

Features

- Stringgent dimensional tolerance allow highly reliable,highly speed automaric chip placement on PCBs.;
- Terminations are plated with Ni and solder,suited to flow and reflow soldering.
- High insulation resistance and high reliabity.
- These capacitors have temperature characteristics ranging from COG to Y5V, applied to general electronic equipment ,and instrument panel house electronic appliance.



Capacitor Selection

The choice of dielectric is largely determined by the temperature stability required:

• HIGH FREQUENCY TYPE:

The capacitor of this kind dielectric material is considered as class I capacitor, including high frequency COG,COH capacitor and temperature compensating capacitor such as HG,LG,PH,RH,SH,TH,UJ,SL. The electrical properties of COG,COH capacitor are the most stable one and change invariably with temperature, voltage and time. They are suited for applications where low-losses and high-stability are required, HG,LG,PH,SH,TH,UJ,SL capacitor's capacitance changes with temperature. They are suited for applications where low-losses and temperature compensating circuits.

• X7R,X5R:

X7R,X5R material is a kind of material has dielectric constant. The capacitor made of this kind material is considered as class II capacitor whose capacitance is higher than that of class I. These capacitors are classified as having a semi-stable temperature characteristic and used over a wide temperature range, such in these kinds of circuits, DC-blocking, decoupling, bypassing, frequency discriminating etc.

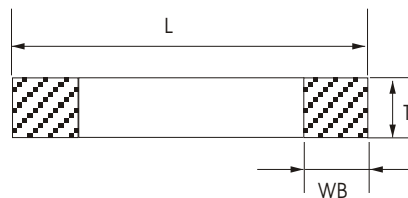
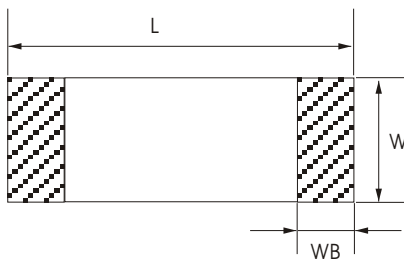
• Y5V

The capacitor made of this kind of material is the highest dielectric constant of all ceramic capacitors. They are used over a moderate temperature range in application where high capacitance is required because of its unstable temperature coefficient, but where moderate losses and capacitance changes can be tolerated. Its capacitance and dissipation factors are sensible to measuring conditions, such as temperature and voltage, etc.

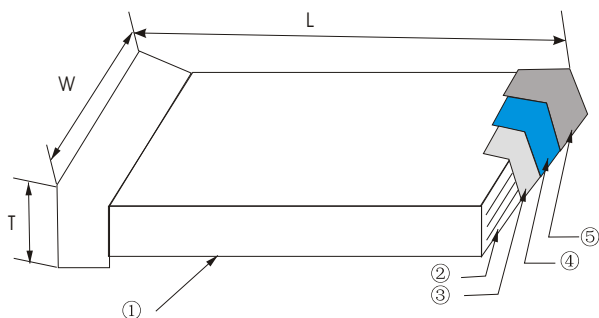
• Z5U

The capacitor made of this kind of material is considered as class II capacitor, whose temperature characteristic is between that of X7R and Y5V. The capacitor of this kind of capacitor is unstable and sensible to temperature and voltage, ideally suited for bypassing and decoupling application circuits operating with low DC bias in the environment approaches to room temperature.

Structure and dimensions



Type		Dimensions (mm)			
British expression	Metric expression	L	W	T	WB
0402	1005	1.00±0.05	0.50±0.05	0.50±0.05	0.25±0.10
0603	1608	1.60±0.10	0.80±0.10	0.80±0.10	0.30±0.10
0805	2012	2.00±0.20	1.25±0.20	≤0.55 0.80±0.20 1.00±0.20 1.25±0.20	0.50±0.20
1206	3216	3.20±0.30	1.60±0.30	0.80±0.20 1.00±0.20 1.25±0.20 1.60±0.30	0.60±0.30
1210	3225	3.20±0.30	2.50±0.30	≤2.80	0.80±0.30
1808	4520	4.50±0.40	2.00±0.20	≤2.20	0.80±0.30
1812	4532	4.50±0.40	3.20±0.30	≤3.50	0.80±0.30
2225	5763	5.70±0.50	6.30±0.50	≤6.20	1.00±0.40
3035	7690	7.60±0.50	9.00±0.50	≤8.10	1.00±0.40



No	Name
①	Ceramic dielectric
②	Inner electrode
③	Substrate electrode
④	Nickel layer
⑤	Tin layer

