

Multilayer Ceramic Capacitors

Features

- Supplied in tape on reel
- High Capacitance per Volume
- Small Size; available in standard SMD sizes like: 0402, 0603, 0805, etc.
- Low ESR & ESL
- High Reliability

Application

- Consumer electronics: tuners, television receivers, tablets, smartphones,
- LED Lighting modules,
- Medical devices,
- Audio devices,
- RF Modules / Wi-Fi / 5G,
- Robotics / Automation system

Part number system

EXAMPLE: AKPCC0603B104K500T (0603 100nF-50V X7R 10%)

Company Code	Type code	Size	Dielectrics	Capacitance	Capacitance tolerance	Rated Voltage	Packaging code
AKP	CC	0603	B	104	K	500	T
Akyga	CC: STANDARD SERIES	0201 0402 0603 0805 1206 1210	N = COG B = X7R X = X5R F = Y5V T = X7T S = X6S	Two significant digits followed by no. of zero E.G. 105 = 10×10^5	A=±0.05pF B=±0.1pF C=±0.25pF D=±0.5pF F=1% G=2% J=5% K=10% M=20% Z=-20/+80%	4R0 = 4.0VDC 6R3 = 6.3VDC 100 = 10VDC 160 = 16VDC 250 = 25VDC 350 = 35VDC 500 = 50VDC 101 = 100VDC 201 = 200VDC 251 = 250VDC 501 = 500VDC 102 = 1000VDC 202 = 2000VDC	T = reel 7" Q = 10" G = 13"

Product Characteristics

Material	Operating temperature range	Temperature coefficient or temperature characteristics
COG (N)	-55°C ~ +125°C	0±30ppm/°C
X7R (B)	-55°C ~ +125°C	±15%
X5R (X)	-55°C ~ +85°C	±15%
X7T (T)	-55°C ~ +125°C	+22/-33%
Y5V (F)	-30°C ~ +85°C	+22/-82%
X6S (S)	-55°C ~ +105°C	±22%

Product Capacitance Range

0201 [0603]

Size	0201[0603]											
Model/Series	X5R (X)				X6S (S)				X7T (T)			
CP VDC	25	16	10	63	25	16	10	63	16	10	63	4
103	Z				Z				Z			
223	Z	Z			Z	Z			Z	Z		
473	Z	Z			Z	Z			Z	Z		
863		Z	Z			Z	Z			Z	Z	
104	Z	Z			Z	Z			Z	Z		
224				Z					Z			Z
Note:												
Tolerance: X5R/X6S/X7T: K(±10%); M(±20%)												
Thickness: Z: 0.30±0.03mm												
Above capacitance for reference only, actual cap. Range depends on the standard products.												

0402 [1005]

Size	0402[1005]																														
	COG (N)		X7R (B)						X6S (S)						X5R (X)						X7T (T)						Y5V (F)				
CP VDC	50	25	50	25	16	10	63	50	25	16	10	63	50	25	16	10	63	50	25	16	10	63	50	25	16	10	63				
0R5	A	A																													
1R0	A	A																													
1R2	A	A																													
1R5	A	A																													
1R8	A	A																													
2R2	A	A																													
2R7	A	A																													
3R3	A	A																													
3R9	A	A																													
4R7	A	A																													
5R6	A	A																													
6R8	A	A																													
8R2	A	A																													
100	A	A																													
120	A	A																													
150	A	A																													
180	A	A																													
200	A	A																													
220	A	A																													
270	A	A																													
300	A	A																													
330	A	A																													
330	A	A																													
390	A	A																													
470	A	A																													
560	A	A																													
680	A	A																													
820	A	A																													
101	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
121	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
151	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
181	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
201	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
221	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
271	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
331	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									

0402 [1005]

Size	0402[1005]																														
	COG (N)		X7R (B)						X6S (S)						X5R (X)						X7T (T)						Y5V (F)				
CP VDC	50	25	50	25	16	10	63	50	25	16	10	63	50	25	16	10	63	50	25	16	10	63	50	25	16	10	63				
391	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
471	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
561	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
681	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
821	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
102	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
152			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
182			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
222			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A									
272			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
332			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
472			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
562			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
103			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
153			A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A				
183				A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A	A	A	A	A	A				
223				A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A	A	A	A	A	A				
273				A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A	A	A	A	A	A				
333				A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A	A	A	A	A	A				
393				A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A	A	A	A	A	A				
473				A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A	A	A	A	A	A				
563				A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A				
683				A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A				
104				A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A		A	A	A	A				
154					A	A	A			A	A	A			A	A	A			A	A	A			A	A	A				
184						A	A				A	A				A	A				A	A			A	A	A				
224						A	A				A	A				A	A				A	A			A	A	A				
274							A					A					A					A				A	A				
334							A					A					A					A				A	A				
474							A					A					A					A				A	A				
684							A					A					A					A					A				
105							A					A					A					A					A				

