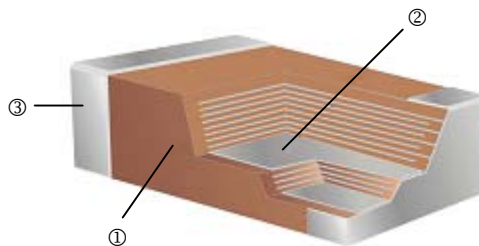


Multilayer Ceramic Capacitor – MC Series

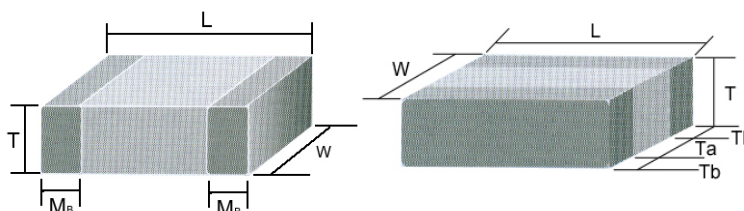
Construction



①	Ceramic Material	③	Termination:
②	Inner Electrodes		NPO: Ag/Ni/Sn dielectric X7R, Y5V, X5R: Cu/Ni/Sn dielectric

Features

- Wide capacitance range, extremely compact size
- Low inductance of capacitor for high frequency application
- Excellent solderability and resistance to soldering heat, suitable for flow and reflow soldering
- Adaptable to high-speed surface mount assembly
- Conform to EIAJ-RC3402, and also compatible with EIA-RS198 and IEC PUB. 384-10



Dimensions

MC / MCHL / MCRF Type

Unit: mm

Type	Size (Inch)	L	W	T / Symbol		Mb	Packaging (7" Reel)	
							Paper tape	Plastic tape
01	0201	0.6±0.03	0.3±0.03	0.3±0.03	L	0.15±0.05	15K	-
02	0402	1.00±0.05	0.50±0.05	0.50±0.05	N	0.25 +0.05 / -0.10	10K	-
03	0603	1.60±0.10	0.80±0.10	0.80±0.07	S	0.40±0.15	4K	-
		1.60 +0.15 / -0.10	0.80 +0.15 / -0.10	0.80 +0.05 / -0.10	X		4K	
05	0805	2.00±0.15	1.25±0.10	0.60±0.10	A	0.50±0.20	4K	-
				0.80±0.10	B		4K	-
		1.25±0.10	D	-	3K			
		0.85±0.10	T	4K	-			
06	1206	2.00±0.20	1.25±0.20	1.25±0.20	I	0.60±0.20	-	3K
				0.80±0.10	B		4K	-
		3.20±0.15	1.60±0.15	0.95±0.10	C		-	3K
		3.20±0.20	1.60±0.20	1.25±0.10	D		-	3K
10	1210	3.20±0.30	2.50±0.20	1.15±0.15	J	0.75±0.25	-	3K
				1.60±0.20	G		-	3K
		3.20±0.40	2.50±0.30	1.60±0.20	G		-	2K
		2.00±0.20	K	-	1K			
08	1808	4.50±0.40	2.03±0.25	2.50±0.30	M	0.75±0.25	-	1K
				1.25±0.10	D		-	2K
				2.00±0.20	K		-	1K
12	1812	4.50±0.40	3.20±0.30	1.25±0.10	D	0.75±0.25	-	1K
				2.00±0.20	K		-	1K
		3.20±0.40	2.50±0.30	M	-		0.5K	

Low Inductance Capacitors for MCLI Type

Unit: mm

Type	Size (Inch)	L	W	T / Symbol		Ta min.	Tb min.	Packaging (7" Reel)	
								Paper tape	Plastic tape
MCLI43	0612	3.20±0.15	1.60±0.15	0.80±0.10	B	0.5	0.13	4K	-

Part Numbering

MC	03	J	T	N	250	3R9
Product Type	Dimensions (LxW)	Capacitance Tolerance	Packaging	Dielectric	Voltage (VDCW)	Capacitance
MC : General; Ultra-small Middle and High Voltage MCHL: High Q and Low ESR MCRF: Ultra High Q and Low ESR (RF) MCLI: Low Inductance	01: 0201 02: 0402 03: 0603 05: 0805 06: 1206 10: 1210 08: 1808 12: 1812 43: 0612	B: $\pm 0.1\text{pF}$ ($\text{Cap} \leq 5\text{pF}$) C: $\pm 0.25\text{pF}$ ($\text{Cap} \leq 5\text{pF}$) D: $\pm 0.5\text{pF}$ ($5\text{pF} < \text{Cap} < 10\text{pF}$) F: $\pm 1\%$ G: $\pm 2\%$ J: $\pm 5\%$ K: $\pm 10\%$ M: $\pm 20\%$ Z: $+80/-20\%$	T: Taping Reel	N: NPO (COG) B: X7R F: Y5V X: X5R	6V3: 6.3V 250: 25V 500: 50V 101: 100V 102: 1000V 202: 2000V 302: 3000V	3R9: 3.9pF 150: 15pF 181: 180pF 225: 2.2 μF 476: 47 μF 107: 100 μF

■ Middle and High Voltage

Capacitance & Voltage (NPO 200V~3KV)