HOW TO ORDER

0805	CG	101	J	500	N	I
①	②	③	④	⑤	⑥	⑦

Size code	0402	0603	0805	1206	1210	1808	1812	2225	3035
(L×W) inch	0.04×0.02	0.06×0.03	0.08×0.05	0.12×0.06	0.12×0.10	0.18×0.08	0.18×0.12	0.22×0.25	0.30×0.35
(L×W) mm	1.00×0.50	1.60×0.80	2.00×1.25	3.20×1.60	3.20×2.50	4.50×2.00	4.50×3.20	5.70×6.30	7.60×9.00

Nominal Capacitance

Dielectric Code	CG	CH	HG	LG	PH	RH	SH	TH	UJ	SL	X	B	E	F
Dielectric	COG	COH	HG	LG	PH	RH	SH	TH	UJ	SL	X5R	X7R	Z5U	Y5V

Capacitance Tolerance

(Express method)	(Actual Value)	Note: the first tow digits are significant; third digit denotes number of zeros; R=decimal point.
0R5	0.5	
1R0	1.0	
102	10×10^2	
224	22×10^4	
....		

Capacitance Tolerance

Code	B	C	D	F	G	J	K	M	S	Z
Tolerance	±0.10pF	±0.25pF	±0.5pF	±1.0%	±2.0%	±5.0%	±10%	±20%	+50% -20%	+80% -20%

Terminal material styles

Termination styles	Express method
Silver solderable termination	S
Copper solderable termination	C
Nickel barrier termination	N

Rated voltage

(Express method)	(Actual Value)	Note: the first two digits are significant; third digit denotes number of zeros; R=decimal point.
6R3	6.3	
500	50×10^0	
201	50×10^1	
102	10×10^2	
....		

Package styles

B	T
Bulk bag	Taping package

Temperature coefficient/Characteristics

Dielectric	Reference temperature point	Temperature coefficient	Operation temperature range
COG	20°C	0 ± 30 ppm/°C	-55°C~125°C
COH	20°C	0 ± 60 ppm/°C	-55°C~125°C
HG	20°C	-33 ± 30 ppm/°C	-25°C~85°C
LG	20°C	-75 ± 30 ppm/°C	-25°C~85°C
PH	20°C	-150 ± 60 ppm/°C	-25°C~85°C
RH	20°C	-220 ± 60 ppm/°C	-25°C~85°C
SH	20°C	-330 ± 60 ppm/°C	-25°C~85°C
TH	20°C	-470 ± 60 ppm/°C	-25°C~85°C
UJ	20°C	-750 ± 120 ppm/°C	-25°C~85°C
SL	20°C	$-1000 \sim +140$ ppm/°C	-25°C~85°C
X7R	20°C	$\pm 15\%$	-55°C~125°C
X5R	20°C	$\pm 15\%$	-55°C~85°C
Z5U	20°C	$-56\% \sim +22\%$	10°C~85°C
Y5V	20°C	$-80\% \sim +30\%$	-25°C~85°C

Note: Nominal temperature coefficient and allowed tolerance of class I are decided by the changing of the capacitance between 20°C and 85°C. Nominal temperature coefficient of class II are decided by the temperature of 20°C.

Capacitance range and operating voltage

Unit: pF

Size code	Rated voltage	Capacitance		
		COG (NPO)	X7R (X5R)	Y5V (Z5U)
0402	6.3V	0.1~470	100~4,700,000	100~1,000,000
	10V	0.1~470	100~1,000,000	100~1,000,000
	16V	0.1~470	100~47,000	100~220,000
	25V	0.1~470	100~22,000	100~100,000
	50V	0.1~470	100~10,000	100~100,000
0603	6.3V	0.1~4,700	100~4,700,000	100~4,700,000
	10V	0.1~4,700	100~1,000,000	100~2,200,000
	16V	0.1~4,700	100~1,000,000	100~1,000,000
	25V	0.1~4,700	100~150,000	100~1,000,000
	50V	0.1~4,700	100~100,000	100~220,000

