33 nF	43	0.5 ±0.05			
39 nF	44				
47 nF	45				
150 nF	52		0.8 ±0.07		
180 nF	53				
220 nF	54			0.6 ±0.1	
270 nF	55				
330 nF	56			0.85 ±0.1	
390 nF	57				
470 nF	58				
560 nF	59			1.25 ±0.1	
680 nF	61				
820 nF	62				
1000 nF	63				0.85 ±0.1
1.2 uF	64				
1.5 uF	65				1.15 ±0.1
1.8 uF	66				
2.2 uF	67				
Tape width		8 mm			

Note: Values in shaded cells indicate thickness class (Unit: mm)

X7R, 10V, general purpose

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06032B334M6B20D (example)

0603	2B	334	M	6	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1808 1210 1812	2B = X5R 2R = X7R	334 = 330 000 pF The third digit signifies the multiplying factor: 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	K = ±10% M = ±20% J = ±5%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

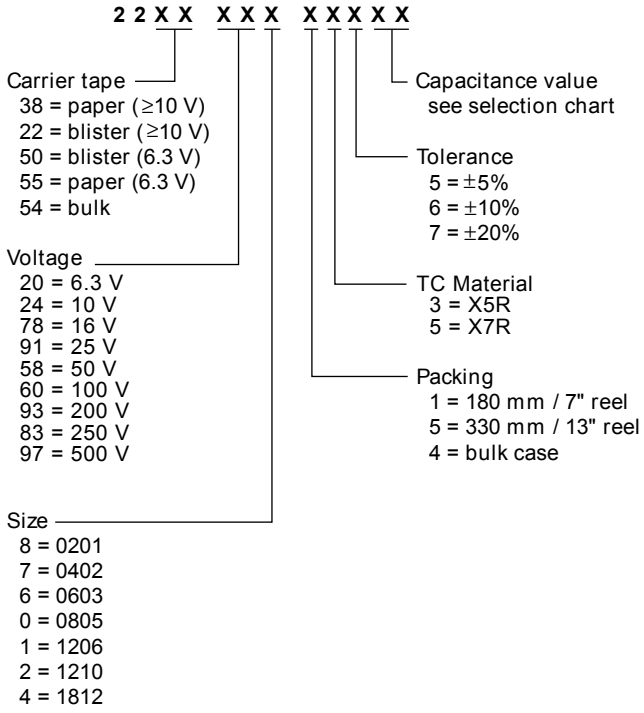
X7R, 16V and 25V, general purpose

X7R - 16V and 25V										
General purpose										
Capacitance	Last two digits of 12NC	16V				25V				
		0402	0603	0805	1206	0402	0603	0805	1206	1210
3.3 nF	29					0.5 ±0.05				
3.9 nF	31									
4.7 nF	32	0.5 ±0.05								
5.6 nF	33									
6.8 nF	34									
8.2 nF	35									
10 nF	36						0.8 ±0.07	0.6 ±0.1		
12 nF	37									
15 nF	38									
18 nF	39									
22 nF	41		0.8 ±0.07							
27 nF	42									
33 nF	43									
39 nF	44							0.85 ±0.1		
47 nF	45			0.6 ±0.1						
56 nF	46									
68 nF	47									
82 nF	48			0.85 ±0.1						
100 nF	49								0.85 ±0.1	
120 nF	51									
150 nF	52									
180 nF	53									
220 nF	54				0.85 ±0.1					0.85 ±0.1
270 nF	55								1.15 ±0.1	
330 nF	56			1.25 ±0.1						
390 nF	57									
470 nF	58				1.15 ±0.1					1.15 ±0.1
560 nF	59									
680 nF	61									
820 nF	62									1.6 ±0.2
1000 nF	63									
Tape width		8mm								

Note: Values in shaded cells indicate thickness class (Unit: mm)

X7R, 16V and 25V, general purpose

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06032B334M6B20D (example)

0603	2B	334	M	6	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1808 1210 1812	2B = X5R 2R = X7R	334 = 330 000 pF The third digit signifies the multiplying factor: 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	K = ±10% M = ±20% J = ±5%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

X7R, 50V and 100V, general purpose

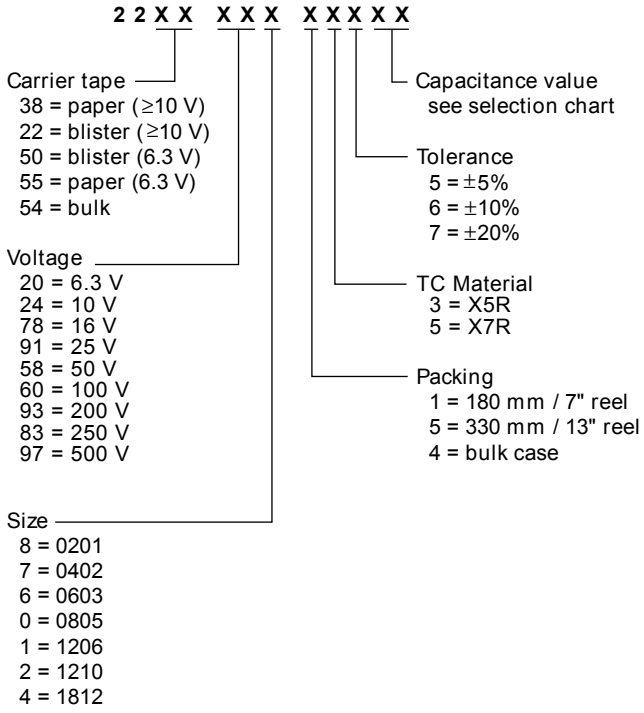
X7R - 50V and 100V											
General purpose											
Capacitance	Last two digits of 12NC	50V						100V			
		0402	0603	0805	1206	1210	1812	0805	1206	1210	1812
100 pF	09	0.5 ±0.05	0.8 ±0.07								
120 pF	11										
150 pF	12										
180 pF	13			0.6 ±0.1							
220 pF	14				0.85 ±0.1			0.6 ±0.1	0.85 ±0.1		
270 pF	15										
330 pF	16										
390 pF	17										
470 pF	18										
560 pF	19										
680 pF	21										
820 pF	22										
1000 pF	23										
1.2 nF	24										
1.5 nF	25										
1.8 nF	26										
2.2 nF	27										
2.7 nF	28										
3.3 nF	29										
3.9 nF	31										
4.7 nF	32										
5.6 nF	33										
6.8 nF	34										
8.2 nF	35										
10 nF	36					0.85 ±0.1					
12 nF	37							0.85 ±0.1			
15 nF	38										
18 nF	39										
22 nF	41										
27 nF	42			0.85 ±0.1							
33 nF	43										
39 nF	44										
47 nF	45									0.85 ±0.1	
56 nF	46										
68 nF	47								1.15 ±0.1		
82 nF	48										
100 nF	49						1.15 ±0.1				1.15 ±0.1
120 nF	51					1.15 ±0.1				1.15 ±0.1	
150 nF	52				1.15 ±0.1						
180 nF	53									1.6 ±0.2	
220 nF	54										
270 nF	55										
330 nF	56										
390 nF	57					1.6 ±0.2					1.6 ±0.2
470 nF	58										
560 nF	59										
680 nF	61						1.6 ±0.2				
820 nF	62										
1000 nF	63										
Tape width		8mm					12mm	8mm			12mm

X7R, 50V and 100V, general purpose

Note: Values in shaded cells indicate thickness class (Unit: mm)

X7R, 50V and 100V, general purpose

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06032B334M6B20D (example)

0603	2B	334	M	6	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1808 1210 1812	2B = X5R 2R = X7R	334 = 330 000 pF The third digit signifies the multiplying factor: 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	K = ±10% M = ±20% J = ±5%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