Dielectric		NPO																												
EIA	Size	0603		0805				1206					1210					1808			1812									
Code	VDCW	200	250	200	250	500	630	200	250	500	630	1000	2000	200	250	500	630	1000	2000	1000	2000	3000	200	250	500	630	1000	2000	3000	
0R5	0.5pF	S	S	A	A	A	A																							
1R0	1	S	S	A	A	A	A																							
1R2	1.2	S	S	A	A	A	A																							
1R5	1.5	S	S	A	A	A	A	B	B	B	B	B	B																	
1R8	1.8	S	S	A	A	A	A	B	B	B	B	B	B																	
2R2	2.2	S	S	A	A	A	A	B	B	B	B	B	B							D	D	D								
2R7	2.7	S	S	A	A	A	A	B	B	B	B	B	B							D	D	D								
3R3	3.3	S	S	A	A	A	A	B	B	B	B	B	B							D	D	D								
3R9	3.9	S	S	A	A	A	A	B	B	B	B	B	B							D	D	D								
4R7	4.7	S	S	A	A	A	A	B	B	B	B	B	B							D	D	D								
5R6	5.6	S	S	A	A	A	A	B	B	B	B	B	B							D	D	D								
6R8	6.8	S	S	A	A	A	A	B	B	B	B	B	B							D	D	D								
8R2	8.2	S	S	A	A	A	A	B	B	B	B	B	B							D	D	D								
100	10pF	S	S	A	A	A	A	B	B	B	B	B	B	C ^A	C ^A	C ^A	C ^A	C	C	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
120	12	S	S	A	A	A	A	B	B	B	B	B	B	C ^A	C ^A	C ^A	C ^A	C	C	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
150	15	S	S	A	A	A	A	B	B	B	B	B	B	C ^A	C ^A	C ^A	C ^A	C	C	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
180	18	S	S	A	A	A	A	B	B	B	B	B	B	C ^A	C ^A	C ^A	C ^A	C	C	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
220	22	S	S	A	A	A	A	B	B	B	B	B	B	C ^A	C ^A	C ^A	C ^A	C	C	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
270	27	S	S	A	A	A	A	B	B	B	B	B	B	C ^A	C ^A	C ^A	C ^A	C	C	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
330	33	S	S	A	A	A	A	B	B	B	B	B	C	C ^A	C ^A	C ^A	C ^A	C	C	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
390	39	S	S	A	A	A	A	B	B	B	B	B	C	C ^A	C ^A	C ^A	C ^A	C	C	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
470	47	S	S	A	A	A	A	B	B	B	B	C	C	C ^A	C ^A	C ^A	C ^A	C	C	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
560	56	S	S	A	A	A	A	B	B	B	B	C	D	C ^A	C ^A	C ^A	C ^A	C	D	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
680	68	S	S	A	A	A	A	B	B	B	B	C	D	C ^A	C ^A	C ^A	C ^A	C	D	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
820	82	S	S	A	A	B	B	B	B	B	B	D	D	C ^A	C ^A	C ^A	C ^A	C	D	D	D	D	D ^A	D ^A	D ^A	D ^A	D	D	D	
101	100pF	S	S	A	B	B	B	B	B	B	B	D	D	C ^A	C ^A	C ^A	C ^A	C ^A	D	D	D	D	K	D ^A	D ^A	D ^A	D ^A	D	D	D
121	120	S	S	A	B	D	D	B	B	B	B	D	G	C ^A	C ^A	C ^A	C ^A	C ^A	D	D	D	D	K	D ^A	D ^A	D ^A	D ^A	D	D	D
151	150	S	S	B	D	D	D	B	B	B	B	D	G	C ^A	C ^A	C ^A	C ^A	C ^A	D	G	D	K	K	D ^A	D ^A	D ^A	D ^A	D	D	D
181	180	S	S	B	D	D	D	B	B	B	B	G	G	C ^A	C ^A	C ^A	C ^A	C ^A	D	G	D	K	K	D ^A	D ^A	D ^A	D ^A	D	D	K
221	220	S	S	D	D	D	D	B	B	B	B	G	G	C ^A	C ^A	C ^A	C ^A	G	G	D	K	K	D ^A	D ^A	D ^A	D ^A	D	D	K	
271	270			D	D	D	D	B	C	C	C	G		C ^A	C ^A	C ^A	C ^A	C ^A	G		K	K	K	D ^A	D ^A	D ^A	D ^A	D	K	K
331	330			D	D	D	D	B	C	C	C	G		C ^A	C ^A	C ^A	C ^A	C ^A	G		K	K	K	D ^A	D ^A	D ^A	D ^A	D	K	K
391	390			D	D	D	D	B	C	C	C	G		C ^A	C ^A	C ^A	C ^A	C ^A	G		K	K		D ^A	D ^A	D ^A	D ^A	D	K	K
471	470			D				C	C	C	C	G		C ^A	C ^A	C ^A	C ^A	C ^A	G		K	K		D ^A	D ^A	D ^A	D ^A	K	K	K
561	560			D				C	D	D	D			C ^A	C ^A	C ^A	C ^A	C ^A			K	K		D ^A	D ^A	D ^A	D ^A	K	K	
681	680			D				C	D	D	D			C ^A	C ^A	C ^A	C ^A	C ^A			K	K		D ^A	D ^A	D ^A	D ^A	K	K	
821	820			D				C	G	G	G			C ^A	C ^A	C ^A	C ^A	C ^A			K			D ^A	D ^A	D ^A	D ^A	K	K	
102	1000pF			D				C	G	G	G			D ^A	D ^A	D ^A	D ^A	D ^A			K			D ^A	D ^A	D ^A	D ^A	K	K	
122	1200							C	G	G	G			D ^A	D ^A	D ^A	D ^A	D ^A						D ^A	D ^A	D ^A	D ^A	K		
152	1500							D	G	G	G			D ^A	D ^A	D ^A	D ^A	D ^A						D ^A	D ^A	D ^A	D ^A	K		
182	1800							D	G	G	G			D ^A	D ^A	D ^A	D ^A	D ^A						D ^A	D ^A	D ^A	D ^A			
222	2200							D	G	G	G			D ^A	D ^A									D ^A	D ^A	D ^A	D ^A			
272	2700													D ^A	D ^A									D ^A	D ^A	D ^A	D ^A			
332	3300													D ^A										D ^A	D ^A	D ^A	D ^A			
392	3900													D ^A										D ^A						
472	4700																							D ^A						
562	5600																							D ^A						
682	6800																							D ^A						

- The letter in cell is expressed the symbol of product thickness
- The "A" mark is expressed product with Ag/Ni/Sn termination

Capacitance & Voltage (X7R 200V~3KV)