Size code	Rated voltage	Capacitance		
		COG (NPO)	X7R (X5R)	Y5V (Z5U)
0805	6.3V	0.3~10,000	100~10,000,000	1,000~10,000,000
	10V	0.3~10,000	100~4,700,000	1,000~10,000,000
	16V	0.3~10,000	100~1,000,000	1,000~2,200,000
	25V	0.3~10,000	100~1,000,000	1,000~2,200,000
	50V	0.3~10,000	100~100,000	1,000~1,000,000
1206	6.3V	0.5~33,000	100~47,000,000	1,000~47,000,000
	10V	0.5~33,000	100~10,000,000	1,000~22,000,000
	16V	0.5~33,000	100~10,000,000	1,000~10,000,000
	25V	0.5~33,000	100~4,700,000	1,000~2,200,000
	50V	0.5~12,000	100~470,000	1,000~1,000,000
1210	6.3V	10~10,000	220~47,000,000	4,700~47,000,000
	10V	10~10,000	220~22,000,000	4,700~47,000,000
	16V	10~10,000	220~10,000,000	4,700~10,000,000
	25V	10~10,000	220~2,200,000	4,700~10,000,000
	50V	10~8,200	220~1,000,000	4,700~1,500,000
1808	6.3V	10~10,000	220~10,000,000	4,700~33,000,000
	10V	10~10,000	220~4,700,000	4,700~22,000,000
	16V	10~10,000	220~2,200,000	4,700~22,000,000
	25V	10~10,000	220~2,200,000	4,700~10,000,000
	50V	10~6,800	220~1,000,000	4,700~2,200,000
1812	6.3V	10~15,000	470~100,000,000	10,000~33,000,000
	10V	10~15,000	470~100,000,000	10,000~22,000,000
	16V	10~15,000	470~22,000,000	10,000~22,000,000
	25V	10~15,000	470~10,000,000	10,000~10,000,000
	50V	10~12,000	470~2,200,000	10,000~1,000,000
2225	6.3V	10~47,000	470~33,000,000	10,000~47,000,000
	10V	10~47,000	470~22,000,000	10,000~33,000,000
	16V	10~47,000	470~10,000,000	10,000~22,000,000
	25V	10~47,000	470~4,700,000	10,000~10,000,000
	50V	10~33,000	470~3,300,000	10,000~10,000,000
3035	6.3V	10~100,000	470~100,000,000	10,000~47,000,000
	10V	10~100,000	470~47,000,000	10,000~33,000,000
	16V	10~100,000	470~33,000,000	10,000~22,000,000
	25V	10~100,000	470~22,000,000	10,000~10,000,000
	50V	10~47,000	470~10,000,000	10,000~10,000,000

Note: we can design according to customer special requirements.

HI-Q COG MLCC

Application:

Hi-Q COG capacitor are ideally suited for RF and microwave application requiring high Q, low ESR, and high resonant frequency.

Note for CQ and CG:

The following Q value is just confirmed by general customer. If there is a higher requirement for q value requirements, we can design and produce according to the special requirements.

For the customer whose requirements for frequency is between 1MHz and 2.4GHz or higher frequency, we can design it according to their requirements.

The frequency of CQ is a little higher than that of CG. Please choose them according to your requirements.

CQ Capacitor value and Q value

Capacitance (PF)	Q value at 300MHz		Capacitance (PF)	Q value at 300MHz		Capacitance (PF)	Q value at 300MHz	
	0805	0603		0805	0603		0805	0603
4.7	1000	800	11	450	360	24	200	160
5.2	900	720	12	400	320	27	175	140
5.6	850	680	13	375	300	30	150	120
6.2	800	640	14	350	280	33	140	112
6.8	700	560	15	325	260	36	130	104
7.5	650	520	16	300	240	39	120	96
8.2	575	460	18	250	200	43	110	88
9.1	525	420	20	225	180	47	100	80
10	500	400	22	215	172			

High voltage mlcc Capacitance range and operating voltage

Unit:pF

Size code	Rated voltage	Capacitance		
		NPO	X7R	Y5V
0603	100V	0.5~820	150~10,000	2,200~68,000
	200V	0.5~470	150~6,800	-----
0805	100V	0.5~1,500	150~33,000	10,000~100,000
	200V	0.1~1,500	150~22,000	10,000~56,000
	250V	0.1~1,500	150~22,000	10,000~56,000
	500V	0.1~560	150~10,000	-----
	1000V	0.1~100	-----	-----
1206	100V	0.5~3,300	150~100,000	150~330,000
	200V	0.1~2,700	150~47,000	100~150,000
	250V	0.1~2,700	150~33,000	100~150,000
	500V	0.1~1,500	150~22,000	-----
	1000V	0.1~1,000	150~5,600	-----
	2000V	0.1~270	150~1,500	-----
1210	100V	1.0~4,700	150~220,000	10,000~820,000
	200V	1.0~3,300	150~100,000	10,000~390,000
	250V	1.0~3,300	150~82,000	10,000~390,000
	500V	1.0~2,000	150~33,000	-----
	1000V	1.0~820	150~10,000	-----
	2000V	1.0~470	150~6,800	-----
1808	100V	2.0~4,700	150~220,000	150,000~1,000,000
	200V	2.0~3,300	150~100,000	10,000~390,000
	250V	2.0~3,300	150~82,000	10,000~390,000

