

Multilayer Ceramic Capacitors – Y5V

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

Features

- Miniature size
- Wide capacitance, TC, voltage and tolerance range
- Industry standard sizes
- Available for wave, reflow or vapor phase solder



How to Order

0805	F	104	Z	500	N	T
↑	↑	↑	↑	↑	↑	↑
A	B	C	D	E	F	G

A		B		C	
Size Code Inches		Dielectric		Normal Capacitance	
0402	0.04×0.02	F	Y5V	102	10×10 ²
0603	0.06×0.03				
0805	0.08×0.05			103	10×10 ³
1206	0.12×0.06			Express by three figures. Unit used is pF (pico-farad)	
1210	0.12×0.10			First two figures are significant digit, third figure expresses number of zeros which follow the two significant digit	
1812	0.18×0.12			If there is a decimal place it is represented by a "R". In this scenario all figures are significant digit	
2225	0.22×0.25				
3035	0.30×0.35				

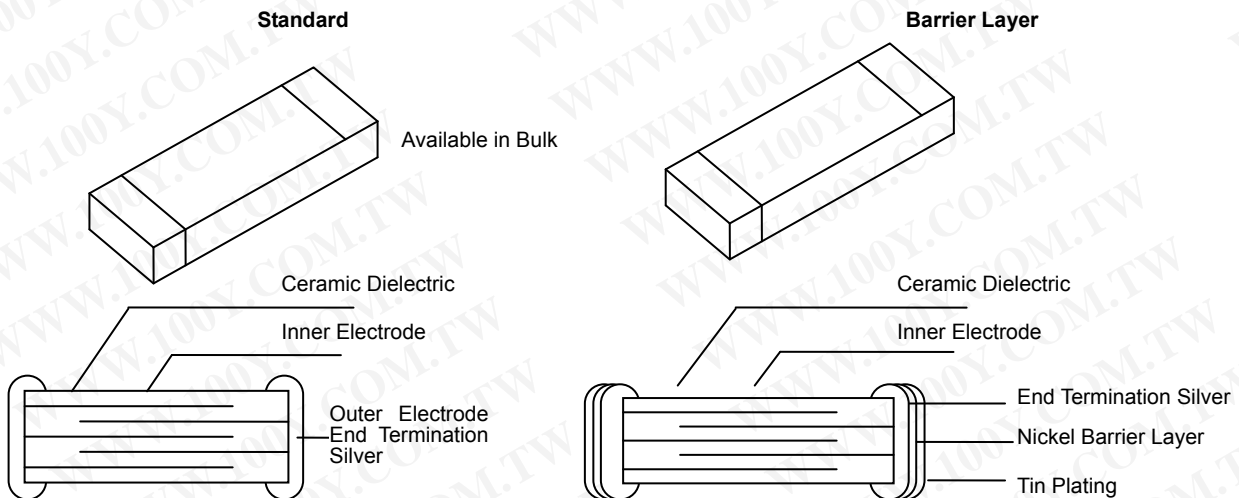
D	
Tolerance	
M	±20%
Z	+80%~-20%

E	
Rated Voltage	
160	16×10 ⁰
250	25×10 ⁰
500	50×10 ⁰
630	63×10 ⁰
101	10×10 ¹
201	20×10 ¹
501	50×10 ¹
102	10×10 ²
202	20×10 ²

F	
Termination	
S	Silver
N	Nickel Barrier Tin plating

G	
Packaging Style	
T	Tape & Reel
B	Bulk Package

Termination Diagrams



NOTE: Other Termination Available Upon Request (Contact Factory)

Multilayer Ceramic Capacitors – Y5V

Y5V Dielectric Characteristic Introduction & Test Method (Table 1)