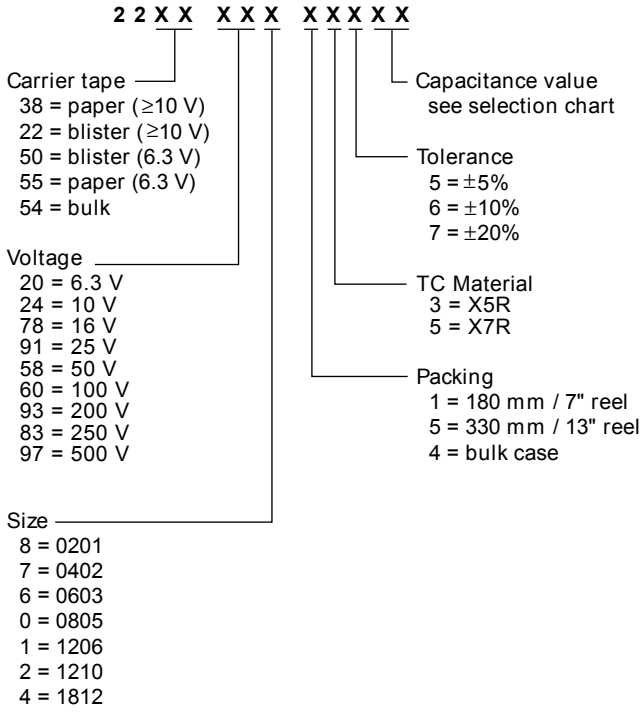
X7R, 200V, 250V and 500V, medium voltage

X7R - 200 V, 250 V and 500 V										
Medium voltage										
Capacitance	Last two digits of 12NC	200V				250V		500V		
		0805	1206	1210	1812	0805	1206	1206	1210	1812
220 pF	14	0.85 ±0.1				0.85 ±0.1				
270 pF	15									
330 pF	16									
390 pF	17									
470 pF	18		0.85 ±0.1				0.85 ±0.1	1.15 ±0.1		
560 pF	19									
680 pF	21									
820 pF	22									
1000 pF	23									
1.2 nF	24									
1.5 nF	25									
1.8 nF	26									
2.2 nF	27									
2.7 nF	28									
3.3 nF	29								1.15 ±0.1	0.85 ±0.1
3.9 nF	31									
4.7 nF	32									
5.6 nF	33									
6.8 nF	34	1.25 ±0.1				1.25 ±0.1				
8.2 nF	35									
10 nF	36			0.85 ±0.1						1.15 ±0.1
12 nF	37									
15 nF	38									
18 nF	39		1.15 ±0.1				1.15 ±0.1			
22 nF	41			1.15 ±0.1						
27 nF	42									
33 nF	43									
39 nF	44									
47 nF	45				1.15 ±0.1					
56 nF	46									
68 nF	47									
82 nF	48									
100 nF	49									
120 nF	51									
150 nF	52									
Tape width		8mm			12mm	8mm				12mm

Note: Values in shaded cells indicate thickness class (Unit: mm)

X7R, 200V, 250V and 500V, medium voltage

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06032B334M6B20D (example)

0603	2B	334	M	6	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1808 1210 1812	2B = X5R 2R = X7R	334 = 330 000 pF The third digit signifies the multiplying factor: 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	K = ±10% M = ±20% J = ±5%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

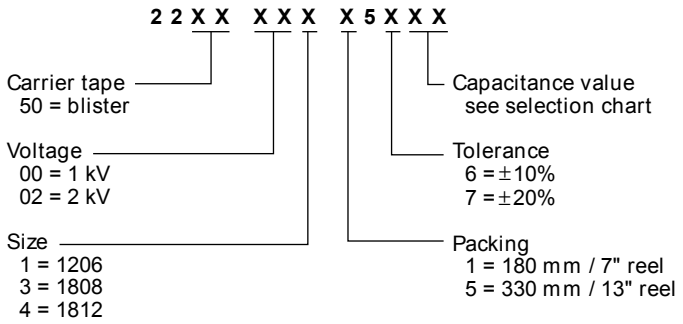
X7R, 1kV to 2kV, high voltage

X7R - 1KV and 2KV						
High voltage						
Capacitance	Last two digits of 12NC	1kV			2kV	
		1206	1808	1812	1808	1812
470 pF	18	1.15 ±0.1	1.35 ±0.15		1.35 ±0.15	
560 pF	19					
680 pF	21					
820 pF	22					
1000 pF	23			1.35 ±0.15		1.35 ±0.15
1.2 nF	24					
1.5 nF	25					
1.8 nF	26					
2.2 nF	27					
2.7 nF	28					
3.3 nF	29					
3.9 nF	31					
4.7 nF	32					
5.6 nF	33					
6.8 nF	34					
8.2 nF	35					
10 nF	36					
Tape width		8mm	12mm			

Note: Values in shaded cells indicate thickness class (Unit: mm)

X7R, 1kV to 2kV, high voltage

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06032B334M6B20D (example)

0603	2B	334	M	6	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1808 1210 1812	2B = X5R 2R = X7R	334 = 330 000 pF The third digit signifies the multiplying factor: 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	K = ±10% M = ±20% J = ±5%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

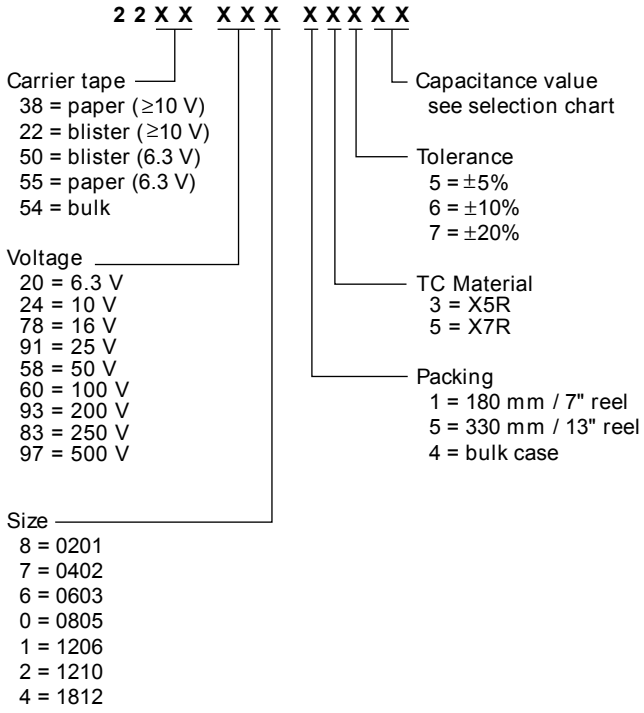
X5R, 6.3V to 25V, high capacitance

X5R, High-Capacitance																	
High-Capacitance																	
Capacitance	Last two digits of 12NC	6.3V					10V					16V				25V	
		0402	0603	0805	1206	1210	0402	0603	0805	1206	1210	0402	0603	1210	1812	0603	1210
56 nF	46											0.5 ±0.05					
68 nF	47	0.5 ±0.05															
100 nF	49						0.5 ±0.05										
150 nF	52																
220 nF	54																
330 nF	56												0.8 ±0.07			0.8 ±0.07	
470 nF	58	0.5 ±0.05															
680 nF	61							0.8 ±0.07									
1000 nF	63		0.8 ±0.07														
1.5 uF	65																
2.2 uF	67			1.25 ±0.1													
3.3 uF	69								1.25 ±0.1								
4.7 uF	72				1.6 ±0.2					1.6 ±0.2				1.9 ±0.2			1.9 ±0.2
6.8 uF	74																
10 uF	76			1.25 ±0.2					1.25 ±0.2		1.9 ±0.2			2.5 ±0.2			2.5 ±0.2
22 uF	81					2.5 ±0.2					2.5 ±0.2				2.5 ±0.2		
33 uF	83																
47 uF	85																
Tape width																	

Note: Values in shaded cells indicate thickness class (Unit: mm)

X5R, 6.3V to 25V, high capacitance

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06032B334M6B20D (example)

0603	2B	334	M	6	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1808 1210 1812	2B = X5R 2R = X7R	334 = 330 000 pF The third digit signifies the multiplying factor: 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	K = ±10% M = ±20% J = ±5%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