Size code	Rated voltage	Capacitance		
		NPO	X7R	Y5V
1808	500V	2.0~1,800	150~39,000	-----
	1000V	2.0~820	150~10,000	-----
	2000V	2.0~470	150~6,800	-----
	3000V	2.0~470	150~2,200	-----
	4000V	2.0~56	150~1,000	-----
	5000V	2.0~27	-----	-----
1812	100V	3.0~180 220~10,000	150~330,000	150,000~1,500,000
	200V	3.0~5,600	150~150,000	100,000~470,000
	250V	3.0~5,600	150~120,000	100,000~470,000
	500V	3.0~3,900	150~100,000	-----
	1000V	3.0~1,200	150~27,000	-----
	2000V	3.0~680	150~10,000	-----
	3000V	3.0~470	150~2,200	-----
	4000V	3.0~220	150~1,500	-----
	5000V	3.0~56	-----	-----
2225	100V	5.0~27,000	150~1,000,000	250,000~3,300,000
	200V	5.0~12,000	150~470,000	22,000~680,000
	250V	5.0~12,000	150~470,000	22,000~680,000
	500V	5.0~6,800	150~330,000	-----
	1000V	5.0~2,200	150~56,000	-----
	2000V	5.0~1,000	150~27,000	-----
	3000V	5.0~680	150~3,900	-----
	4000V	5.0~560	150~3,300	-----
	5000V	5.0~100	-----	-----

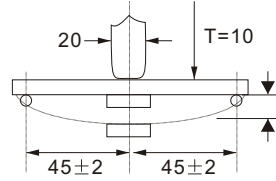
Note: We can design according to customer special requirements

Measurements method for high voltage MLCC

Rated voltage range	Measuring method
$100V \leq V_r < 500V$	Fore 200% Rated voltage for 5second.Max..current should not exceed 50mA
$500V \leq V_r < 1000V$	Fore 150% Rated voltage for 5second.Max..current should not exceed 50mA
$1000V \leq V_r < 2000V$	Fore 120% Rated voltage for 5second.Max..current should not exceed 50mA
$2000V \leq V_r < 5000V$	Fore 120% Rated voltage for 5second.Max..current should not exceed 10mA

Reliability Test

Item	Technical Specification		Test Method and Remarks		
Capacitance	Class I	Should be within the specified tolerance.	Capacitance	Measuring Frequency	Measuring Voltage
			$\leq 1000pF$	$1MHz \pm 10\%$	$1.0 \pm 0.2V_{rms}$
			$> 1000pF$	$1KHz \pm 10\%$	