Note:

Tolerance: COG(0.5pF~4.9pF): CCOG(5.0pF~9.9pF): D; COG(≥ 10 pF): F($\pm 1\%$), G($\pm 2\%$), J($\pm 5\%$)

X7R/X5R/X6S/X7T: J($\pm 5\%$); K($\pm 10\%$); M($\pm 20\%$)

Y5V: M($\pm 20\%$); Z(-20,+80%)

Thickness: A: 0.50 $\pm$ 0.10mm;

Above capacitance for reference only, actual cap. Range depends on the standard products.

0603 [1608]

Size	0603[1608]																																
	COG (N)					X7R (B)								X6S (S)						X5R (X)						X7T (T)				Y5V (F)			
CP VDC	250	200	100	50	25	250	200	100	50	25	16	10	63	50	25	16	10	63	50	25	16	10	63	25	16	10	63	4	50	25	16	10	
0R5	C	C	C	C	C																												
1R0	C	C	C	C	C																												
2R0	C	C	C	C	C																												
3R0	C	C	C	C	C																												
4R0	C	C	C	C	C																												
5R0	C	C	C	C	C																												
6R0	C	C	C	C	C																												
7R0	C	C	C	C	C																												
8R0	C	C	C	C	C																												
9R0	C	C	C	C	C																												
100	C	C	C	C	C																												
120	C	C	C	C	C																												
150	C	C	C	C	C																												
180	C	C	C	C	C																												
200	C	C	C	C	C																												
220	C	C	C	C	C																												
270	C	C	C	C	C																												
300	C	C	C	C	C																												
330	C	C	C	C	C																												
390	C	C	C	C	C																												
470	C	C	C	C	C																												
560	C	C	C	C	C																												
680	C	C	C	C	C																												
820	C	C	C	C	C																												
101	C	C	C	C	C	C	C	C																									
121	C	C	C	C	C	C	C	C																									
151	C	C	C	C	C	C	C	C																									
181	C	C	C	C	C	C	C	C																									
201	C	C	C	C	C	C	C	C																									
221	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
271	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
331	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
391	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
471	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
561			C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
681			C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
821			C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
102				C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	

0603 [1608]

Size	0603[1608]																															
	COG (N)					X7R (B)								X6S (S)					X5R (X)					X7T (T)					Y5V (F)			
CP VDC	250	200	100	50	25	250	200	100	50	25	16	10	63	50	25	16	10	63	50	25	16	10	63	25	16	10	63	4	50	25	16	10
152				C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
182					C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
222					C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
272						C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
332						C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
472						C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
562						C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
682						C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
103								C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
153								C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
183								C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
223								C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
273									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
333									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
393									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
473									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
563									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
683									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
104							C		C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
154									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
184									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
224									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
274									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
334									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
474									C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C
684										C	C	C	C		C	C	C	C		C	C	C	C		C	C	C	C		C	C	C
105										C	C	C	C		C	C	C	C		C	C	C	C		C	C	C	C		C	C	C
225											C	C	C			C	C	C			C	C	C			C	C	C			C	C
475												C	C				C	C				C	C				C	C				C
106													C					C					C					C				

Note:

Tolerance: COG(0.5pF~4.9pF): C COG(5.0pF~9.9pF): D COG(≥ 10 pF): F($\pm 1\%$), G($\pm 2\%$), J($\pm 5\%$)

X7R/X5R/X6S/X7T: J($\pm 5.0\%$); K($\pm 10\%$); M($\pm 20\%$); Y5V: M($\pm 20\%$); Z(-20,+80%)

Thickness: C: 0.80 $\pm$ 0.1mm (0.80 $\pm$ 0.2mm) ;

Above capacitance for reference only, actual cap. Range depends on the standard products.

0805 [2012]