Dielectric		X7R																								
EIA	Size	0805				1206					1210					1808			1812							
Code	VDCW	200V	250V	500V	630V	200V	250V	500V	630V	1000V	2000V	200V	250V	500V	630V	1000V	1000V	2000V	3000V	200V	250V	500V	630V	1000V	2000V	3000V
101	100pF	B	B	B	B																					
121	120	B	B	B	B																					
151	150	B	B	B	B	D	D	D	D	D	D						D	D	D							
181	180	B	B	B	B	D	D	D	D	D	D						D	D	D							
221	220	B	B	B	B	D	D	D	D	D	D						D	D	D							
271	270	B	B	B	B	D	D	D	D	D	D						D	D	D					D	D	
331	330	B	B	B	B	D	D	D	D	D	D						D	D	K					D	D	
391	390	B	B	B	B	D	D	D	D	D	D						D	D	K					D	D	
471	470	B	B	B	B	D	D	D	D	D	D						D	D	K					D	D	
561	560	B	B	B	B	D	D	D	D	D	D						D	D	K					D	D	
681	680	B	B	B	B	D	D	D	D	D	D						D	D	K					D	D	K
821	820	B	B	B	B	D	D	D	D	D	G						D	D	K					D	D	K
102	1000pF	B	B	B	B	D	D	D	D	D	G	C	C	D	D	D	D	K	K		D	D	D	D	D	K
122	1200	B	B	B	B	D	D	D	D	D	G^A	C	C	D	D	D	D	K			D	D	D	D	D	D
152	1500	B	B	B	B	D	D	D	D	D	G^A	C	C	D	D	D	D	K			D	D	D	D	D	D
182	1800	B	B	B	B	D	D	D	D	D		C	C	D	D	D	D	K			D	D	D	D	D	D
222	2200	B	B	B	B	D	D	D	D	D		C	C	D	D	D	D	K^A			D	D	D	D	D	D
272	2700	B	B	B	B	D	D	D	D	D		C	C	D	D	D	D				D	D	D	D	D	D
332	3300	B	B	B	B	D	D	D	D	D		C	C	D	D	D	D				D	D	D	D	D	K
392	3900	B	B	B	B	D	D	D	D	D		C	C	D	D	G	D				D	D	D	D	D	K
472	4700	B	D			D	D	D	D	D		C	C	D	D	G	D				D	D	D	D	D	K
562	5600	D	D			D	D	D	D	D		C	C	D	D	G	K				D	D	D	D	D	
682	6800	D	D			D	D	D	D	D		C	C	D	D	G	K				D	D	D	D	D	
822	8200	D	D			D	D	D	D	D		C	C	D	D	G	K				D	D	D	D	D	
103	0.010μF	D	D			D	D	D	D	D		C	C	D	D	G	K				D	D	D	D	D	
123	0.012	D				D	D	D	D			C	C	D	D						D	D	D	D	K	
153	0.015	D				D	D	D	D			C	C	D	D						D	D	D	D	K	
183	0.018	D				D	D	D	D			C	C	D	D						D	D	D	D		
223	0.022	D				D	D	G	G			C	C	D	D						D	D	D	D		
273	0.027					D	D	G	G			C	C	G	G						D	D	D	D		
333	0.033					G	G	G	G			C	C	G	G						D	D	D	D		
393	0.039					G	G					C	C	G	G						D	D	D	D		
473	0.047					G	G					D	D	G	G						D	D	D	D		
563	0.056					G	G					D	D	G	G						D	D	K	K		
683	0.068					G	G					G	G								D	D	K	K		
823	0.082					G	G					G	G								D	D	K	K		
104	0.10μF					G	G					G	G								D	D	K	K		
124	0.12											G	G								D	D				
154	0.15											M	M								K	K				
184	0.18											M	M								K	K				
224	0.22											M	M								K	K				
274	0.27											M	M								K	K				
334	0.33											M	M								K	K				
394	0.39											M	M								K	K				
474	0.47											M	M								K	K				

- The letter in cell is expressed the symbol of product thickness
- The "A" mark is expressed product with Ag/Ni/Sn termination

Capacitance & Voltage (Y5V 200V~250V)

Dielectric		Y5V							
EIA	Size	0805		1206		1210		1812	
Code	VDCW	200V	250V	200V	250V	200V	250V	200V	250V
103	0.010 μ F	B	B	B	B	C	C	D	D
153	0.015	B	B	B	B	C	C	D	D
223	0.022	B	B	B	B	C	C	D	D
333	0.033	B	B	B	B	C	C	D	D
473	0.047	B	B	B	B	C	C	D	D
683	0.068	B	B	B	B	C	C	D	D
104	0.10 μ F			B	B	C	C	D	D
154	0.15			C	C	C	C	D	D
224	0.22							D	D
334	0.33							D	D
474	0.47							D	D
684	0.68							D	D

■ The letter in cell is expressed the symbol of product thickness

Electrical data

Dielectric	NPO	X7R	Y5V
Size	0603,0805,1206,1210,1808,1812	0805,1206,1210,1808,1812	0805,1206,1210,1812
Capacitance*	0.5pF~6800pF	100pF~0.47 μ F	0.01 μ F~0.68 μ F
Capacitance tolerance	Cap \leq 5pF: C (\pm 0.25pF) 5pF<Cap<10pF: D (\pm 0.50pF) Cap \geq 10pF: J (\pm 5%), K (\pm 10%)	K (\pm 10%) M (\pm 20%)	Z (-20 / +80%)
Rated voltage (VDCW)	200V to 3KV		200V, 250V
Q*	Cap<30pF: Q \geq 400 +20C Cap \geq 30pF: Q \geq 1000	\leq 2.5%	\leq 5%
Insulation resistance at Ur**	Ur=200~630V: \geq 10G Ω or R \times C \geq 100 Ω -F Whichever is smaller Ur=1000~3000V: \geq 10G Ω		
Dielectric Strength	200~300V: \geq 2 \times VDCW 500~999V: \geq 1.5 \times VDCW 1000~3000V: \geq 1.2 \times VDCW		
Operating temperature	-55 to +125 $^{\circ}$ C		-25 to +85 $^{\circ}$ C
Capacitance change	\pm 30 ppm	\pm 15%	+30/-80%
Termination	Ni/Sn (lead-free termination)		

■ **Measured at the condition of 30~70% related humidity

■ NPO: Apply 1.0 \pm 0.2Vrms, 1.0MHz \pm 10% for Cap \leq 1000pF and 1.0 \pm 0.2Vrms, 1.0KHz \pm 10% for Cap>1000pF, 25 $^{\circ}$ C ambient temperature

■ X7R, X5R: Apply 1.0 \pm 0.2Vrms, 1.0KHz \pm 10% at the condition of 20 $^{\circ}$ C ambient temperature