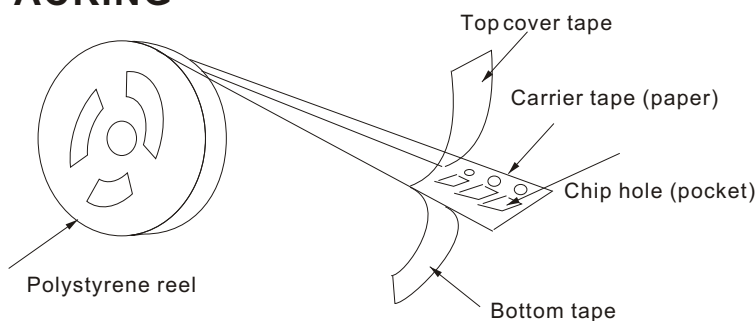
Item	Technical Specification						Test Method and Remarks						
Capacitance	Class II	Should be within the specified tolerance.				C≤10 μF: C>10 μF: X7R、Y5V: Z5U:		Test temperature:25℃±3℃ Test frequency:1KHz±10% Test Voltage:1.0±0.2Vrms Test frequency:120±24Hz Test Voltage:0.5±0.1Vrms Test frequency:1±0.1KHz Test Voltage:0.5±0.05Vrms					
DF, tan δ Dissipation factor	Class I	DF				Capacitance		Measuring frequency		Measuring Voltage			
		≤0.56%				Cr<5pF		1mHz±10%		1.0±0.2Vrms			
		1.5[(150/Cr)+7]×10 ⁻⁴				5pF≤Cr<50pF		1mHz±10%					
		≤0.15%				5pF≤Cr≤1000pF		1mHz±10%					
		≤0.15%				>1000pF		1mHz±10%					
	Class II	X7R	≥50V	25V	16V	10V	6.3V	C≤10 μF Test frequency:1KHz±10% Test voltage:1.0±0.2Vrms C>10 μF X7R,Y5V Test frequency:120±24Hz Test voltage:0.5±0.1Vrms Z5U Test frequency:1±0.1KHz Test voltage:0.5±0.05Vrms					
			≤2.5%	≤3.5%	≤3.5%	≤5.0%	≤5.0% (C<3.3 μF) ≤10.0% (C≥3.3 μF)						
		Y5V Z5U	≥25V		16V	10V	6.3V						
≤7.0% (C<1.0 μF) ≤9.0% (C≥1.0 μF)			≤12.5%	≤12.5%	≤12.5%								
Insulation resistance	Class I	C≤10nF,Ri≥50000MΩ C>10nF,RiCr≥500S								Measuring voltage:Rated voltage Duration:60±5s Test humidity:≤75% Test temperature:≤25℃±5℃ Test current:≤25mA			
	Class II	X7R	C≤25nF,Ri≥10000MΩ C>25nF,RiCr≥100S										
		Y5V Z5U	C≤25nF,Ri≥40000MΩ C>25nF,RiCr≥100S										
Dielectric withstanding voltage	No breakdown or damage						Measuring voltage Class I :300% Rated voltage Class II:250% Rated voltage Duration:1~5s Charge/discharge current:50mAmax (This method excludes high-voltage MLCC)						
Solderability	At least 95% of the terminal electrode is covered by new solder. Visual appearance:No visible damage						Solder temperature:245±5℃ Duration:2±0.5s						
Resistance to soldering heat	Item	NPO to SL		X7R		Y5V、Z5U		Preheating conditions:100 to 200℃: 10±2min Solder temperature:265±5℃ Duration:5±1s Clean the capacitor with solvent and examine it with a 10X(min) microscope. Recovery time :24±2h Recovery condition:Room temperature					
	ΔC/C	≤±0.5% or ±0.5PF, whichever is larger		-5~+10%		-10~+20%							
	DF	Same to initial value											
	IR	Same to initial value											
	Appearance:No visible damage.At least 95% of the terminal electrode is covered by new solder												
Resistance to flexure of substrate (Bending strength)	Appearance: No visible damage												
	ΔC/C	≤±10%											Testboard:Al2O3 or PCB Warp:mm Speed:0.5mm/sec Unit:mm The measurement should be made with the board in the bending position.

Item	Technical Specification		Test Method and Remarks		
Termination adhesion	No visible damage		Applied force:5N Duration: 10±1S		
Temperature Cycle	$\Delta C/C$ Class I : ≤ ±1% or ±1pF, whichever is large Class II : B: ≤ ±10% E, F ≤ ±20%		Preheating conditions: up-category temperature, 1h Recovery time : 24±1h Initial measurement Cycling times : 5 times , 1 cycle, 4 steps:		
			Step	Temperature (°C)	Time (min)
			1	Low-category temp ($\overset{NOP/X7R}{Y5V -25 Z5U+10} -55$)	30
			2	Normal temp (+20)	2~3
			3	Up-category temp ($\overset{NOP/X7R +125}{Y5V /Z5U +85}$)	30
			4	Normal temp (+20)	2~3
		Recovery time after test: 24±2h			
Moisture resistance	$\Delta C/C$	Class I : ≤ ±2% or ±1pF, whichever is larger Class II : B ≤ ±10% E, F ≤ ±30%	Temperature: 40±2℃ Humidity: 90~95%RH Duration: 500h Recovery conditions: Room temperature Recovery time : 24h((Class I) or 48h(Class II)		
	DF	Not more than twice of initial value.			
	IR	Class I : Ri ≥ 2500MΩ or Ri.C _R ≥ 25S whichever is smaller			
		Class II : Ri ≥ 1000MΩ or Ri.C _R ≥ 25S whichever is smaller			
	Appearance: No visible damage				
Life test	$\Delta C/C$	Class I : ≤ ±2% or ±1pF, whichever is larger Class II : B ≤ ±20% E, F ≤ ±30%	Low-voltage (<100V) Applied voltage: 1.5×Rated voltage Duration: 1000h Charge/Discharge current: 50mA max Recovery conditions: Room temperature Recovery time : 24h((Class I) or 48h(Class II)		
	DF	Not more than twice of initial value.			
	IR	Class I : Ri ≥ 4000MΩ or Ri.C _R ≥ 40S whichever is smaller			
		Class II : Ri ≥ 2000MΩ or Ri.C _R ≥ 50S whichever is smaller			
	Appearance: No visible damage				
Life test	$\Delta C/C$	Class I : ≤ ±2% or ±1pF, whichever is larger Class II : B ≤ ±20% E, F ≤ ±30%	Applied voltage: 100V ≤ rated voltage < 500V: 2 multiple 500V ≤ rated voltage ≤ 1000V : 1.5 multiple > 1000V rated voltage: 1.2 multiple Duration: 1000h Temperature: 125℃(NPO X7R); 85℃(Y5V) Charge/Discharge current: 50mA max Recovery conditions: Room temperature Recovery time : 24h((Class I) or 48h(Class II)		
	DF	Not more than twice of initial value.			
	IR	Class I : Ri ≥ 4000MΩ or Ri.C _R ≥ 40S whichever is smaller			
		Class II : Ri ≥ 2000MΩ or Ri.C _R ≥ 50S whichever is smaller			
	Appearance: No visible damage				