Size	0805[2012]																																	
	COG (N)					X7R (B)							X6S (S)						X5R (X)						X7T (T)					Y5V (F)				
CP VDC	25 0	10 0	5 0	2 5	1 6	25 0	10 0	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	2 5	1 6	1 0	6 3	4	5 0	2 5	1 6	1 0	6 3		
0R5	B	B	B	B	B																													
1R0	B	B	B	B	B																													
2R0	B	B	B	B	B																													
3R0	B	B	B	B	B																													
4R0	B	B	B	B	B																													
5R0	B	B	B	B	B																													
6R0	B	B	B	B	B																													
7R0	B	B	B	B	B																													
8R0	B	B	B	B	B																													
9R0	B	B	B	B	B																													
100	B	B	B	B	B																													
120	B	B	B	B	B																													
150	B	B	B	B	B																													
180	B	B	B	B	B																													
200	B	B	B	B	B																													
220	B	B	B	B	B																													
270	B	B	B	B	B																													
300	B	B	B	B	B																													
330	B	B	B	B	B																													
390	B	B	B	B	B																													
470	B	B	B	B	B																													
560	B	B	B	B	B																													
680	B	B	B	B	B																													
820	B	B	B	B	B																													
101	B	B	B	B	B	B	B																											
121	B	B	B	B	B	B	B																											
151	B	B	B	B	B	B	B																											
181	B	B	B	B	B	B	B																											
201	B	B	B	B	B	B	B																											
221	B	B	B	B	B	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D											
271	B	B	B	B	B	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D											
331	B	B	B	B	B	D/F	D/F	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D							
391	B	B	B	B	B	D/F	D/F	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D							
471	B	B	B	B	B	D/F	D/F	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D							
561	B	B	B	B	B	D/F	D/F	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D							

0805 [2012]

Size	0805[2012]																															
	COG (N)					X7R (B)						X6S (S)					X5R (X)					X7T (T)					Y5V (F)					
CP VDC	2 5 0	1 0 0	5 0	2 5	1 6	2 5 0	1 0 0	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	2 5	1 6	1 0	6 3	4	5 0	2 5	1 6	1 0	6 3
681	B	B	B	B	B	D/F	D/F	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D					
821	B	B	B	B	B	D/F	D/F	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D	B/D					
102	B	B	B	B	B	D/F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
152	B	B	B	B	B	D/F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
182		B	B	B	B	D/F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
222		B	B	B	B	D/F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
272			B	B	B	D/F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
332				B	B	D/F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
472				B	B	D/F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
562				B	B	D/F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
682					B	D/F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
103						D/F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
153						F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
183						F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
223						F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
273						F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
333						F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
393						F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
473						F	D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
563						D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
683						D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
104						D/F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
154							D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
184							D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
224							D	D	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D	D/F	D	D	D
274							D	D	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D
334							D	D	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D
474							D	D/F	D/F	D	D	D	D/F	D/F	D/F	D	D	D/F	D/F	D/F	D	D	D/F	D/F	D/F	D	D	D/F	D/F	D/F	D	D

0805 [2012]

Size	0805[2012]																																	
	COG (N)					X7R (B)							X6S (S)					X5R (X)					X7T (T)					Y5V (F)						
CP VDC	250	100	50	25	16	250	100	50	25	16	10	63	50	25	15	10	63	50	25	16	10	63	25	16	10	63	4	50	25	16	100	63		
104							D/ F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
154								D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
184								D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D		
224								D	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D	
274								D	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D	
334								D	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D/F	D	D	D	D	D	
474								D	D/F	D/F	D	D	D/F	D/F	D/F	D	D	D/F	D/F	D/F	D	D	D/F	D/F	D/F	D	D	D/F	D/F	D/F	D	D	D	
105								F	D/F	D/F	D	D	F	D/F	D/F	D	D	F	D/F	D/F	D	D	F	D/F	D/F	D	D	D	D/F	D/F	D	D	D	
225									F	F	F	F		F	F	F	F		F	F	F	F		F	F	F	F		F	F	F	F	F	
475									F	F	F	F		F	F	F	F		F	F	F	F		F	F	F	F			F	F	F	F	
106										F	F	F			F	F	F			F	F	F			F	F	F				F	F	F	
226											F	F				F	F				F	F				F	F						F	F
476												F					F					F					F							
Tolerance: COG(0.5pF~4.9pF): C COG(5.0pF~9.9pF): D; COG(≥10pF): F(±1%), G(±2%), J(±5%)																																		
X7R/X5R/X6S/X7T: J(±5.0%); K(±10%); M(±20%); Y5V: M(±20%); Z(-20,+80%)																																		
Thickness: B: 0.60±0.1mm 、 D: 0.85±0.1mm、 F: 1.25±0.2mm;																																		
Above capacitance for reference only, actual cap. Range depends on the standard products.																																		