■ ***Measured at 500V_{DC} for 60 sec. for Ur > 500V_{DC}

Environmental Characteristics

Item	Requirement	Test Method																																																																								
External Appearance	No defects which may affect performance	Visual inspection & Dimension measurement																																																																								
Capacitance(Cap.)	Within the specified tolerance that refers on page2	NPO: (Class I) Cap≤1000pF 1.0±0.2Vrms, 1MHz±10% Cap≤1000pF 1.0±0.2Vrms, 1KHz±10%																																																																								
Dissipation Factor (D.F.) or Quality factor (Q=1/D.F.)	<p>NPO: Cap≥30pF, Q≥1000; Cap<30pF, Q≥400+20C</p> <p>X7R, X5R:</p> <table border="1"> <thead> <tr> <th>Rated vol.</th> <th>D.F.≤</th> <th colspan="2">Exception of D.F. ≤</th> </tr> </thead> <tbody> <tr> <td>≥50V</td> <td>2.5%</td> <td>3%</td> <td>0201(50V); 0603 ≥ 0.047μF 0805 ≥ 0.18μF; 1206 ≥ 0.47μF</td> </tr> <tr> <td rowspan="3">25V</td> <td rowspan="3">3.5%</td> <td>5%</td> <td>0805 ≥ 1μF; 1210 ≥ 10μF</td> </tr> <tr> <td>7%</td> <td>0603 ≥ 0.33μF; 1206 ≥ 4.7μF</td> </tr> <tr> <td>10%</td> <td>0402 ≥ 0.10μF; 0603 ≥ 0.47μF 0805 ≥ 2.2μF; 1206 ≥ 6.8μF</td> </tr> <tr> <td rowspan="2">16V</td> <td rowspan="2">3.5%</td> <td>5%</td> <td>0402 ≥ 0.033μF; 0603 ≥ 0.15μF 0805 ≥ 0.68μF; 1206 ≥ 2.2μF 1210 ≥ 4.7μF</td> </tr> <tr> <td>10%</td> <td>0603 ≥ 0.68μF; 0805 ≥ 2.2μF 1206 ≥ 4.7μF; 1210 ≥ 22μF</td> </tr> <tr> <td rowspan="2">10V</td> <td rowspan="2">5%</td> <td>10%</td> <td>0402 ≥ 0.33μF; 0603 ≥ 0.33μF 0805 ≥ 2.2μF; 1206 ≥ 2.2μF 1210 ≥ 22μF</td> </tr> <tr> <td>15%</td> <td>0201 ≥ 0.1μF; 0402 ≥ 1μF</td> </tr> <tr> <td rowspan="2">6.3V</td> <td rowspan="2">10%</td> <td>15%</td> <td>0603 ≥ 10μF; 0805 ≥ 4.7μF 1210 ≥ 100μF</td> </tr> <tr> <td>20%</td> <td>0402 ≥ 2.2μF</td> </tr> </tbody> </table> <p>Y5V:</p> <table border="1"> <thead> <tr> <th>Rated vol.</th> <th>D.F.≤</th> <th colspan="2">Exception of D.F. ≤</th> </tr> </thead> <tbody> <tr> <td>≥50V</td> <td>5%</td> <td>7%</td> <td>0603 ≥ 0.1μF; 0805 ≥ 0.47μF 1206 ≥ 4.7μF</td> </tr> <tr> <td>35V</td> <td>7%</td> <td>-</td> <td>-</td> </tr> <tr> <td rowspan="2">25V</td> <td rowspan="2">5%</td> <td>7%</td> <td>0402 ≥ 0.047μF; 0603 ≥ 0.1μF 0805 ≥ 0.33μF; 1206 ≥ 1μF 1210 ≥ 0.47μF</td> </tr> <tr> <td>9%</td> <td>0402 ≥ 0.068μF; 0603 ≥ 0.47μF 1206 ≥ 4.7μF; 1210 ≥ 22μF</td> </tr> <tr> <td rowspan="2">16V (C < 1.0μF)</td> <td rowspan="2">7%</td> <td>9%</td> <td>0402 ≥ 0.068μF; 0603 ≥ 0.68μF</td> </tr> <tr> <td>12.5%</td> <td>0402 ≥ 0.22μF</td> </tr> <tr> <td rowspan="2">16V (C ≥ 1.0μF)</td> <td rowspan="2">9%</td> <td>12.5%</td> <td>0603 ≥ 2.2μF; 0805 ≥ 3.3μF 1206 ≥ 10μF; 1210 ≥ 22μF 1812 ≥ 47μF</td> </tr> <tr> <td>20%</td> <td>0402 ≥ 0.47μF</td> </tr> <tr> <td>10V</td> <td>12.5%</td> <td>20%</td> <td>0402 ≥ 0.47μF</td> </tr> <tr> <td>6.3V</td> <td>20%</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	Rated vol.	D.F.≤	Exception of D.F. ≤		≥50V	2.5%	3%	0201(50V); 0603 ≥ 0.047μF 0805 ≥ 0.18μF; 1206 ≥ 0.47μF	25V	3.5%	5%	0805 ≥ 1μF; 1210 ≥ 10μF	7%	0603 ≥ 0.33μF; 1206 ≥ 4.7μF	10%	0402 ≥ 0.10μF; 0603 ≥ 0.47μF 0805 ≥ 2.2μF; 1206 ≥ 6.8μF	16V	3.5%	5%	0402 ≥ 0.033μF; 0603 ≥ 0.15μF 0805 ≥ 0.68μF; 1206 ≥ 2.2μF 1210 ≥ 4.7μF	10%	0603 ≥ 0.68μF; 0805 ≥ 2.2μF 1206 ≥ 4.7μF; 1210 ≥ 22μF	10V	5%	10%	0402 ≥ 0.33μF; 0603 ≥ 0.33μF 0805 ≥ 2.2μF; 1206 ≥ 2.2μF 1210 ≥ 22μF	15%	0201 ≥ 0.1μF; 0402 ≥ 1μF	6.3V	10%	15%	0603 ≥ 10μF; 0805 ≥ 4.7μF 1210 ≥ 100μF	20%	0402 ≥ 2.2μF	Rated vol.	D.F.≤	Exception of D.F. ≤		≥50V	5%	7%	0603 ≥ 0.1μF; 0805 ≥ 0.47μF 1206 ≥ 4.7μF	35V	7%	-	-	25V	5%	7%	0402 ≥ 0.047μF; 0603 ≥ 0.1μF 0805 ≥ 0.33μF; 1206 ≥ 1μF 1210 ≥ 0.47μF	9%	0402 ≥ 0.068μF; 0603 ≥ 0.47μF 1206 ≥ 4.7μF; 1210 ≥ 22μF	16V (C < 1.0μF)	7%	9%	0402 ≥ 0.068μF; 0603 ≥ 0.68μF	12.5%	0402 ≥ 0.22μF	16V (C ≥ 1.0μF)	9%	12.5%	0603 ≥ 2.2μF; 0805 ≥ 3.3μF 1206 ≥ 10μF; 1210 ≥ 22μF 1812 ≥ 47μF	20%	0402 ≥ 0.47μF	10V	12.5%	20%	0402 ≥ 0.47μF	6.3V	20%	-	-	<p>X7R, X5R, Y5V: (Class II) Cap≤10uF 1.0±0.2Vrms, 1KHz±10% Cap>10uF 0.5±0.2Vrms, 120Hz±10%</p>
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Dielectric Strength	No evidence of damage or flash over during test	<p>To apply voltage(≤100V) 250% Duration: 1 to 5sec Charge and discharge current less than 50mA</p> <p>To apply voltage: 200V~300V ≥ 2 time VDC 500V~999V ≥ 1.5 time VDC 1000V~3000V ≥ 1.2 time VDC Cut-off, set at 10mA TEST=15 sec. RAMP=0</p>																																																																								