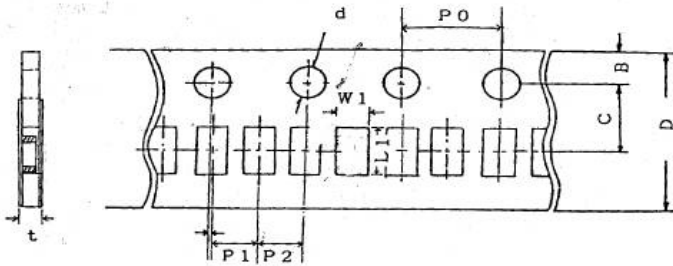
Note: pretreatment (only for class 2 capacitor)

Pretreatment (only for class 2 capacitor) is a method to treat the capacitor before measurement. First, place the capacitor in the up-category temperature or other specified higher temperature environment for 1 hour. Then recovery the capacitor at standard pressure conditions for 24±1 hours.

PACKING

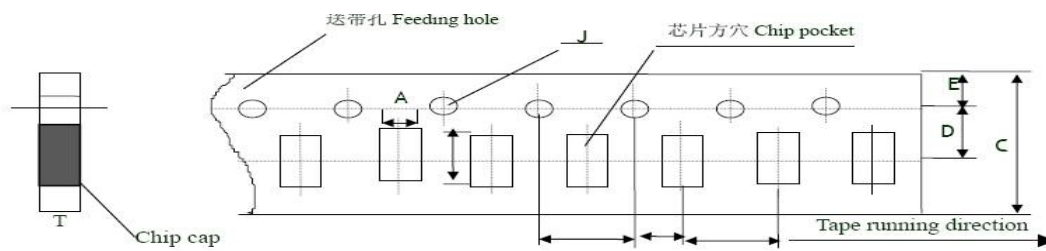


Dimensions of papertaping for 0402 type



Code	W1	L1	D	C	B	P1	P2	P0	d	t
0402	0.65 ± 0.20	1.15 ± 0.20	8.00 ± 0.20	3.50 ± 0.05	1.75 ± 0.10	2.00 ± 0.05	2.00 ± 0.05	4.00 ± 0.10	$1.50 -0/+0.10$	0.80 Below

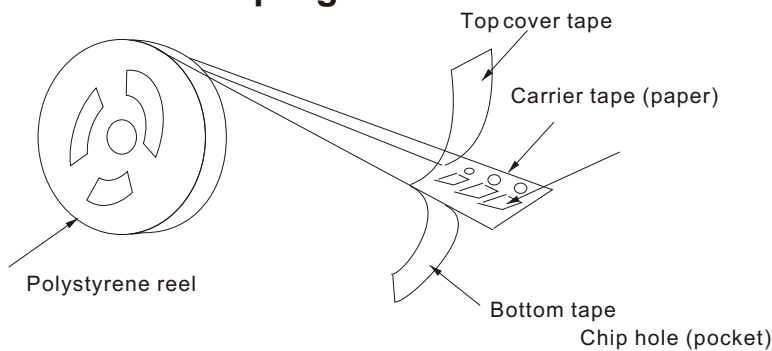
Dimensions of papertaping ofr 0603,0805,1206 types.



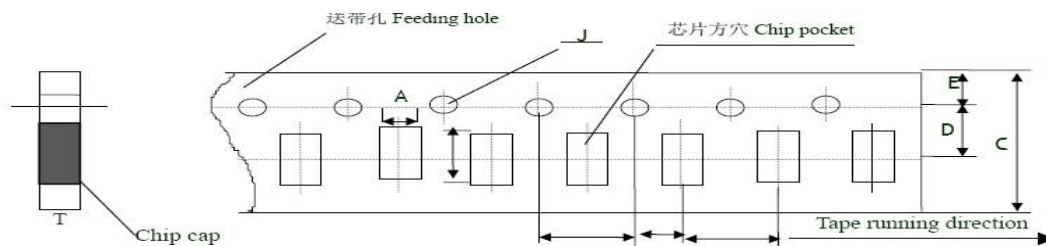
Code Paper size	A	B	C	D*	E	F	G*	H	J	T
0603	1.10 ± 0.20	1.90 ± 0.20	8.00 ± 0.20	3.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	4.00 ± 0.10	$1.50 -0/+0.10$	1.10 Max
0805	1.45 ± 0.20	2.30 ± 0.20	8.00 ± 0.20	3.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	4.00 ± 0.10	$1.50 -0/+0.10$	1.10 Max
1206	1.80 ± 0.20	3.40 ± 0.20	8.00 ± 0.20	3.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	4.00 ± 0.10	$1.50 -0/+0.10$	1.10 Max