1206 [3216]

Size	1206[3216]																																							
	COG (N)										X7R (B)										X6S (S)						X5R (X)					X7T (T)				Y5V (F)				
CP VDC	2 0 0	1 0 0	6 3 0	5 0 0	2 5 0	1 0 0	5 0	2 5	1 6	2 0 0	1 0 0	6 3 0	5 0 0	2 5 0	1 0 0	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	2 5	1 6	1 0	6 3	4	5 0	2 5	1 6	1 0	6 3
0R5	D	D	D	D	D	D	D	D	D																															
1R0	D	D	D	D	D	D	D	D	D																															
2R0	D	D	D	D	D	D	D	D	D																															
3R0	D	D	D	D	D	D	D	D	D																															
4R0	D	D	D	D	D	D	D	D	D																															
5R0	D	D	D	D	D	D	D	D	D																															
6R0	D	D	D	D	D	D	D	D	D																															
7R0	D	D	D	D	D	D	D	D	D																															
8R0	D	D	D	D	D	D	D	D	D																															
9R0	D	D	D	D	D	D	D	D	D																															
100	D	D	D	D	D	D	D	D	D																															
120	D	D	D	D	D	D	D	D	D																															
150	D	D	D	D	D	D	D	D	D																															
180	D	D	D	D	D	D	D	D	D																															
200	D	D	D	D	D	D	D	D	D																															
220	D/E/ F	D	D	D	D	D	D	D	D																															
270	D/E/ F	D	D	D	D	D	D	D	D																															
300	D/E/ F	D	D	D	D	D	D	D	D																															
330	D/E/ F	D	D	D	D	D	D	D	D																															
390	D/E/ F	D	D	D	D	D	D	D	D																															
470	D/E/ F	D	D	D	D	D	D	D	D																															
560	D/E/ F	D	D	D	D	D	D	D	D																															
680	D/E/ F	D	D	D	D	D	D	D	D																															
154															D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D

1206 [3216]

Size	1206[3216]																																									
	COG (N)									X7R (B)									X6S (S)						X5R (X)						X7T (T)					Y5V (F)						
CP VDC	200	1 0 0	6 3 0	5 0 0	2 5 0	1 0 0	5 0	2 5	1 6	2 0 0	1 0 0	6 3 0	5 0 0	2 5 0	1 0 0	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	2 5	1 6	1 0	6 3	4	5 0	2 5	1 6	1 0	6 3		
820	D/E/ F	D	D	D	D	D	D	D	D																																	
101	D/E/ F	D/ E	D	D	D	D	D	D	D	F	F	F	F	F																												
121	D/E/ F	D/ E	D	D	D	D	D	D	D	F	F	F	F	F																												
151		D/ E	D	D	D	D	D	D	D	F	F	F	F	F																												
181		D/ E	D	D	D	D	D	D	D	F	F	F	F	F																												
201		D/ E	D	D	D	D	D	D	D	F	F	F	F	F																												
221		D/ E	D	D	D	D	D	D	D	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
271		D/ E	D	D	D	D	D	D	D	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
331		D/ E	D	D	D	D	D	D	D	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
391		D/ E	D	D	D	D	D	D	D	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
471		D/ E	D	D	D	D	D	D	D	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
561			D	D	D	D	D	D	D	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
681			D	D	D	D	D	D	D	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
821			D	D	D	D	D	D	D	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
102			D	D	D	D	D	D	D	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
152			D	D	D	D	D	D	D	F	F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
182						D	D	D	D		F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
222						D	D	D	D		F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
272						D	D	D	D		F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
332						D	D	D	D		F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
472						D	D	D	D		F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
562						D	D	D	D		F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
682							D	D		F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
103							F	F		F	F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
153											F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
183											F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
223											F	F	F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D
273													F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D

1206 [3216]

Size	1206[3216]																																												
	COG (N)										X7R (B)										X6S (S)						X5R (X)						X7T (T)						Y5V (F)						
CP VDC	2 0 0	1 0 0	6 3 0	5 0 0	2 5 0	1 0 0	5 0 0	2 5 0	1 6 3	2 0 0	1 0 0	6 3 0	5 0 0	2 5 0	1 0 0	5 0 0	2 5 0	1 6 3	1 0 0	6 3 0	5 0 0	2 5 0	1 6 3	1 0 0	6 3 0	5 0 0	2 5 0	1 6 3	1 0 0	6 3 0	2 5 0	1 6 3	1 0 0	6 3 0	4	5 0 0	2 5 0	1 6 3	1 0 0	6 3 0					
333														F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D			
393														F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
473														F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
563														F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
683														F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
104														F	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
184															D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
224															D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
274															D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
334															D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	
474															F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
684															F/H	F/H	F	F	F	F	F	F/H	F	F	F	F	F/H	F	F	F	F	F/H	F	F	F	F	F/H	F	F	F	F	F/H	F	F	F
105															F/H	F/H	F	F	F	F	F/H	F	F	F	F	F/H	F	F	F	F	F/H	F	F	F	F	F/H	F	F	F	F	F/H	F	F	F	F
205																F/H	E	E	E			E	E	E			E	E	E			E	E	E			E	E	E		E	E	E	E	
225															F	F	F	F	F		F	F	F	F		F	F	F	F		F	F	F	F		F	F	F	F		F	F	F	F	
475															F/H	F/H	F/H	F/H		F/H	F/H	F/H	F/H		F/H	F/H	F/H	F/H		F/H	F/H	F/H	F/H		F/H	F/H	F/H	F/H		F	F	F	F		
106																F/H	F/H	F/H			F/H	F/H	F/H			F/H	F/H	F/H			F/H	F/H	F/H			F/H	F/H	F/H			F	F	F		
226																	F/H	F/H				F/H	F/H				F/H	F/H				F/H	F/H				F/H	F/H				F/H	F/H		
476																			F/H						F/H							F/H					F/H								
Note:																																													
Tolerance: COG(0.5pF~4.9pF): C; COG(5.0pF~9.9pF): D; COG(≥10pF): F(±1%), G(±2%), J(±5%)																																													
X7R/X5R/X6S/X7T: J(±5.0%); K(±10%); M(±20%); Y5V: M(±20%); ZL:-20,+80%)																																													
Thickness: D: 0.85±0.1mm, E: 1.00±0.1mm, F: 1.25±0.2mm, H: 1.60±0.2mm, 1.60±0.3mm;																																													
Above capacitance for reference only, actual cap. Range depends on the standard products.																																													