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Adhesive Strength of Termination	No remarkable damage or removal of the terminations	Pressurizing force: 0201:2N 0402&0603:5N >0603:10N Test time: 10±1 sec																				
Vibration Resistance	No remarkable damage Cap change and Q/D.F.: To meet initial spec	Vibration frequency: 10~55Hz/min Total amplitude: 1.5mm Test time: 6hrs.(tow hrs each in three mutually Perpendicular directions.)																				
Solderability	95% min. coverage of all metalized area.	Solder temperature: 235±5°C Dipping time: 2±0.5 sec.																				
Bending Test	No remarkable damage Cap change: NPO: within±5% or 0.5pF whichever is larger X7R, X5R: within±12.5% Y5V: within±30% (This capacitance change means the change of capacitance under specified flexure of substrate from the capacitance measured before the test.)	The middle part of substrate shall be pressurized by means of the pressurizing rod at a rate of about 1mm per second until the deflection becomes 1mm and then the pressure shall be maintained for 5±1sec. Measurement to be made after keeping at room temp. for 24±2hrs(Class I) or 48±4hrs(Class II) (Thickness>1.0mm, Thickness≤1.0mm)																				
Resistance to Soldering Heat	No remarkable damage Cap change: NPO: within±2.5% or 0.25pF whichever is larger X7R, X5R: within±7.5% Y5V: within±20% Q/D.F., I.R. and dielectric strength: To meet initial requirements. 25%max. leaching on each edge.	Solder temperature: 270±5°C Dipping time: 10±1sec Preheating: 120 to 150°C for 1minute before immerse the capacitor in a eutectic solder. Before initial measurement(Class II only): Perform 150+0/-10°C for 1hr and then set for 48±4hrs at room temp. Measurement to be made after keep at room temp. for 24±2 hrs.(Class I) or 48±4 hrs.(Class II).																				
Temperature Cycle	No remarkable damage. Cap change: NPO: within±2.5% or 0.25pF whichever is larger X7R, X5R: within±7.5% Y5V: within±20% Q/D.F., I.R. and dielectric strength: To meet initial requirements.	Conduct the five cycles according to the temperature and time. <table border="1" data-bbox="1038 1760 1517 1921"> <thead> <tr> <th>Step</th> <th>Temp.(°C)</th> <th>Time(min)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Min. operating temp.+0/-3</td> <td>30±3</td> </tr> <tr> <td>2</td> <td>Room temp</td> <td>2-3</td> </tr> <tr> <td>3</td> <td>Max. operating temp.+3/-0</td> <td>30±3</td> </tr> <tr> <td>4</td> <td>Room temp.</td> <td>2-3</td> </tr> </tbody> </table> Before initial measurement(Cass II only): Perform 150+0/-10°C for 1hr and then set for 48±4 hrs at room temp. Measurement to be made after keeping at room temp. for 24±2 hrs.(Class I) or 48±4 hrs.(Class II).	Step	Temp.(°C)	Time(min)	1	Min. operating temp.+0/-3	30±3	2	Room temp	2-3	3	Max. operating temp.+3/-0	30±3	4	Room temp.	2-3					
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Humidity (steady state)	<p>No remarkable damage. Cap change: NPO: within±5% or 0.5pF whichever is large X7R, X5R:≥10V, within±12.5%;6.3V, within±25% Y5V:≥10V, within±30%;6.3V, within+30/-40% Q/D.F. value: NPO: More than 30pF Q≥350, 10pF≤C≤30pF, Q≥275+2.5C Less than 10pF Q≥200+10C X7R, X5R:</p> <table border="1" data-bbox="288 528 922 1061"> <thead> <tr> <th>Rated vol.</th> <th>D.F. ≤</th> <th colspan="2">Exception of D.F. ≤</th> </tr> </thead> <tbody> <tr> <td>≥ 50V</td> <td>3.0%</td> <td>6%</td> <td>0201(50V); 0603 ≥ 0.047μF 0805 ≥ 0.18μF ; 1206 ≥ 0.47μF</td> </tr> <tr> <td rowspan="3">25V</td> <td rowspan="3">5.0%</td> <td>10%</td> <td>0805 ≥ 1μF; 1210 ≥ 10μF</td> </tr> <tr> <td>14%</td> <td>0603 ≥ 0.33μF; 1206 ≥ 4.7μF</td> </tr> <tr> <td>15%</td> <td>0402 ≥ 0.1μF; 0603 ≥ 0.47μF 0805 ≥ 2.2μF; 1206 ≥ 6.8μF</td> </tr> <tr> <td rowspan="2">16V</td> <td rowspan="2">5%</td> <td>10%</td> <td>0603 ≥ 0.15μF; 0603 ≥ 0.68μF 1206 ≥ 2.2μF; 1210 ≥ 4.7μF</td> </tr> <tr> <td>15%</td> <td>0402 ≥ 0.033μF; 0603 ≥ 0.68μF 0805 ≥ 2.2μF; 1206 ≥ 4.7μF 1210 ≥ 22μF</td> </tr> <tr> <td rowspan="2">10V</td> <td rowspan="2">7.5%</td> <td>15%</td> <td>0402 ≥ 0.33μF; 0603 ≥ 0.33μF 0805 ≥ 2.2μF; 1206 ≥ 2.2μF 1210 ≥ 22μF</td> </tr> <tr> <td>20%</td> <td>0201 ≥ 0.1μF; 0402 ≥ 1μF</td> </tr> <tr> <td>6.3V</td> <td>15%</td> <td>30%</td> <td>0402 ≥ 2.2μF; 0603 ≥ 10μF 0805 ≥ 4.7μF; 1210 ≥ 100μF</td> </tr> </tbody> </table> <p>Y5V:</p> <table border="1" data-bbox="288 1093 914 1592"> <thead> <tr> <th>Rated vol.