Note: The place with “*” means where needs exactly dimensions.

Embossed taping



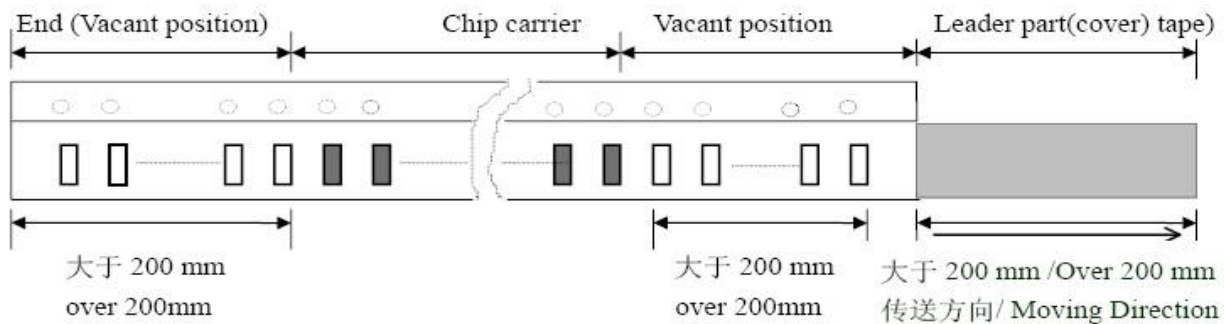
Dimensions of embossed taping for 0805~1812 type



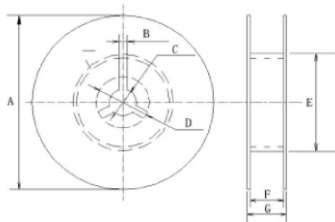
Code Tape size	A	B	C	D*	E	F	G*	H	J	T
0805	1.15 ± 0.20	2.35 ± 0.20	8.00 ± 0.20	3.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	4.00 ± 0.10	1.50 -0/+0.10	1.50 Max
1206	1.95 ± 0.20	3.60 ± 0.20	8.00 ± 0.20	3.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10	2.00 ± 0.10	4.00 ± 0.10	1.50 -0/+0.10	1.85 Max
1210	2.70 ± 0.10	3.42 ± 0.10	8.00 ± 0.10	3.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	1.55 -0/+0.10	3.20 Max
1808	2.20 ± 0.10	4.95 ± 0.10	12.0 ± 0.10	5.50 ± 0.05	1.75 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	1.50 -0/+0.10	3.00 Max
1812	3.66 ± 0.10	4.95 ± 0.10	12.0 ± 0.10	5.50 ± 0.05	1.75 ± 0.10	8.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	1.55 -0/+0.10	4.00 Max

Note: The place with “*” means where needs exactly dimensions.

Structure of leader part and end part of the carrier paper



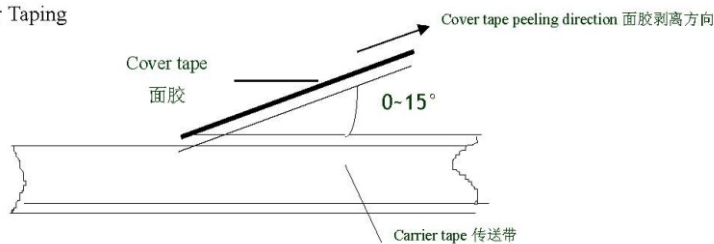
Reel dimensions (unit:mm)



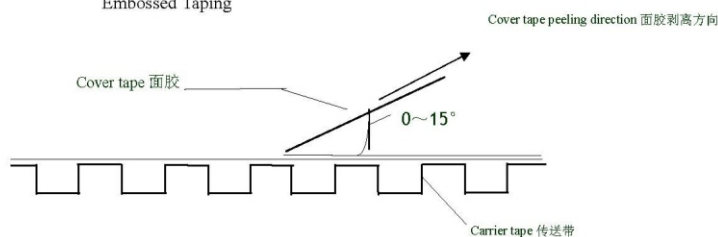
	A	B	C	D	E	F	G
7 inch reel	$\phi 178 \pm 20$	3.0	$\phi 13 \pm 0.5$	$\phi 21 \pm 0.8$	$\phi 50$ or more	10.0 ± 1.5	12max
13 inch reel	$\phi 330 \pm 20$	3.0	$\phi 13 \pm 0.5$	$\phi 21 \pm 0.8$	$\phi 50$ or more	10.0 ± 1.5	12max