1210 [3225]

Size	1210[3225]																																						
	COG (N)						X7R (B)										X6S (S)						X5R (X)						X7T (T)						Y5V (F)				
CP VDC	2 0 0 0	1 0 0 0	5 0 0	2 5 0	1 0 0	5 0	2 0 0 0	1 0 0 0	6 3 0	5 0 0	2 5 0	1 0 0	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	2 5	1 6	1 0	6 3	4	5 0	2 5	1 6	1 0	6 3		
100	D																																						
120	D																																						
150	D																																						
180	D																																						
200	D																																						
220	D																																						
270	D																																						
300	D																																						
330	D																																						
390	D																																						
470	D																																						
560	D																																						
680	D																																						
820	D																																						
101	D	D	D	D		D																																	
121	F	D	D	D		D																																	
151	F	D	D	D		D																																	
181	F	D	D	D		D																																	
201	F	D	D	D		D																																	
221	F	D	D	D		D	F	F	F	F	F	F	F																										
271		D	D	D		D	F	F	F	F	F	F	F																										
331		D	D	D		D	F	F	F	F	F	F	F																										
391		D	D	D		D	F	F	F	F	F	F	F																										
471		D	D	D		D	F	F	F	F	F	F	F																										
561		F	D	D		D	F	F	F	F	F	F	F																										
681		F	D	D		D	F	F	F	F	F	F	F																										
821		F	D	D		D	F	F	F	F	F	F	F																										
102		F	D	D		D	F	F	F	F	F	F	F																										
152			D	D		D	F	F	F	F	F	F	F																										
182			D	D		D	F	F	F	F	F	F	F																										
222			D	D		D	F	F	F	F	F	F	F																										
272			F	D		D		F	F	F	F	F	F																										
332				D		D		F	F	F	F	F	F																										
472				D				F	F	F	F	F	F																										
562								F	F	F	F	F	F																										
682								F	F	F	F	F	F																										

1210 [3225]

Size	1210[3225]																																						
	COG (N)						X7R (B)										X6S (S)						X5R (X)						X7T (T)						Y5V (F)				
CP VDC	2 0 0 0	1 0 0 0	5 0 0	2 5 0	1 0 0	5 0	2 0 0 0	1 0 0 0	6 3 0	5 0 0	2 5 0	1 0 0	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	5 0	2 5	1 6	1 0	6 3	2 5	1 6	1 0	6 3	4	5 0	2 5	1 6	1 0	6 3		
103								F	F	F	F	F																											
153								F	F	F	F	F																											
223									H	H	F	F																											
333									H	H	F	F																											
473									G	G	F	F																											
563											F	F																											
683											F	F																											
104											F	F																											
154											H	H																											
224											G	H																											
334												G																											
394												G																											
474												G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G		
684												H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H		
105												H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H		
225													H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H	H		
226																M	M	M			M	M	M			M	M	M			M	M	M			M	M	M	
475															H/ G	H	H	H		H/ G	H	H	H		H/ G	H	H	H		H/ G	H	H	H		H/ G	H	H	H	
106															M	G	M	M		M	G	M	M		M	G	M	M		M	G	M	M		M	G	M	M	
226																M	M	M			M	M	M			M	M	M			M	M	M			M	M	M	
476																M	M				M	M				M	M				M	M				M	M		
107																	M					M					M					M					M		

Note:

Tolerance: COG($\geq 10\text{pF}$): F($\pm 1\%$), G($\pm 2\%$), J($\pm 5\%$);