</th> <th>D.F. ≤</th> <th colspan="2">Exception of D.F. ≤</th> </tr> </thead> <tbody> <tr> <td>≥ 50 V</td> <td>7.5%</td> <td>10%</td> <td>0603 ≥ 0.1μF; 0805 ≥ 0.47μF 1206 ≥ 4.7μF</td> </tr> <tr> <td>35V</td> <td>10%</td> <td>—</td> <td>—</td> </tr> <tr> <td rowspan="2">25V</td> <td rowspan="2">7.5%</td> <td>10%</td> <td>0402 ≥ 0.047μF; 0603 ≥ 0.1μF 0805 ≥ 0.33μF; 1206 ≥ 1μF 1210 ≥ 4.7μF</td> </tr> <tr> <td>15%</td> <td>0402 ≥ 0.068μF; 0603 ≥ 0.47μF 1206 ≥ 4.7μF; 1210 ≥ 22μF</td> </tr> <tr> <td rowspan="2">16V (C<1.0μF)</td> <td rowspan="2">10%</td> <td>12.5%</td> <td>0402 ≥ 0.068μF; 0603 ≥ 0.68μF</td> </tr> <tr> <td>20%</td> <td>0402 ≥ 0.22μF</td> </tr> <tr> <td>16V (C ≥ .0μF)</td> <td>12.5%</td> <td>20%</td> <td>0603 ≥ 2.2μF; 0805 ≥ 3.3μF 1206 ≥ 10μF; 1210 ≥ 22μF 1812 ≥ 47μF</td> </tr> <tr> <td>10V</td> <td>20%</td> <td>30%</td> <td>0402 ≥ 0.47μF</td> </tr> <tr> <td>6.3V</td> <td>30%</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p>I.R.: ≥10V 1GΩ or 50Ω-F whichever is smaller. Class II (X7R, X5R, Y5V)</p> <table border="1" data-bbox="288 1693 927 1939"> <thead> <tr> <th>Rated voltage</th> <th>Insulation Resistance</th> </tr> </thead> <tbody> <tr> <td>100V:X7R</td> <td rowspan="5">Rx C ≥ 10Ω-F</td> </tr> <tr> <td>16V:0402 ≥ 0.22uF</td> </tr> <tr> <td>10V: 0201 ≥ 47nF; 0402 ≥ 0.47uF 0603 ≥ 0.47uF; 0805 ≥ 2.2uF 1206 ≥ 0.47uF; 1210 ≥ 47uF</td> </tr> <tr> <td>6.3V</td> </tr> </tbody> </table>	Rated vol.	D.F. ≤	Exception of D.F. ≤		≥ 50V	3.0%	6%	0201(50V); 0603 ≥ 0.047μF 0805 ≥ 0.18μF ; 1206 ≥ 0.47μF	25V	5.0%	10%	0805 ≥ 1μF; 1210 ≥ 10μF	14%	0603 ≥ 0.33μF; 1206 ≥ 4.7μF	15%	0402 ≥ 0.1μF; 0603 ≥ 0.47μF 0805 ≥ 2.2μF; 1206 ≥ 6.8μF	16V	5%	10%	0603 ≥ 0.15μF; 0603 ≥ 0.68μF 1206 ≥ 2.2μF; 1210 ≥ 4.7μF	15%	0402 ≥ 0.033μF; 0603 ≥ 0.68μF 0805 ≥ 2.2μF; 1206 ≥ 4.7μF 1210 ≥ 22μF	10V	7.5%	15%	0402 ≥ 0.33μF; 0603 ≥ 0.33μF 0805 ≥ 2.2μF; 1206 ≥ 2.2μF 1210 ≥ 22μF	20%	0201 ≥ 0.1μF; 0402 ≥ 1μF	6.3V	15%	30%	0402 ≥ 2.2μF; 0603 ≥ 10μF 0805 ≥ 4.7μF; 1210 ≥ 100μF	Rated vol.	D.F. ≤	Exception of D.F. ≤		≥ 50 V	7.5%	10%	0603 ≥ 0.1μF; 0805 ≥ 0.47μF 1206 ≥ 4.7μF	35V	10%	—	—	25V	7.5%	10%	0402 ≥ 0.047μF; 0603 ≥ 0.1μF 0805 ≥ 0.33μF; 1206 ≥ 1μF 1210 ≥ 4.7μF	15%	0402 ≥ 0.068μF; 0603 ≥ 0.47μF 1206 ≥ 4.7μF; 1210 ≥ 22μF	16V (C<1.0μF)	10%	12.5%	0402 ≥ 0.068μF; 0603 ≥ 0.68μF	20%	0402 ≥ 0.22μF	16V (C ≥ .0μF)	12.5%	20%	0603 ≥ 2.2μF; 0805 ≥ 3.3μF 1206 ≥ 10μF; 1210 ≥ 22μF 1812 ≥ 47μF	10V	20%	30%	0402 ≥ 0.47μF	6.3V	30%	-	-	Rated voltage	Insulation Resistance	100V:X7R	Rx C ≥ 10Ω-F	16V:0402 ≥ 0.22uF	10V: 0201 ≥ 47nF; 0402 ≥ 0.47uF 0603 ≥ 0.47uF; 0805 ≥ 2.2uF 1206 ≥ 0.47uF; 1210 ≥ 47uF	6.3V	<p>Test temp: 40±2°C Humidity: 90~95% RH Test time: 500+24/-0hrs Measurement to be made after keeping at room temp. for 24±2hrs.(Class I) or 48±4 hrs. (Class II).</p>
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		15%	0402 ≥ 0.068μF; 0603 ≥ 0.47μF 1206 ≥ 4.7μF; 1210 ≥ 22μF																																																																										
16V (C<1.0μF)	10%	12.5%	0402 ≥ 0.068μF; 0603 ≥ 0.68μF																																																																										
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Humidity load	<p>No remarkable damage. Cap change: NPO: $\pm 7.5\%$ or $0.75\mu\text{F}$ whichever is larger X5R, X5R: $\geq 10\text{V}$, within $\pm 12.5\%$; 6.3V, within $\pm 25\%$ Y5V: $\geq 10\text{V}$, within $\pm 30\%$; 6.3V, within $+30/-40\%$ Q/D.F. value: NPO: $C \geq 30\mu\text{F}, Q \geq 200$; $C < 30\mu\text{F}, Q \geq 100+10/3C$</p> <p>X7R, X5R:</p> <table border="1" data-bbox="384 506 1010 1111"> <thead> <tr> <th>Rated vol.