Taping specification

Paper Taping



Embossed Taping



Standard: $0.1N < \text{peeling strength} < 0.7N$

No paper dirty remains on the scotch when peeling, and sticks to top and bottom tape.

Bulk case package

Unit:mm

Symbol	A	B	T	C	D	E
Dimension	6.80±0.10	8.80±1.00	12.00±0.10	15.00+0.10/-0	2.00+0/-0.10	4.70±0.10
Symbol	F	W	G	H	L	L
Dimension	31.50+0.20/-0	36.0+0/-0.20	19.00±0.35	7.00±0.35	110.00±0.70	5.00±0.35

Bulk case package

Size	Packing style &Quantity				Unit:pcs
	PT	ET	BC	BP	
0402	10000	-----	20000	5000	
0603	5000	-----	15000	5000	
0805	5000	2500	10000	5000	
1206	5000	2500	5000	5000	
1210	-----	2000	-----	2000	
1808	-----	2000	-----	2000	
1812	-----	2000	-----	2000	
2225	-----	-----	-----	500	
3035	-----	-----	-----	-----	

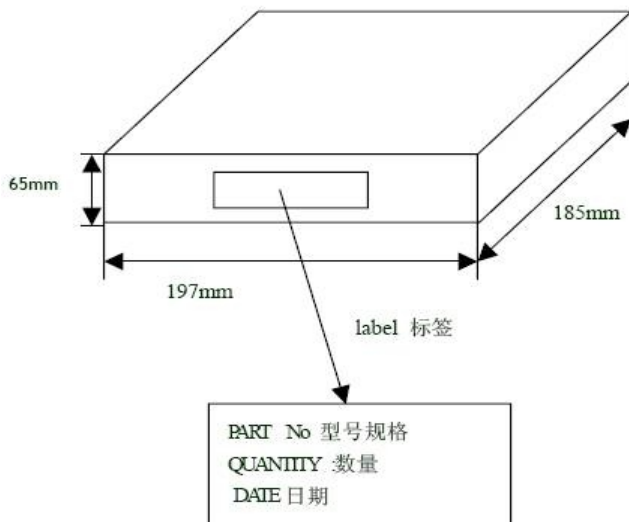
Note:we can choose packing style and quantity can be according to the customer' s requirement

Outer packing

小包装 The first package

Quantity: 5 reels (Max 25000pcs)

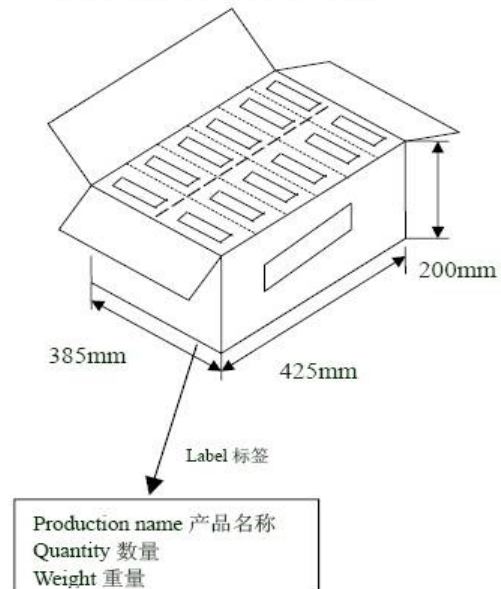
数量: 5 卷 (25000pcs 最多)



大包装 The second package

Quantity: 12 cases (Max 300000pcs)

数量: 12 盒 (最多 300000pcs)



Storage methods

The guaranteed period for solderability is 6 months (Under deliver package condition).

Storage conditions:

Temperature 5~40℃ Relative Humidity 20~70%

Precautions For Use

The Multi-layer Ceramic Capacitors (MLCC) may fail in a short circuit mode in an open circuit mode when subjected to severe conditions of electrical environment and /or mechanical stress beyond the specified "rating" and specified "conditions" in the specification, which will result in burnout, flaming or glowing in the worst case. Following "precautions for "safety" and Application Notes shall be taken in your major consideration. If you have a question about the precautions for handling, please contact our engineering section or factory.