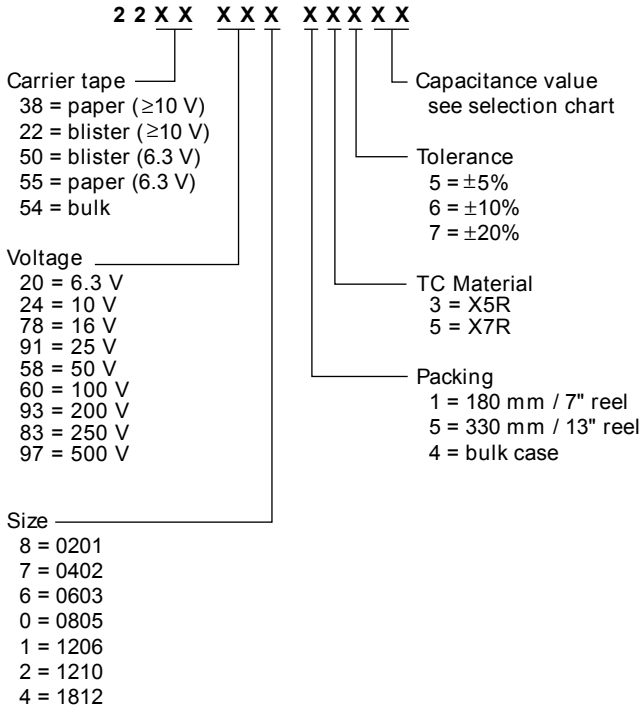
X7R, 10V and 16V, high capacitance

X7R, High-Capacitance									
		High-Capacitance							
Capacitance	Last two digits of 12NC	10V				16V			
		0402	0603	0805	1206	0402	0603	0805	1210
56 nF	46	0.5 ±0.05				0.5 ±0.05			
68 nF	47								
100 nF	49								
150 nF	52						0.8 ±0.07		
220 nF	54								
330 nF	56		0.8 ±0.07						
470 nF	58								
1000 nF	63			1.25 ±0.1				1.25 ±0.1	
2.2 uF	67								
4.7 uF	72				1.6 ±0.2				1.9 ±0.2
Tape width		8mm							

Note: Values in shaded cells indicate thickness class (Unit: mm)

X7R, 10V and 16V, high capacitance

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06032B334M6B20D (example)

0603	2B	334	M	6	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1808 1210 1812	2B = X5R 2R = X7R	334 = 330 000 pF The third digit signifies the multiplying factor: 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	K = ±10% M = ±20% J = ±5%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

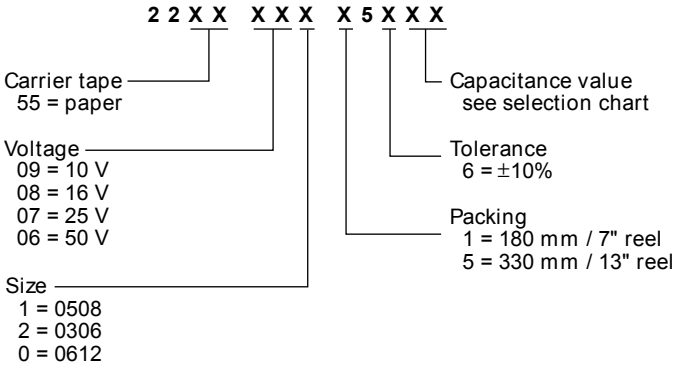
X7R, 10V to 50V, low inductance

X7R - 10V to 50V					
		Low inductance			
Capacitance	Last two digits of 12NC	10V	16V	25V	50V
		0306	0508	0508	0612
10 nF	36			0.85 ±0.1	0.85 ±0.1
12 nF	37				
15 nF	38				
18 nF	39				
22 nF	41				
27 nF	42				
33 nF	43				
39 nF	44				
47 nF	45				
56 nF	46				
68 nF	47				
82 nF	48				
100 nF	49	0.5 ±0.1	0.85 ±0.1		
120 nF	51				
150 nF	52				
180 nF	53				
220 nF	54				
Tape width		8mm			

Note: Values in shaded cells indicate thickness class (Unit: mm)

X7R, 10V to 50V, low inductance

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06122R103K9BB0L (example)

0612	2R	103	K	9	B	B	0	L
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0306 0508 0612	2R = X7R	103 = 10 000 pF The third digit signifies the multiplying factor: 3 = x 1 000 4 = x 10 000	K = ±10% M = ±20%	6 = 10 V 7 = 16 V 8 = 25 V 9 = 55 V	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper	0 = no marking	L = low inductance

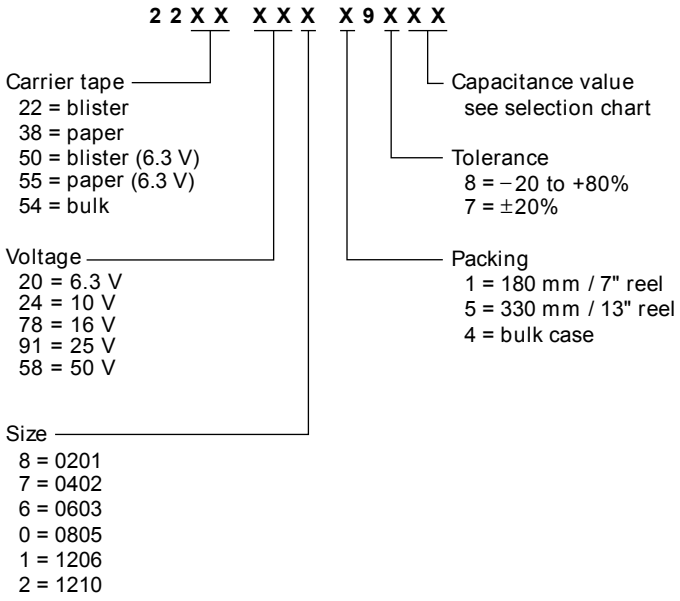
Y5V, 6.3V to 25V, high capacitance

Y5V - 6.3V to 25V									
High-Capacitance									
Capaciance	Last two digits of 12NC	6.3V	10V				16V		25V
		0603	0603	0805	1206	1210	1206	1210	1210
2.2 uF	67		0.8 ±0.07						
4.7 uF	72	0.8 ±0.07			1.15 ±0.1				
10 uF	76			1.25 ±0.1			1.15 ±0.1	1.5 ±0.1	1.5 ±0.1
22 uF	81				1.6 ±0.15	1.5 ±0.1	1.6 ±0.15		
Tape width		8mm							

Note: Values in shaded cells indicate thickness class (Unit: mm)

Y5V, 6.3V to 25V, high capacitance

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

12062F684M8BB0D (example)

1206	2F	684	M	8	B	B	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210	2F = Y5V 2E = Z5U	684 = 680 000 pF The third digit signifies the multiplying factor: 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	M = ±20% Z = −20 to +80%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

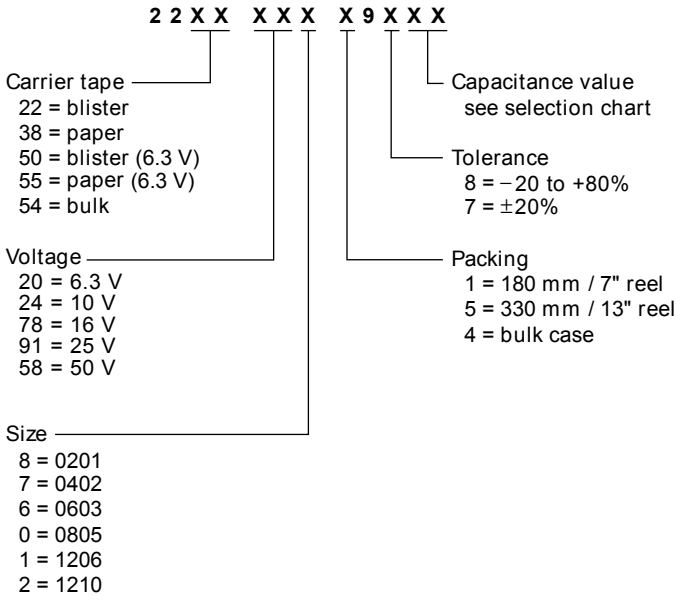
Y5V, 10V to 25V, general purpose

Y5V - 10V to 25V												
General purpose												
Capacitance	Last two digits of 12NC	10V				16V				25V		
		0402	0603	1206	1210	0402	0603	0805	1206	0603	0805	1206
10 nF	36					0.5 ±0.05				0.8 ±0.07		
15 nF	38											
22 nF	41											
33 nF	43											
47 nF	45											
68 nF	47											
100 nF	49										0.6 ±0.1	0.6 ±0.1
150 nF	52						0.8 ±0.07				0.85 ±0.1	
220 nF	54	0.5 ±0.05										
330 nF	56										1.25 ±0.1	
470 nF	58		0.8 ±0.07					0.85 ±0.1				0.85 ±0.1
680 nF	61											
1000 nF	63							1.25 ±0.1	0.85 ±0.1			1.15 ±0.1
1.5 uF	65											
2.2 uF	67			1.15 ±0.1					1.15 ±0.1			
3.3 uF	69											
4.7 uF	72											
10 uF	76				1.5 ±0.1							
Tape width		8mm										

Note: Values in shaded cells indicate thickness class (Unit: mm)