</th> <th>D.F. \leq</th> <th colspan="2">Exception of D.F. \leq</th> </tr> </thead> <tbody> <tr> <td>$\geq 50\text{V}$</td> <td>3.0%</td> <td>6%</td> <td>0201(50V);0603 $\geq 0.047\mu\text{F}$ 0805 $\geq 0.18\mu\text{F}$; 1206 $\geq 0.47\mu\text{F}$</td> </tr> <tr> <td rowspan="3">25V</td> <td rowspan="3">5.0%</td> <td>10%</td> <td>0805 $\geq 1\mu\text{F}$; 1210 $\geq 10\mu\text{F}$</td> </tr> <tr> <td>14%</td> <td>0603 $\geq 0.33\mu\text{F}$; 1206 $\geq 4.7\mu\text{F}$</td> </tr> <tr> <td>15%</td> <td>0402 $\geq 0.10\mu\text{F}$; 0603 $\geq 0.47\mu\text{F}$ 0805 $\geq 2.2\mu\text{F}$; 1206 $\geq 6.8\mu\text{F}$</td> </tr> <tr> <td rowspan="2">16V</td> <td rowspan="2">5%</td> <td>10%</td> <td>0603 $\geq 0.15\mu\text{F}$; 0805 $\geq 0.68\mu\text{F}$ 1206 $\geq 2.2\mu\text{F}$; 1210 $\geq 4.7\mu\text{F}$</td> </tr> <tr> <td>15%</td> <td>0402 $\geq 0.033\mu\text{F}$; 0603 $\geq 0.68\mu\text{F}$ 0805 $\geq 2.2\mu\text{F}$; 1206 $\geq 4.7\mu\text{F}$ 1210 $\geq 22\mu\text{F}$</td> </tr> <tr> <td rowspan="2">10V</td> <td rowspan="2">7.5%</td> <td>15%</td> <td>0402 $\geq 0.22\mu\text{F}$; 0603 $\geq 0.33\mu\text{F}$ 0805 $\geq 2.2\mu\text{F}$; 1206 $\geq 2.2\mu\text{F}$ 1210 $\geq 22\mu\text{F}$</td> </tr> <tr> <td>20%</td> <td>0201 $\geq 0.1\mu\text{F}$; 0402 $\geq 1\mu\text{F}$</td> </tr> <tr> <td>6.3V</td> <td>15%</td> <td>30%</td> <td>0402 $\geq 2.2\mu\text{F}$; 0603 $\geq 10\mu\text{F}$ 0805 $\geq 4.7\mu\text{F}$; 1210 $\geq 100\mu\text{F}$</td> </tr> </tbody> </table> <p>Y5V:</p> <table border="1" data-bbox="384 1171 1010 1718"> <thead> <tr> <th>Rated vol.</th> <th>D.F. \leq</th> <th colspan="2">Exception of D.F. \leq</th> </tr> </thead> <tbody> <tr> <td>$\geq 50\text{V}$</td> <td>7.5%</td> <td>10%</td> <td>0603 $\geq 0.1\mu\text{F}$; 0805 $\geq 0.47\mu\text{F}$ 1206 $\geq 4.7\mu\text{F}$</td> </tr> <tr> <td>35V</td> <td>10%</td> <td>-</td> <td>-</td> </tr> <tr> <td rowspan="2">25V</td> <td rowspan="2">7.5%</td> <td>10%</td> <td>0402 $\geq 0.047\mu\text{F}$; 0603 $\geq 0.1\mu\text{F}$ 0805 $\geq 0.033\mu\text{F}$; 1206 $\geq 1\mu\text{F}$ 1210 $\geq 4.7\mu\text{F}$</td> </tr> <tr> <td>15%</td> <td>0402 $\geq 0.068\mu\text{F}$; 0603 $\geq 0.1\mu\text{F}$ 1206 $\geq 4.7\mu\text{F}$; 1210 $\geq 22\mu\text{F}$</td> </tr> <tr> <td rowspan="2">16V ($C < 1.0\mu\text{F}$)</td> <td rowspan="2">10%</td> <td>12.5%</td> <td>0402 $\geq 0.068\mu\text{F}$; 0603 $\geq 0.68\mu\text{F}$</td> </tr> <tr> <td>20%</td> <td>0402 $\geq 0.22\mu\text{F}$</td> </tr> <tr> <td>16V ($C \geq 1.0\mu\text{F}$)</td> <td>12.5%</td> <td>20%</td> <td>0603 $\geq 2.2\mu\text{F}$; 0805 $\geq 3.3\mu\text{F}$ 1206 $\geq 10\mu\text{F}$; 1210 $\geq 22\mu\text{F}$ 1812 $\geq 47\mu\text{F}$</td> </tr> <tr> <td>10V</td> <td>20%</td> <td>30%</td> <td>0402 $\geq 0.47\mu\text{F}$</td> </tr> <tr> <td>6.3V</td> <td>30%</td> <td>-</td> <td>-</td> </tr> </tbody> </table> <p>I.R.: $\geq 10\text{V}$ 500MΩ or 25Ω-F (Whichever is smaller) Class II (X7R, X5R, Y5V)</p> <table border="1" data-bbox="384 1809 1010 2033"> <thead> <tr> <th>Rated voltage</th> <th>Insulation Resistance</th> </tr> </thead> <tbody> <tr> <td>100V: X7R</td> <td rowspan="4">RxC $\geq 5\Omega$-F</td> </tr> <tr> <td>16V: 0402 $\geq 0.22\mu\text{F}$</td> </tr> <tr> <td>10V: 0201 $\geq 47\text{nF}$; 0402 $\geq 0.47\mu\text{F}$ 0603 $\geq 0.47\mu\text{F}$; 0805 $\geq 2.2\mu\text{F}$ 1206 $\geq 4.7\mu\text{F}$; 1210 $\geq 47\mu\text{F}$</td> </tr> <tr> <td>6.3V</td> </tr> </tbody> </table>	Rated vol.	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D.F. \leq	Exception of D.F. \leq		$\geq 50\text{V}$	7.5%	10%	0603 $\geq 0.1\mu\text{F}$; 0805 $\geq 0.47\mu\text{F}$ 1206 $\geq 4.7\mu\text{F}$	35V	10%	-	-	25V	7.5%	10%	0402 $\geq 0.047\mu\text{F}$; 0603 $\geq 0.1\mu\text{F}$ 0805 $\geq 0.033\mu\text{F}$; 1206 $\geq 1\mu\text{F}$ 1210 $\geq 4.7\mu\text{F}$	15%	0402 $\geq 0.068\mu\text{F}$; 0603 $\geq 0.1\mu\text{F}$ 1206 $\geq 4.7\mu\text{F}$; 1210 $\geq 22\mu\text{F}$	16V ($C < 1.0\mu\text{F}$)	10%	12.5%	0402 $\geq 0.068\mu\text{F}$; 0603 $\geq 0.68\mu\text{F}$	20%	0402 $\geq 0.22\mu\text{F}$	16V ($C \geq 1.0\mu\text{F}$)	12.5%	20%	0603 $\geq 2.2\mu\text{F}$; 0805 $\geq 3.3\mu\text{F}$ 1206 $\geq 10\mu\text{F}$; 1210 $\geq 22\mu\text{F}$ 1812 $\geq 47\mu\text{F}$	10V	20%	30%	0402 $\geq 0.47\mu\text{F}$	6.3V	30%	-	-	Rated voltage	Insulation Resistance	100V: X7R	RxC $\geq 5\Omega$ -F	16V: 0402 $\geq 0.22\mu\text{F}$	10V: 0201 $\geq 47\text{nF}$; 0402 $\geq 0.47\mu\text{F}$ 0603 $\geq 0.47\mu\text{F}$; 0805 $\geq 2.2\mu\text{F}$ 1206 $\geq 4.7\mu\text{F}$; 1210 $\geq 47\mu\text{F}$	6.3V	<p>Test temp: $40 \pm 2^\circ\text{C}$ Humidity: 90~95%RH Test time: 500+24/-0 hrs To apply voltage: Rated voltage (Max. 500V) Measurement to be made after keeping at room temp for 24\pm2hrs.(Class I) or 48\pm4hrs.(Class II)</p>
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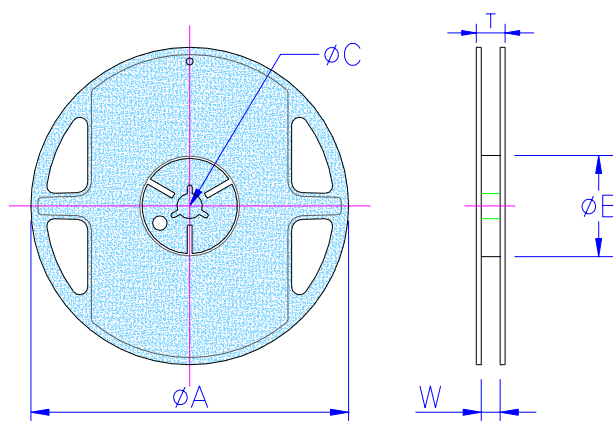
■ Packaging