X7R/X5R/X6S/X7T: J($\pm 5.0\%$); K($\pm 10\%$); M($\pm 20\%$); Y5V: M($\pm 20\%$); ZL: -20,+80%)

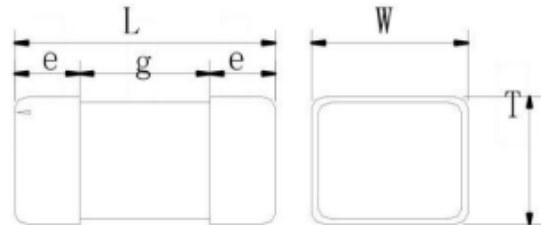
Thickness: D: $0.85\pm 0.1\text{mm}$, F: $1.25\pm 0.2\text{mm}$, H: $1.60\pm 0.2\text{mm}$, G: $2.00\pm 0.20\text{mm}$ M: $2.50\pm 0.30\text{mm}$;

Above capacitance for reference only, actual cap. Range depends on the standard products.

Dimensions

Chip Size:

- 0201,
- 0402,
- 0603,
- 0805,
- 1206,
- 1210,
- 1808,
- 1812.



Type	L (mm)	W (mm)	e (mm)	g min (mm)	T (mm)				
201	0.60±0.03	0.30±0.03	0.1~0.2	0.2	0.30±0.03				
402	1.00±0.10	0.50±0.10	0.15~0.3	0.4	0.50±0.10	-	-	-	-
603	1.60±0.10	0.80±0.10	0.2~0.6	0.5	0.80±0.10	-	-	-	-
0603*1	1.60±0.20*1	0.80±0.20*1	0.2~0.6	0.5	0.80±0.20*1	-	-	-	-
0805	2.00±0.10	1.25±0.10	0.2~0.7	0.7	0.60±0.10	0.85±0.10	1.25±0.20	-	-
0805*1	2.00±0.20*1	1.25±0.20*1	0.2~0.7	0.7	0.60±0.10	0.85±0.10	1.25±0.20	-	-
1206	3.20±0.20	1.60±0.20	0.3~0.8	1.6	0.85±0.10	1.00±0.10	1.25±0.20	1.60±0.20	-
1206*1	3.20±0.30*1	1.60±0.30*1	0.3~0.8	1.6	0.85±0.10	1.00±0.10	1.25±0.20	1.60±0.30*1	-
1210	3.20±0.30	2.50±0.20	0.3~0.8	1.6	0.85±0.10	1.25±0.20	1.60±0.20	2.00±0.20	2.50±0.30
1210*1	3.20±0.40*1	2.50±0.30*1	0.3~0.8	1.6	0.85±0.10	1.25±0.20	1.60±0.20	2.00±0.20	2.50±0.30
1808	4.50±0.40	2.03±0.25	0.3~0.8						
1812	4.50±0.40	3.20±0.40	0.3~0.8						

*1 This specification model is marked as 1uF and above product size.

Dissipation Factor

Dielectrics	Specification				Testing Condition	
COG	Cp<30pF, Q≥400+20Cp; Cp≥30pF, Q≥1000				1.0±0.2Vrms. 1MHz±10%, 25 °C (Cp<10000pF, 1.0±0.2Vrms, 1K Hz±10%)	
X7R/X5R/X7T/X6S	0210	≤25v	C≤0.22 μF	≤10.0%	1.0±0.2Vrms, 1KHz±10% (Cp > 10uF, 0.5±0.1Vrms, 120±24Hz)	
	0402	≤25v	C≤0.47 μF	≤7.0%		
			C>0.47 μF	≤10.0%		
		> 25v	C≤0.1 μF	≤7.0%		
			C>0.1 μF	≤10.0%		
	0603	≤25v	C≤0.47 μF	≤7.0%		
			C>0.47 μF	≤10.0%		
		> 25v	C≤0.1 μF	≤5.0%		
			0.1 μF < C≤0.22 μF	≤7.0%		
			C>0.22 μF	≤10.0%		
	0805	≤25v	C≤1 μF	≤7.0%		
			C>1 μF	≤10.0%		
		> 25v	C≤0.47 μF	≤7.0%		
			C>0.47 μF	≤10.0%		
	1206	≤25v	C < 2.2 μF	≤7.0%		
			2.2 μF ≤ C < 47 μF	≤10.0%		
		> 25v	C≤1 μF	≤7.0%		
			1 μF ≤ C < 47 μF	≤10.0%		
1210	≤25v	C < 2.2 μF	≤7.0%			
		2.2 μF ≤ C < 47 μF	≤10.0%			
Y5V	UR	DF	Remark		1.0±0.2Vrms, 1KHz±10%, (Cp > 10uF, 0.5±0.1Vrms, 120±24Hz) 25°C, 48hrs after annealing	
	UR≥20v	DF≤7.0%				
	UR=25v	DF≤7.0%	683 > 0402≥473,474 > 0603≥104			
			105 > 0805≥334,475 > 1206≥684			
			106 > 1210≥105			
		DF≤9.0%	0402≥683, 0603≥474 0805≥105			
			1206≥475, 1210≥106			
	UR=16v	DF≤9.0%				
		DF≤12.5%	0402≥224, 0603≥225 0805≥335			
			1206≥106, 1812≥476			
	UR=10v	DF≤12.5%				
	UR=6.3v	DF≤15.0%				
Remarks: Test temperature: 25°C±3°C; Test humidity: <70%RH. For Class II dielectric specifications, de-aging treatment is required.; Conditions: The capacitor is heat treated at 150°C for 1 hour and then measured after 48 hours.						