Y5V, 10V to 25V, general purpose

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

12062F684M8BB0D (example)

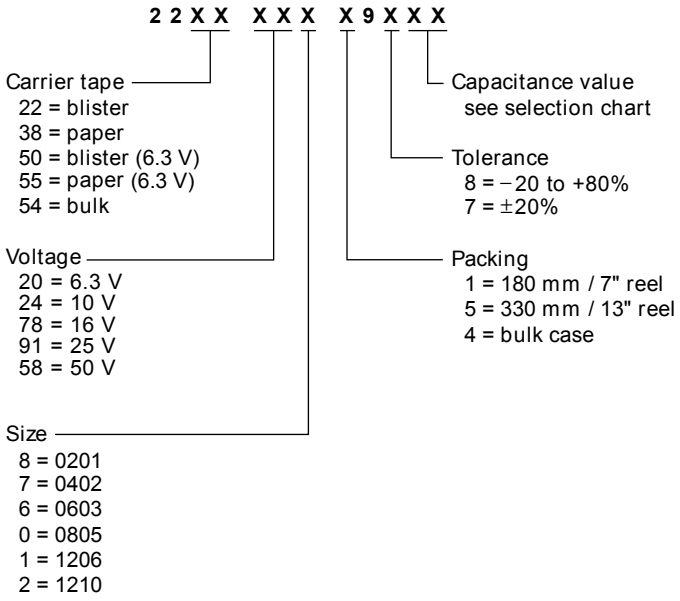
1206	2F	684	M	8	B	B	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210	2F = Y5V 2E = Z5U	684 = 680 000 pF The third digit signifies the multiplying factor: 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	M = ±20% Z = −20 to +80%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

Y5V, 50V, general purpose

Y5V - 50V				
General purpose				
Capacitance	Last two digits of 12NC	50V		
		0603	0805	1206
10 nF	05	0.8 ±0.07	0.6 ±0.1	
15 nF	06			
22 nF	07			
33 nF	08			
47 nF	09			
68 nF	11			
100 nF	12			0.6 ±0.1
150 nF	13		0.85 ±0.1	
220 nF	14			
330 nF	15		1.25 ±0.1	
470 nF	16			0.85 ±0.1
680 nF	17			1.15 ±0.1
1000 nF	18			
Tape width		8mm		

Note: Values in shaded cells indicate thickness class (Unit: mm)

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

12062F684M8BB0D (example)

1206	2F	684	M	8	B	B	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210	2F = Y5V 2E = Z5U	684 = 680 000 pF The third digit signifies the multiplying factor: 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	M = ±20% Z = −20 to +80%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

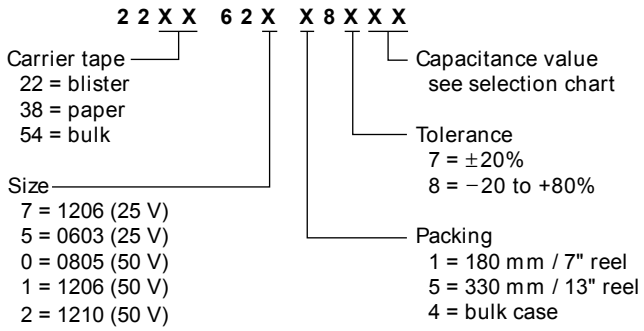
Z5U, 25V and 50V, general purpose

Z5U- 25V and 50V						
General purpose						
Capacitance	Last two digits of 12NC	25V		50V		
		0603	1206	0805	1206	1210
10 nF	36	0.8 ±0.07		0.6 ±0.1	0.6 ±0.1	
22 nF	41					
47 nF	45					
100 nF	49					0.7 ±0.1
220 nF	54			1.25 ±0.1		
470 nF	58		1.15 ±0.1			0.85 ±0.1
Tape width		8mm				

Note: Values in shaded cells indicate thickness class (Unit: mm)

Z5U, 25V and 50V, general purpose

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

12062F684M8BB0D (example)

1206	2F	684	M	8	B	B	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210	2F = Y5V 2E = Z5U	684 = 680 000 pF The third digit signifies the multiplying factor: 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	M = ±20% Z = −20 to +80%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

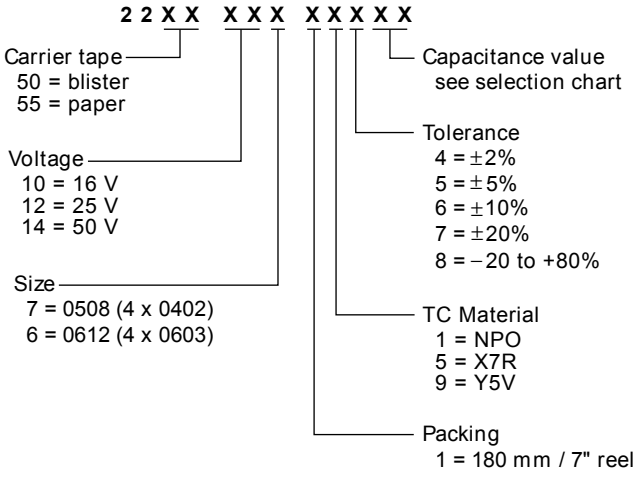
NP0, 50V, 4-C arrays

NP0 - 50V			
4-C arrays			
Capacitance	Last two digits of 12NC	50V	
		0508	0612
10 pF	23	0.6 ±0.1	0.8 ±0.1
12 pF	24		
15 pF	25		
18 pF	26		
22 pF	27		
27 pF	28		
33 pF	29		
39 pF	31		
47 pF	32		
56 pF	33		
68 pF	34		
82 pF	35		
100 pF	36		
120 pF	37		
150 pF	38		
180 pF	39		
220 pF	41		
270 pF	42		
330 pF	43		
390 pF	44		
470 pF	45		
560 pF	46		
680 pF	47		
820 pF	48		
1000 pF	49		
Tape width		8mm	

Note: Values in shaded cells indicate thickness class (Unit: mm)

NP0, 50V, 4-C arrays

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06122R104K7B20D (example)

0612	2R	104	K	7	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0508 (4 x 0402) 0612 (4 x 0603)	2R= X7R CG= NPO 2F = Y5V	104 = 100 000 pF The third digit signifies the multiplying factor: 0 = x 1 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000	K = ±10% M = ±20% J = ±5% M = −20 to +80%	6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V	B = NiSn	2 = 180 mm / 7" paper B = 180 mm / 7" blister	0 = no marking	D = BME O = conv. ceramic

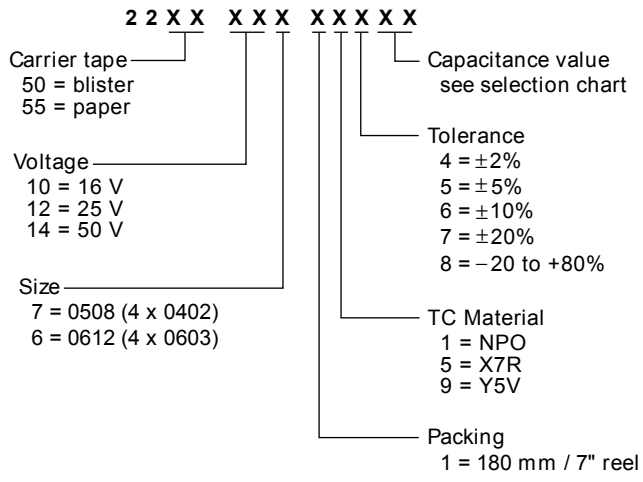
X7R, 16V to 50V, 4-C arrays

X7R - 16V, 25V and 50V						
4-C arrays						
Capacitance	Last two digits of 12NC	16V		25V	50V	
		0508	0612	0612	0508	0612
220 pF	14					0.8 ±0.1
330 pF	16					
470 pF	18					
680 pF	21					
1000 pF	23	0.8 ±0.1			0.6 ±0.1	
1.5 nF	25					
2.2 nF	27					
3.3 nF	29					
4.7 nF	32					
6.8 nF	34					
10 nF	36	0.8 ±0.1	0.8 ±0.1	0.8 ±0.1		
15 nF	38					
22 nF	41					
33 nF	43					
47 nF	45					
68 nF	47					
100 nF	49	0.8 ±0.1				
Tape width		8mm				

Note: Values in shaded cells indicate thickness class (Unit: mm)

X7R, 16V to 50V, 4-C arrays

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06122R104K7B20D (example)