Packaging Quantity

Unit: mm

Type	Thickness / Symbol		Packaging (7" Reel)	
			Paper tape	Plastic tape
0201	0.30±0.03	L	15K	-
0402	0.50±0.05	N	10K	-
0603	0.80±0.07	S	4K	-
	0.80 +0.15 / -0.10	X	4K	-
0805	0.60±0.10	A	4K	-
	0.80±0.10	B	4K	-
	0.85±0.10	T	4K	-
	1.25±0.10	D	-	3K
	1.25±0.20	I	-	3K
1206	0.80±0.10	B	4K	-
	0.95±0.10	C	-	3K
	1.15±0.15	J	-	3K
	1.25±0.10	D	-	3K
	1.60±0.20	G	-	2K
	1.60 +0.30 / -0.10	P	-	2K
1210	0.95±0.10	C	-	3K
	1.25±0.10	D	-	3K
	1.60±0.20	G	-	2K
	2.00±0.20	K	-	1K
	2.50±0.30	M	-	1K
1808	1.25±0.10	D	-	2K
	2.00±0.20	K	-	1K
1812	1.25±0.10	D	-	1K
	2.00±0.20	K	-	1K
	2.50±0.30	M	-	0.5K
0612	0.80±0.10	B	4K	-

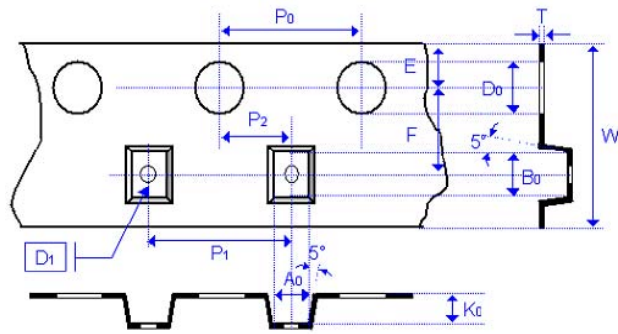
Tape and Reel



Unit: mm

Type	Chip Size							
	0201	0402	0603	0805	1206/0612	1210	1808	1812
ϕC	13.0±1.0	13.0±1.0	13.0±1.0	13.0±1.0	13.0±1.0	13.0±1.0	13.0±1.0	13.0±1.0
W	9.0±1.0	9.0±1.0	9.0±1.0	9.0±1.0	9.0±1.0	9.0±1.0	13.5±1.0	13.5±1.0
ϕA	178±1.0(7")	178±1.0(7")	178±1.0(7")	178±1.0(7")	178±1.0(7")	178±1.0(7")	178±1.0(7")	178±1.0(7")
ϕB	60.5±1.0(7")	60.5±1.0(7")	60.5±1.0(7")	60.5±1.0(7")	60.5±1.0(7")	60.5±1.0(7")	80.0±1.0(7")	80.0±1.0(7")

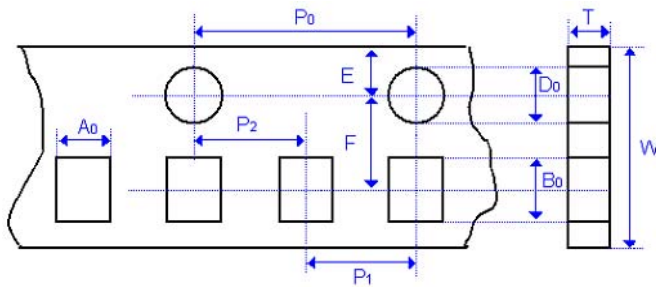
Plastic Tape Size Specification



Unit: mm

Type	0805		1206					1210					1808		1812		
Thickness	D	I	C	J	D	G	P	C	D	G	K	M	D	K	D	K	M
A ₀	<1.57		<1.85		<1.95		<2.97		<2.97		<2.35		<3.81				
B ₀	<2.40		<3.46		<3.67		<3.73		<3.73		<4.98	<5.00	<5.30				
T	0.23±0.05		0.23±0.05		0.23±0.05		0.23±0.05		0.23±0.05		0.25±0.05		0.25±0.05				
K ₀	<2.50		<2.50		<2.50		<2.50		<3.00		<2.50		<2.50	<3.00			
W	8.00±0.10		8.00±0.10		8.00±0.10		8.00±0.10		8.00±0.10		12.0±0.20		12.0±0.20				
P ₀	4.00±0.10		4.00±0.10		4.00±0.10		4.00±0.10		4.00±0.10		4.00±0.10		4.00±0.10				
P ₁	4.00±0.10		4.00±0.10		4.00±0.10		4.00±0.10		4.00±0.10		4.00±0.10		8.00±0.10				
P ₂	2.00±0.05		2.00±0.05		2.00±0.05		2.00±0.05		2.00±0.05		2.00±0.05		2.00±0.05				
D ₀	1.50±0.05		1.50±0.05		1.50±0.05		1.50±0.05		1.50±0.05		1.50±0.05		1.50±0.05				
D ₁	1.00±0.10		1.00±0.10		1.00±0.10		1.00±0.10		1.00±0.10		1.00±0.10		1.00±0.10				
E	1.75±0.10		1.75±0.10		1.75±0.10		1.75±0.10		1.75±0.10		1.75±0.10		1.75±0.10				
F	3.50±0.05		3.50±0.05		3.50±0.05		3.50±0.05		3.50±0.05		3.50±0.05		5.50±0.05				

Paper Tape Size Specification



Unit: mm

Type	0201	0402	0603		0805		1206/0612
Thickness	L	N	S	X	A	B	B
A ₀	0.45±0.05	0.62±0.05	1.02±0.05		1.50±0.10	1.50±0.10	2.00±0.10
B ₀	0.75±0.05	1.12±0.05	1.82±0.05		2.30±0.10	2.30±0.10	3.50±0.10
T	0.60±0.05	0.60±0.05	0.95±0.05		0.75±0.05	0.95±0.05	0.95±0.05
W	8.00±0.10	8.00±0.10	8.00±0.10		8.00±0.10	8.00±0.10	8.00±0.10
P ₀	4.00±0.10	4.00±0.10	4.00±0.10		4.00±0.10	4.00±0.10	4.00±0.10
P ₁	2.00±0.05	2.00±0.05	4.00±0.10		4.00±0.10	4.00±0.10	4.00±0.10
P ₂	2.00±0.05	2.00±0.05	2.00±0.05		2.00±0.05	2.00±0.05	2.00±0.05
D ₀	1.55±0.05	1.55±0.05	1.55±0.05		1.55±0.05	1.55±0.05	1.50±0.05
E	1.75±0.05	1.75±0.05	1.75±0.05		1.75±0.05	1.75±0.05	1.75±0.10
F	3.50±0.05	3.50±0.05	3.50±0.05		3.50±0.05	3.50±0.05	3.50±0.05