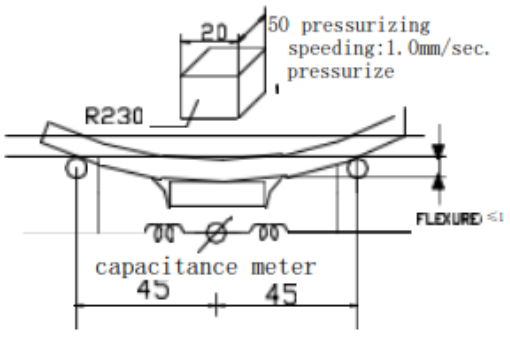
Dielectric Strength

Dielectrics	Rated Voltage Range	Measuring Method
COG	UR≤50w	Force 300%Rated voltage for 5second. Max. current should not exceed 50 mA.
X7R/X5R/Y5V/X7T/X6S	UR≤50w	Force 250%Rated voltage for 5second. Max. current should not exceed 50 mA.
COG/X7R/X7T	100V≤UR < 500w	Force 200%Rated voltage for 5second. Max. current should not exceed 50 mA.
	500V≤UR < 1000w	Force 150% Rated voltage for 5second. Max. current should not exceed 50 mA.
	1000V≤UR < 2000w	Force 150%Rated voltage for 5second. Max. current should not exceed 50 mA.
	UR≥2000w	Force 120%Rated voltage for 5second. Max. current should not exceed 30 mA.

Temperature Coefficient of Capacitance

Dielectrics	Specification	Testing Condition					
COG	Temperature coefficient within ±30ppm/°C; Cp drift within ±0.2% or ±0.05pF	Measure capacitance under follow table list temperature: at 140~150°C pretreatment for 1 hour, measure after 24h.					
		STEP	X7R	X7T	X6S	X5R	Y5V
		1	25±2	25±2	25±2	25±2	25±2
X7R/X5R	Capacitance change within ±15%	2	-55±3	-55±3	-55±3	-55±3	-30±3
		3	25±2	25±2	25±2	25±2	25±2
		4	125±3	105±3	85±3	85±3	85±3
X7T	Capacitance change within +22%, -33%	5	25±2	25±2	25±2	25±2	25±2
X6S	Capacitance change within ±22%	1) COG The capacitance drift is calculated by dividing the differences between the maximum and minimum measured values in the step 1, 3 and 5. The temperature coefficient is determined using the Capacitance measured in step 3 as a reference. 2) X7R, X5R, X7T, X6S and Y5V The ranges of capacitance change compared with the above 25°C value over the temperature ranges shall be within the specified ranges.					
Y5V	Capacitance change within +22%, -82%						

Bending

Dielectrics	Specification	Testing Condition
COG	No remarkable visual damage Cp change within $\pm 5.0\%$ or $\pm 0.5\text{pF}$, whichever is larger.	Solder the capacitor on testing substrate and put it on testing stand. The middle part of substrate shall successively be pressurized by pressuring rod at a rated of about 1.0mm/sec. Until the deflection become means of the 1.0mm.) 
X7R/X5R/X7T/X6S	No remarkable visual damage Cp change $\leq \pm 10\%$	
Y5V	No remarkable visual damage Cp change $\leq \pm 30\%$	