0612	2R	104	K	7	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0508 (4 x 0402) 0612 (4 x 0603)	2R= X7R CG= NPO 2F = Y5V	104 = 100 000 pF The third digit signifies the multiplying factor: 0 = x 1 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000	K = ±10% M = ±20% J = ±5% M = −20 to +80%	6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V	B = NiSn	2 = 180 mm / 7" paper B = 180 mm / 7" blister	0 = no marking	D = BME O = conv. ceramic

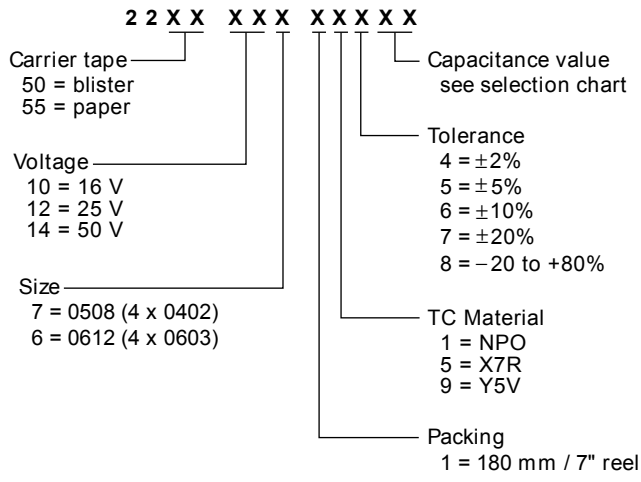
Y5V, 25V, 4-C arrays

Y5V - 25V		
4-C arrays		
Capacitance	Last two digits of 12NC	25V
		0612
10 nF	36	0.6 ±0.1
22 nF	41	
47 nF	45	
100 nF	49	
Tape width		8mm

Note: Values in shaded cells indicate thickness class (Unit: mm)

Y5V, 25V, 4-C arrays

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06122R104K7B20D (example)

0612	2R	104	K	7	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0508 (4 x 0402) 0612 (4 x 0603)	2R= X7R CG= NPO 2F = Y5V	104 = 100 000 pF The third digit signifies the multiplying factor: 0 = x 1 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000	K = ±10% M = ±20% J = ±5% M = −20 to +80%	6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V	B = NiSn	2 = 180 mm / 7" paper B = 180 mm / 7" blister	0 = no marking	D = BME O = conv. ceramic

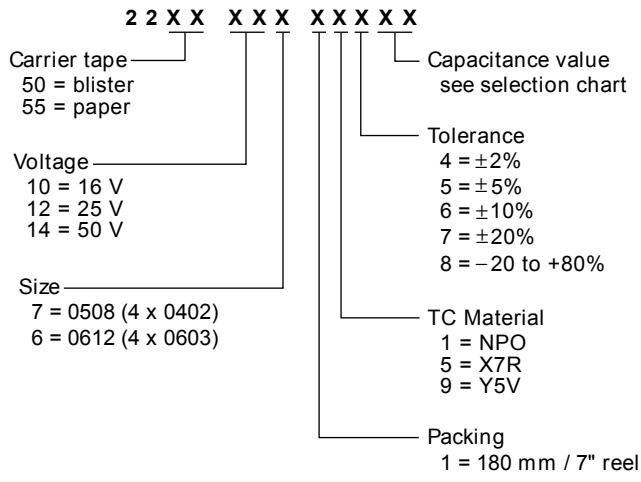
X7R, Multi-value capacitor network

X7R - 16V	
Multi-value network (4-caps)	
Capacitance	0612
	16V
100 pF	0.8 ±0.1
150 pF	
220 pF	
330 pF	
470 pF	
680 pF	
1000 pF	0.8 ±0.1
Tape width	

Note: Values in shaded cells indicate thickness class (Unit: mm)

Note: Capacitance value displayed is the lower value of network

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06122R104K7B20D (example)

0612	2R	104	K	7	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0508 (4 x 0402) 0612 (4 x 0603)	2R= X7R CG= NPO 2F = Y5V	104 = 100 000 pF The third digit signifies the multiplying factor: 0 = x 1 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000	K = ±10% M = ±20% J = ±5% M = −20 to +80%	6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V	B = NiSn	2 = 180 mm / 7" paper B = 180 mm / 7" blister	0 = no marking	D = BME O = conv. ceramic

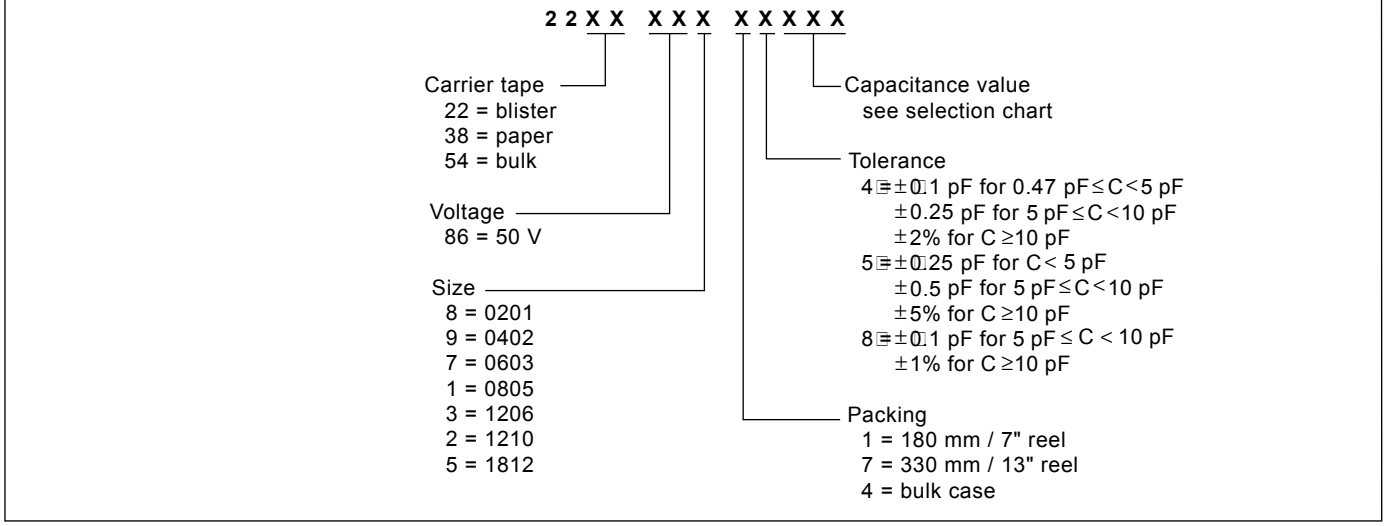
NP0, 25V, ultra small MLCCs

NP0 - 25V		
Ultra small MLCCs		
Capacitance	Last two digits of 12NC	25V
		0201
27 pF	28	0.3 ±0.03
33 pF	29	
39 pF	31	
47 pF	32	
56 pF	33	
68 pF	34	
82 pF	35	
100 pF	36	
Tape width		8mm

Note: Values in shaded cells indicate thickness class (Unit: mm)

NP0, 25V, ultra small MLCCs

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

0805CG102J9B200 (example)

0805	CG	102	J	9	B	2	0	0
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210 1808 1812	CG = NP0	102 = 1000 pF The third digit signifies the multiplying factor: 8 = x 0.01 9 = x 0.1 0 = x 1 1 = x 10 2 = x 100 3 = x 1000	B = ±0.1 pF C = ±0.25 pF D = ±0.5 pF F = ±1% G = ±2% J = ±5% K = ±10%	7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV G = 3 KV H = 4 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk	0 = no marking	0 = conv. ceramic M = microwave

NP0, 50V ultra small MLCCs

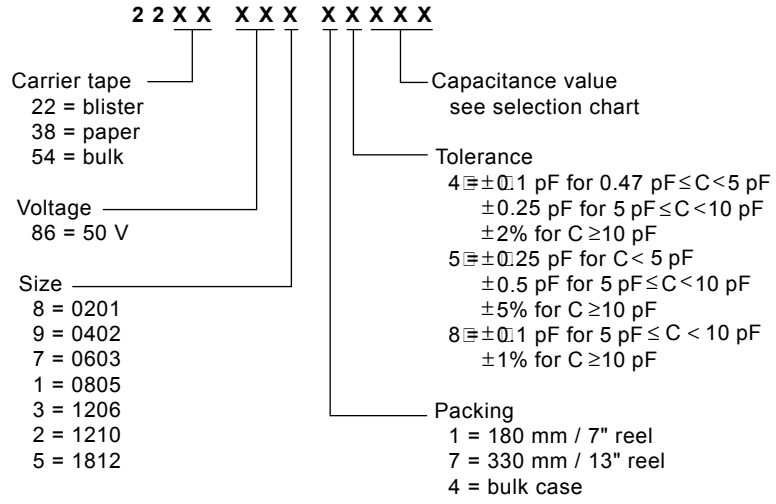
NP0 - 50V		
Ultra small MLCCs		
Capacitance	Last three digits of 12NC	50V
		0201
1 pF	108	0.3 ±0.03
1.2 pF	128	
1.5 pF	158	
1.8 pF	188	
2.2 pF	228	
2.7 pF	278	
3.3 pF	338	
3.9 pF	398	
4.7 pF	478	
5.6 pF	568	
6.8 pF	688	
8.2 pF	828	
10 pF	109	
12 pF	129	
15 pF	159	
18 pF	189	
22 pF	229	
Tape width		8mm

Note: Values in shaded cells indicate thickness class (Unit: mm)

Note: On request 1pF to 10pF also available in E24.

NP0, 50V ultra small MLCCs

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

0805CG102J9B200 (example)

0805	CG	102	J	9	B	2	0	0
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210 1808 1812	CG = NP0	102 = 1000 pF The third digit signifies the multiplying factor: 8 = x 0.01 9 = x 0.1 0 = x 1 1 = x 10 2 = x 100 3 = x 1000	B = ±0.1 pF C = ±0.25 pF D = ±0.5 pF F = ±1% G = ±2% J = ±5% K = ±10%	7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV G = 3 KV H = 4 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk	0 = no marking	0 = conv. ceramic M = microwave

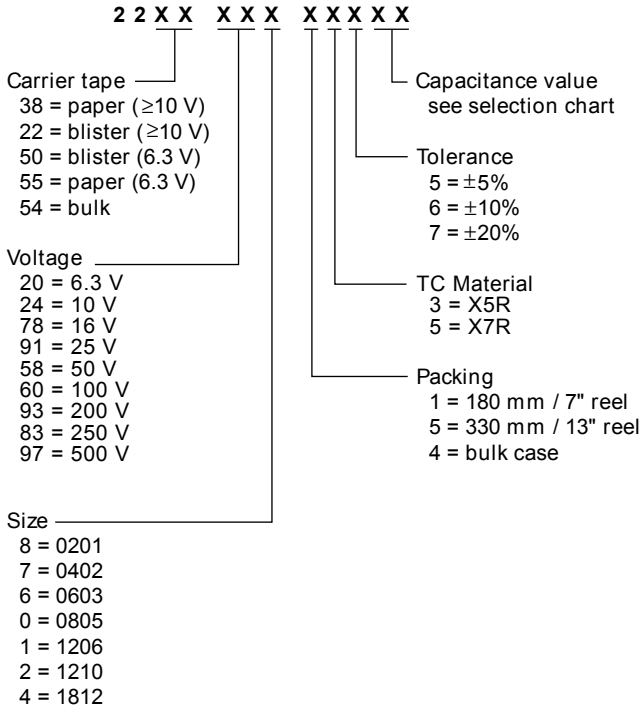
X5R, 6.3V to 16V, 50 ultra small MLCCs

X5R - 6.3V to 16V				
Ultra small MLCCs				
Capacitance	Last two digits of 12NC	0201		
		6.3V	10V	16V
10 nF	36	0.3 ±0.03	0.3 ±0.03	0.3 ±0.03
Tape width		8mm		

Note: Values in shaded cells indicate thickness class (Unit: mm)

X5R, 6.3V to 16V, 50 ultra small MLCCs

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06032B334M6B20D (example)

0603	2B	334	M	6	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1808 1210 1812	2B = X5R 2R = X7R	334 = 330 000 pF The third digit signifies the multiplying factor: 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	K = ±10% M = ±20% J = ±5%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

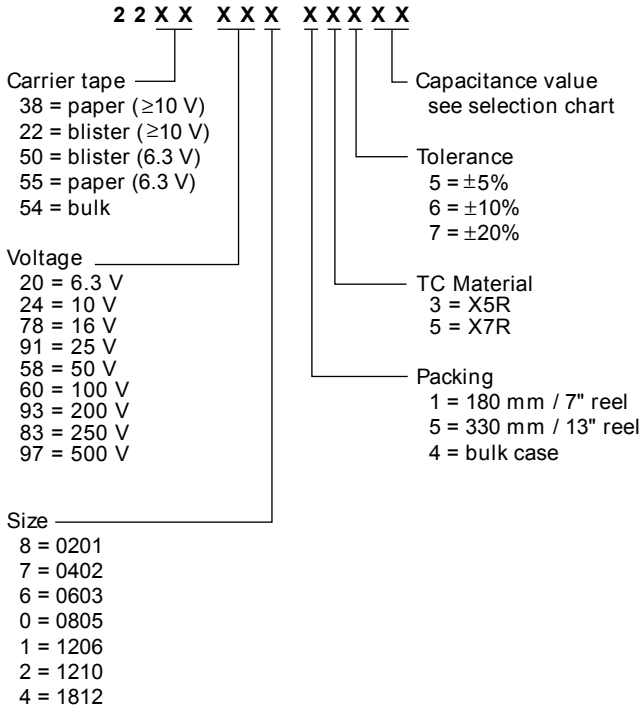
X7R, 10V to 50V, ultra small MLCCs

X7R - 10V to 50V					
Ultra small MLCCs					
Capacitance	Last two digits of 12NC	0201			
		10V	16V	25V	50V
47 pF	05				0.3 ±0.03
56 pF	06				
68 pF	07				
82 pF	08				
100 pF	09				
120 pF	11				
150 pF	12				
180 pF	13				
220 pF	14				
270 pF	15				
330 pF	16				
390 pF	17				
470 pF	18				
560 pF	19			0.3 ±0.03	
680 pF	21				
820 pF	22				
1000 pF	23				
1.2 nF	24				
1.5 nF	25		0.3 ±0.03		
1.8 nF	26				
2.2 nF	27				
2.7 nF	28				
3.3 nF	29				
3.9 nF	31	0.3 ±0.03			
4.7 nF	32				
5.6 nF	33				
6.8 nF	34				
8.2 nF	35				
10 nF	36				
Tape width		8mm			

Note: Values in shaded cells indicate thickness class (Unit: mm)

X7R, 10V to 50V, ultra small MLCCs

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

06032B334M6B20D (example)

0603	2B	334	M	6	B	2	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1808 1210 1812	2B = X5R 2R = X7R	334 = 330 000 pF The third digit signifies the multiplying factor: 1 = x 10 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	K = ±10% M = ±20% J = ±5%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V 0 = 100 V B = 200 V C = 250 V D = 500 V E = 1 KV F = 2 KV	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

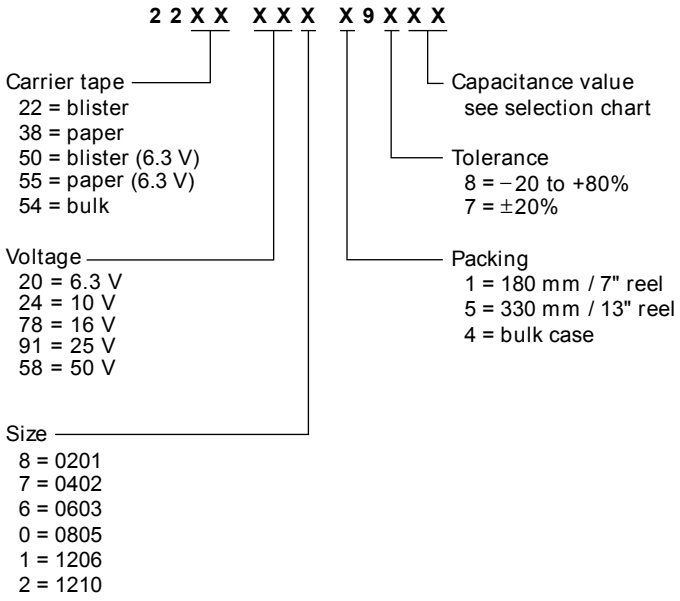
Y5V, 6.3V, ultra small MLCCs

Y5V - 6.3V		
Ultra small MLCCs		
Capacitance	Last two digits of 12NC	0201
		6.3V
100 nF	49	0.3 ±0.03
Tape width		