Life Test

Dielectrics	Specification	Testing Condition
COG	No remarkable visual damage Cp change $\leq \pm 3\%$ or $\pm 0.3\text{pF}$, whichever is larger. $Q \geq 350$ ($C_p \geq 30\text{pF}$) $Q \geq 275 + (2.5 * C_p)$ ($10\text{pF} \leq C_p < 30\text{pF}$) $Q \geq 200 + 10 * C_p$ ($C_p < 10\text{pF}$) $R * C \geq 1000\text{M}\Omega$ or $5\Omega \cdot \text{F}$, whichever is smaller	Test temperature: Max. Operating Temp. $\pm 3^\circ\text{C}$ Voltage: $U_R < 100\text{V}$ 150% of the rated voltage Testing time: 1000 hrs Measurement to be made after being kept at room temperature for $24 \pm 2\text{hrs}$ (COG) or $48 \pm 4\text{hrs}$ (X7R, X5R, Y5V, X7T, X6S) *Initial measurement for high dielectric constant type Apply 150% of the rated DC voltage for one hour at the maximum operating temperature $\pm 3^\circ\text{C}$. Remove and let sit for $48 \pm 4\text{hrs}$ at room temperature. Perform the initial measurement.
X7R/X5R/X7T/X6S	No remarkable visual damage Cp change $\leq \pm 12.5\%$ DF: Not more than 2 times of initial value $R * C \geq 1000\text{M}\Omega$ or $5\Omega \cdot \text{F}$, whichever is smaller	
Y5V	No remarkable visual damage Cp change $\leq \pm 30\%$ DF: Not more than 1.5 times of initial value $R * C \geq 1000\text{M}\Omega$ or $5\Omega \cdot \text{F}$, whichever is smaller	

Note: This reliability test is only applicable to conventional products, not to medium and high voltage products.

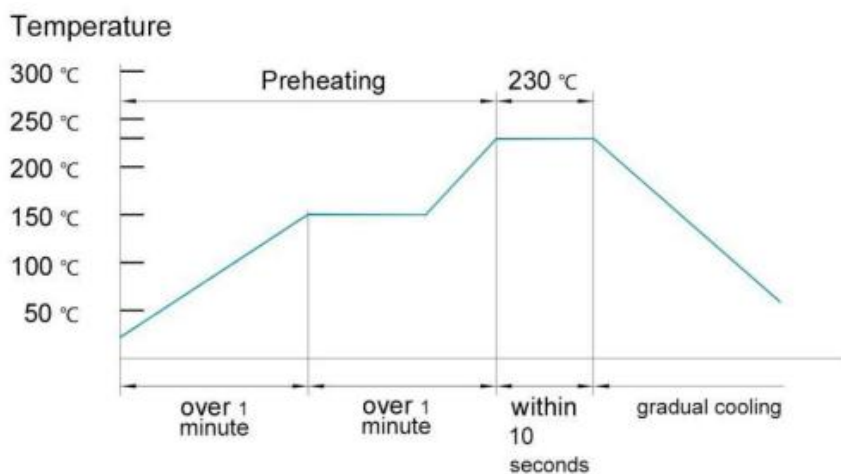
Bulk Packing

Standard packing 1000pcs/bag; others are according to customer request.

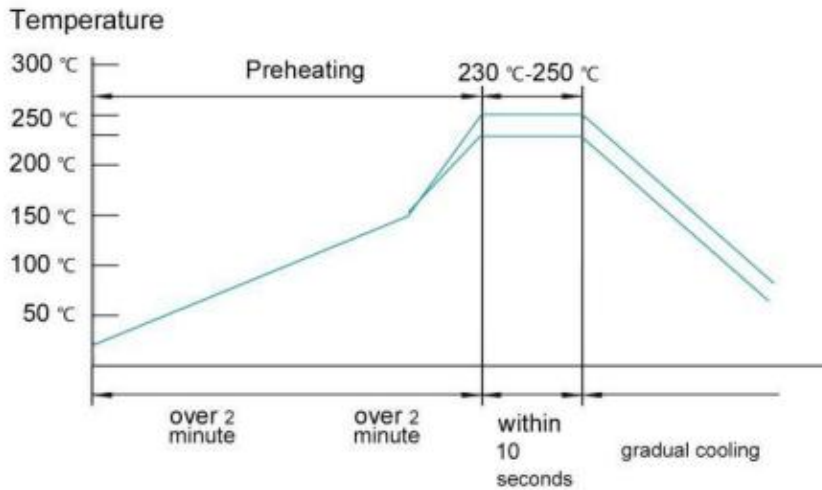
Tape Packing

Type	Size (mm)			Tape quantity (pcs/reel)	
	Length	Width	Thickness	Paper Tape	Plastic Tape
201	0.6	0.3	0.3	15	N/A
402	1.0	0.5	0.5	10	N/A
603	1.6	0.8	0.8	4	N/A
805	2.0	1.25	≤0.85	4	N/A
			>0.85	N/A	2,000 (or 3,000)
1206	3.2	1.6	≤0.85	4	N/A
			>0.85	N/A	2,000 (or 3,000)
1210	3.2	2.5	≤1.25	N/A	2,000
			>1.25	N/A	2,000

Reflow Soldering



Wave Solder Profile



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