Note: Values in shaded cells indicate thickness class (Unit: mm)

Y5V, 6.3V, ultra small MLCCs

Ordering code 12NC



Ordering information (North America ONLY)

Clear text code

12062F684M8BB0D (example)

1206	2F	684	M	8	B	B	0	D
Size code	Temp. char.	Cap. in pF	Tolerance	Voltage	Termination	Packing	Marking	Range identifier
0201 0402 0603 0805 1206 1210	2F = Y5V 2E = Z5U	684 = 680 000 pF The third digit signifies the multiplying factor: 2 = x 100 3 = x 1 000 4 = x 10 000 5 = x 100 000 6 = x 1 000 000	M = ±20% Z = −20 to +80%	5 = 6.3 V 6 = 10 V 7 = 16 V 8 = 25 V 9 = 50 V	B = NiSn	2 = 180 mm / 7" paper 3 = 330 mm / 13" paper B = 180 mm / 7" blister F = 330 mm / 13" blister P = bulk case	0 = no marking	D = BME

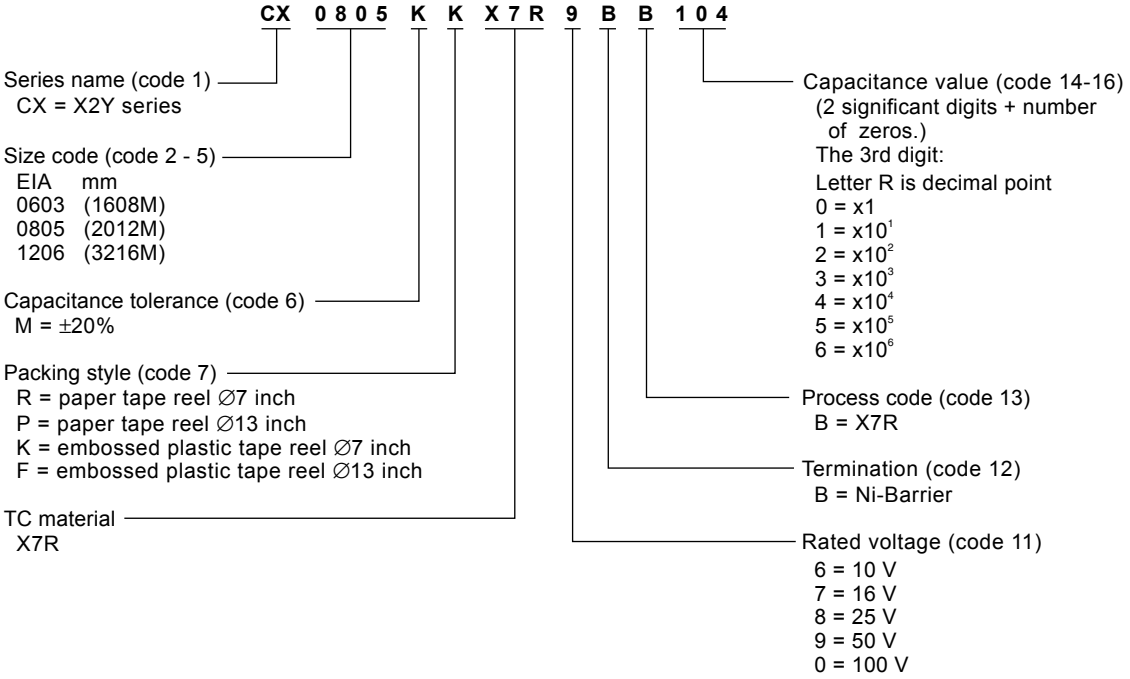
X7R, X2Y series EMI filter capacitors

X7R - X2Y Series EMI Filter Capacitors						
Size				0603	0805	1206
Y-Capacitor		X-Capacitor				
Capacitance	Voltage	Capacitance	Voltage			
4.7 nF	100V	2.4 nF	200V	0.6 ±0.1		
10 nF	50V	5 nF	100V			
10 nF	100V	5 nF	200V		0.85 ±0.1	
15 nF	50V	8 nF	100V			
22 nF	25V	11 nF	50V	0.6 ±0.1		
22 nF	100V	11 nF	200V			1.20 ±0.15
39 nF	25V	20 nF	50V		0.85 ±0.1	
47 nF	16V	24 nF	25V	0.6 ±0.1		
47 nF	50V	24 nF	100V			1.20 ±0.15
56 nF	16V	28 nF	25V	0.6 ±0.1		
100 nF	10V	50 nF	16V			
100 nF	16V	50 nF	25V		0.85 ±0.1	
100 nF	50V	50 nF	100V			1.20 ±0.15
180 nF	10V	90 nF	16V		0.85 ±0.1	
180 nF	25V	90 nF	50V			1.20 ±0.15
220 nF	16V	110 nF	25V			
390 nF	16V	195 nF	25V			
470 nF	10V	235 nF	16V			
820 nF	10V	410 nF	16V			

Note: Values in shaded cells indicate thickness class (Unit: mm)

X7R, X2Y series EMI filter capacitors

Clear text code (CTC)



Thickness and packing information

Thickness classes and packing quantities

Description	Size Code	Thickness Classification (mm)	Tape Width Quantity Per Reel	180 mm / 7"		330 mm / 13"		Quantity Per Bulk Case
				Paper	Blister	Paper	Blister	
Discrete Capacitors	0201	0.3±0.03	8 mm	15 000	---	50 000	---	---
	0402	0.5±0.05	8 mm	10 000	---	50 000	---	50 000
	0603	0.8±0.07	8 mm	4 000	---	15 000	---	15 000
	0805	0.6±0.1	8 mm	4 000	---	20 000	---	10 000
		0.85±0.1	8 mm	4 000	---	15 000	---	8 000
		1.25±0.1	8 mm	---	3 000	---	10 000	5 000
	1206	0.6±0.1	8 mm	4 000	---	20 000	---	---
		0.85±0.1	8 mm	4 000	---	15 000	---	---
		1.00/1.15±0.1	8 mm	---	3 000	---	10 000	---
		1.6±0.15	8 mm	---	2 500	---	10 000	---
		1.6±0.2	8 mm	---	2 000	---	10 000	---
	1210	0.6/0.7±0.1	8 mm	---	4 000	---	15 000	---
		0.85±0.1	8 mm	---	4 000	---	10 000	---
		1.15±0.1	8 mm	---	3 000	---	10 000	---
		1.15±0.15	8 mm	---	3 000	---	10 000	---
		1.5±0.1	8 mm	---	2 000	---	---	---
		1.6/1.9±0.2	8 mm	---	2 000	---	---	---
		2.5±0.2	8 mm	---	1 000	---	---	---
	1808	1.15±0.15	12 mm	---	1 500	---	---	---
		1.35±0.15	12 mm	---	1 000	---	---	---
		1.5±0.1	12 mm	---	1 000	---	---	---
	1812	0.6/0.85±0.1	12 mm	---	2 000	---	---	---
		1.15±0.1	12 mm	---	1 500	---	---	---
		1.15±0.15	12 mm	---	1 500	---	---	---
		1.35±0.15	12 mm	---	1 000	---	---	---
		1.5±0.1	12 mm	---	1 000	---	---	---
		1.6±0.2	12 mm	---	1 000	---	---	---
Low Inductance	0306	0.5±0.1	8 mm	4 000	---	15 000	---	---
	0508	0.85±0.1	8 mm	4 000	---	15 000	---	---
	0612	0.85±0.1	8 mm	4 000	---	15 000	---	---
Arrays	0508	0.6±0.1	8 mm	4 000	---	---	---	---
		0.85±0.1	8 mm	4 000		---	---	---
	0612	0.8±0.1	8 mm	4 000	---	---	---	---
		1.2±0.1	8 mm	---	3 000	---	---	---

0201 and 0402 sample kits

0201 sample kit			
NP0 50 V		**NP0 25 V**	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
1	±0.25 pF	27	±5%
1.2	±0.25 pF	33	±5%
1.5	±0.25 pF	39	±5%
1.8	±0.25 pF	47	±5%
2.2	±0.25 pF	56	±5%
2.7	±0.25 pF	68	±5%
3.3	±0.25 pF	82	±5%
3.9	±0.25 pF	100	±5%
4.7	±0.25 pF	**X7R 50 V**	
5.6	±0.50 pF	Capacitance (pF)	Tolerance
6.8	±0.50 pF	47	±10%
8.2	±0.50 pF	68	±10%
10	±5%	100	±10%
12	±5%	150	±10%
15	±5%	220	±10%
18	±5%	330	±10%
22	±5%	470	±10%
X7R 25 V		**X7R 16 V**	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
680	±10%	1 500	±10%
1 000	±10%	2 200	±10%
		3 300	±10%

100 pieces per value; Ordering code: 432204407111.

0402 sample kit			
NP0 50 V		**X7R 50 V**	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
0.47	±0.25 pF	100	±10%
0.68	±0.25 pF	150	±10%
1	±0.25 pF	220	±10%
1.5	±0.25 pF	330	±10%
2.2	±0.25 pF	470	±10%
3.3	±0.25 pF	680	±10%
4.7	±0.25 pF	1 000	±10%
6.8	±0.50 pF	1 500	±10%
10	±5%	2 200	±10%
15	±5%	3 300	±10%
22	±5%	**X7R 25 V**	
33	±5%	Capacitance (pF)	Tolerance
47	±5%	4 700	±10%
68	±5%	**X7R 16 V**	
100	±5%	Capacitance (pF)	Tolerance
150	±5%	6 800	±10%
220	±5%	10 000	±10%
Y5V 16 V		15 000	±10%
Capacitance (pF)	Tolerance	22 000	±10%
10 000	±20%		
22 000	±20%		
47 000	±20%		
100 000	±20%		

95 pieces pervalue; Ordering code: 432204409911.

0603 and 0805 sample kits

0603 sample kit

NP0 50 V		NP0 25 V		X7R 16 V	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
0.47	±0.25 pF	1 000	±5%	33 000	±10%
0.68	±0.25 pF	1 500	±5%	47 000	±10%
1	±0.25 pF	**X7R 50 V**		68 000	±10%
1.5	±0.25 pF	Capacitance (pF)	Tolerance	100 000	±10%
2.2	±0.25 pF	100	±10%	**Y5V 50 V**	
3.3	±0.25 pF	150	±10%	Capacitance (pF)	Tolerance
4.7	±0.25 pF	220	±10%	10 000	±20%
6.8	±0.50 pF	330	±10%	22 000	±20%
10	±5%	470	±10%	47 000	±20%
15	±5%	680	±10%	100 000	±20%
22	±5%	1 000	±10%	**Y5V 16 V**	
33	±5%	1 500	±10%	Capacitance (pF)	Tolerance
47	±5%	2 200	±10%	220 000	±20%
68	±5%	3 300	±10%	470 000	±20%
100	±5%	4 700	±10%		
150	±5%	6 800	±10%		
220	±5%	10 000	±10%		
330	±5%	**X7R 25 V**			
470	±5%	Capacitance (pF)	Tolerance		
680	±5%	15 000	±10%		
		22 000	±10%		

48 pieces per value; Ordering code: 432204407121.

0805 sample kit

NP0 50 V		NP0 25 V		X7R 16 V	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
0.47	±0.25 pF	3 300	±5%	150 000	±10%
0.68	±0.25 pF	4 700	±5%	220 000	±10%
1	±0.25 pF	**X7R 50 V**		330 000	±10%
1.5	±0.25 pF	Capacitance (pF)	Tolerance	470 000	±10%
2.2	±0.25 pF	220	±10%	**Y5V 50 V**	
3.3	±0.25 pF	330	±10%	Capacitance (pF)	Tolerance
4.7	±0.25 pF	470	±10%	10 000	±20%
6.8	±0.50 pF	680	±10%	22 000	±20%
10	±5%	1 000	±10%	47 000	±20%
15	±5%	1 500	±10%	100 000	±20%
22	±5%	2 200	±10%	220 000	±20%
33	±5%	3 300	±10%	**Y5V 16 V**	
47	±5%	4 700	±10%	Capacitance (pF)	Tolerance
68	±5%	6 800	±10%	470 000	±20%
100	±5%	10 000	±10%	1 000 000	±20%
150	±5%	15 000	±10%		
220	±5%	22 000	±10%		
330	±5%	33 000	±10%		
470	±5%	47 000	±10%		
680	±5%	68 000	±10%		
1 000	±5%	100 000	±10%		
1 500	±5%				
2 200	±5%				

48 pieces per value; Ordering code: 432204407131.

1206 sample kit

1206 sample kit					
NP0 50 V		**NP0 25 V**		**X7R 16 V**	
Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance	Capacitance (pF)	Tolerance
0.47	±0.25 pF	10 000	±5%	330 000	±10%
0.68	±0.25 pF	**X7R 50 V**		470 000	±10%
1	±0.25 pF	Capacitance (pF)	Tolerance	680 000	±10%
1.5	±0.25 pF	220	±10%	1 000 000	±10%
2.2	±0.25 pF	330	±10%	**Y5V 50 V**	
3.3	±0.25 pF	470	±10%	Capacitance (pF)	Tolerance
4.7	±0.25 pF	680	±10%	100 000	±20%
6.8	±0.50 pF	1 000	±10%	220 000	±20%
10	±5%	1 500	±10%	470 000	±20%
15	±5%	2 200	±10%	1 000 000	±20%
22	±5%	3 300	±10%		
33	±5%	4 700	±10%		
47	±5%	6 800	±10%		
68	±5%	10 000	±10%		
100	±5%	15 000	±10%		
150	±5%	22 000	±10%		
220	±5%	33 000	±10%		
330	±5%	47 000	±10%		
470	±5%	68 000	±10%		
680	±5%	100 000	±10%		
1 000	±5%	150 000	±10%		
1 500	±5%	220 000	±10%		
2 200	±5%				
3 300	±5%				
4 700	±5%				
6 800	±5%				

48 pieces per value; Ordering code: 432204407141.

All sizes, all types, E1 series only

0402	
NP0 50 V	
Capacitance (Fp)	Tolerance
1	± 0.25 pF
10	± 5%
100	± 5%
X7R 50 V	
Capacitance (Fp)	Tolerance
100	±10%
1 000	±10%
X7R 16 V	
Capacitance (Fp)	Tolerance
10 000	±10%
Y5V 16 V	
Capacitance (Fp)	Tolerance
100 000	± 20%

0805	
NP0 50 V	
Capacitance (Fp)	Tolerance
1	± 0.25 pF
10	± 5%
100	± 5%
1 000	± 5%
X7R 50 V	
Capacitance (Fp)	Tolerance
1 000	±10%
10 000	±10%
100 000	±10%
X7R 10 V	
Capacitance (Fp)	Tolerance
1 000 000	±10%
Y5V 10 V	
Capacitance (Fp)	Tolerance
4 700 000	-20 /+80%

0603	
NP0 50 V	
Capacitance (Fp)	Tolerance
1	±0.25 pF
10	± 5%
100	± 5%
X7R 50 V	
Capacitance (Fp)	Tolerance
100	± 10%
1 000	± 10%
10 000	± 10%
X7R 16 V	
Capacitance (Fp)	Tolerance
100 000	± 10%
Y5V 10 V	
Capacitance (Fp)	Tolerance
1 000 000	-20 /+80%

1206	
NP0 50 V	
Capacitance (Fp)	Tolerance
1	±0.25 pF
10	± 5%
100	± 5%
1 000	± 5%
X7R 50 V	
Capacitance (Fp)	Tolerance
1 000	±10%
10 000	±10%
100 000	±10%
X7R 16 V	
Capacitance (Fp)	Tolerance
1 000 000	±10%
Y5V 10 V	
Capacitance (Fp)	Tolerance
10 000 000	-20 /+80%

Microwave 50 V				
Capacitance (pF)	Tolerance	Voltage	Size	Dilectric
1	± 0.25 pF	50 V	0603	NP0
10	± 5%	50 V	0805	NP0
100	± 5%	50 V	1206	NP0
Array (4 x 0603)				
Capacitance (pF)	Tolerance	Voltage	Size	Dilectric
100	± 5%	50 V	1206	NP0
1 000	± 5%	50 V	1206	NP0
10 000	±10%	25 V	1206	X7R
100 000	±10%	16 V	1206	X7R
High voltage				
Capacitance (pF)	Tolerance	Voltage	Size	Dilectric
10	± 5%	3 kV	1808	NP0
100	± 5%	3 kV	1812	NP0
10 000	±10%	1 kV	1812	X7R

48 Pieces per value (95 pieces for 0402 and 25 pieces for 1812); Ordering code: 432204500581.

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