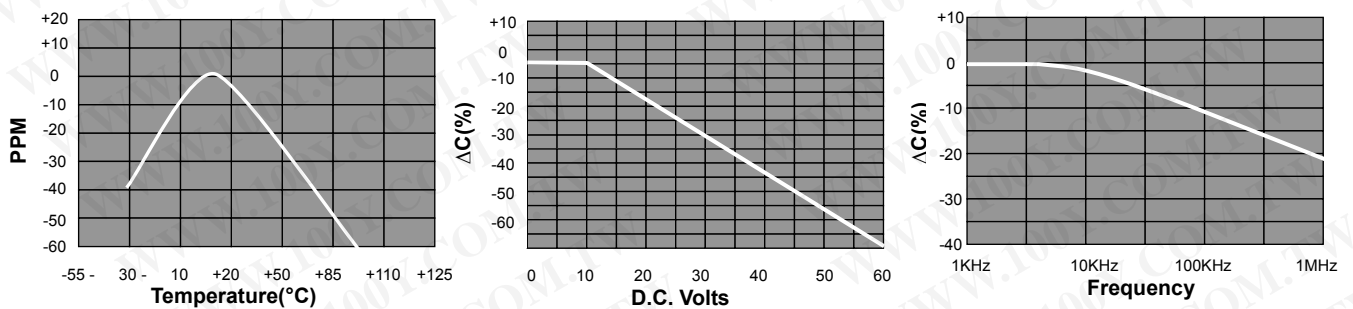
Item	Specification		Test Method	
Capacitance	(1000PF~10uF)		1KHz±10%, 1.0±0.2Vrms	
Capacitance Tolerance	M=±20% S=±50%/-20% Z=±80%/-20% P=±100%			
Rated Voltage	16、25、50、63、100VDC			
Dissipation Factor (DF)	DF≤3.5%(C<100nF) DF≤7.0%(C≥100nF)			
Insulation Resistance (IR)	C<25nF:R>4000MΩ C>25nF:R*C>100s		Test Voltage: rating voltage Charging time:1min Temperature:18~25°C Humidity:<80%	
Dielectric Withstanding Voltage	There shall be no evidence of damage or flash over during the test.		There shall be no evidence of damage or flash over during the test.	
Termination Adhesion	There shall be no evidence of damage during the test.		There shall be no evidence of damage during the test.	
Bending Strength	There shall be no evidence of damage during the test, capacitance tolerance shall be not more than 10%.		There shall be no evidence of damage during the test; capacitance tolerance shall be not more than 10%.	
Solderability	Termination area shall be at least 80% covered with a new solder coating. There shall be no crack and ceramic exposure of terminated surface by melting.		Termination area shall be at least 80% covered with a new solder coating. There shall be no crack and ceramic exposure of terminated surface by melting.	
Resistance to Soldering Heat	Type	Y5V		
	Temp	265±5°C		
	Time	5±1s		
	Cover%	≥85%		
	△C/C	-5~+10%		
Temperature Cycling	Type	Y5V	Condition	Y5V
	△C/C	≤1%	Temp.Oa	-25±3°C
			Temp.Ob	+85±3°C
	There shall be no evidence of damage during the test.		Cycle times	5 times 30min/time
			Resume time	24h
			Changing times	2~3min

Multilayer Ceramic Capacitors – Y5V

Y5V Dielectric Characteristic Introduction & Test Method (Table 2)

Item	Specification		Test Method	
Humidity & Moisture Resistance	Type	Y5V	Permanent moisture: T=40±2°C t=21d Relative humidity: 93+2%-3% Resume time: 1~2h	
	ΔC/C	≤20%		
	DF	0.07		
	IR	RxC>25s		
	There shall be no evidence of damage during the test.			
T.C. Characteristics	Dielectric	ΔC/C	Dielectric	T.C
	Y5V	±22~-82%	Y5V	+20°C→-25°C→+20°C→+85°C
Vibration	There shall be no evidence of damage during the test.		Vibration frequency: f=10~500HZ Vibration range:0.75mm/s2 in 3 direction:2h/direction	
Bump	Type	Y5V	4000 adder speed:390m/s2 Pulse duration:6ms	
	ΔC/C	≤2%		
	There shall be no evidence of damage during the test.			
Life test	Type	Y5V	Condition	Y5V
	ΔC/C	≤30%	Temperature	+125°C
	DF	0.05	time	T=100th
	IR	RxC>25s	Voltage	V=1.5Vr
	There shall be no evidence of damage during the test.		Resume time	24±1h
6 grade failure test	Type	Y5V	Condition	Y5V
	ΔC/C	≤10%	Creditability	60%
	DF	0.05	Temperature	+125°C
	IR	RxC>25s	Voltage	Rating Voltage
	There shall be no evidence of damage during the test.		time	1000 小时

Typical Characteristics



Multilayer Ceramic Capacitors – Y5V

Size Code Capacitance and Voltage (Table 1)

Size Code	Dimension(Mm)				Voltage	Capacitance (Pf)
	L	W	T	ME		Y5V
0402	1.0±0.05	0.5±0.05	0.5±0.05	0.1±0.05	16V	102~104
					25V	102~223
					50V	102~153
0603	1.6±0.1	0.8±0.10	0.8±0.1	0.3±0.1	25V	222~224
					50V	222~154
					100V	
					200V	
0805	2.00±0.20	1.25±0.20	0.7± _{0.2} ^{0.3}	0.5±0.25	25V	103~105
			1.25±0.15		50V	103~684
					100V	103~224
					200V	
1206	3.20±0.30	1.60±0.20	1.0± _{0.2} ^{0.3}	0.5±0.25	25V	103~125
					50V	103~105
					100V	
					200V	
					500V	
1210	3.20±0.30	2.50±0.30	1.5± _{0.2} ^{0.3}	0.70±0.25	25V	104~155
					50V	104~155
					100V	104~105
					200V	
					500V	
					1000V	
1812	4.50±0.40	3.20±0.30	1.25±0.3	0.75±0.25	25V	154~335
					50V	154~225
					100V	104~105
					200V	
					500V	
					1000V	
	2000V					

Size Code Capacitance And Voltage (Table 2)

Size Code	Dimension(Mm)				Voltage	Capacitance (Pf)
	L	W	T	Me		Y5V
2225	5.70±0.50	6.40±0.50	2.5	0.75±0.25	25V	684~475
					50V	684~335
					100V	
					200V	
					500V	
					1000V	
3035	7.60±10.50	9.00±0.50	3.0	1.00±0.25	25V	105~106
					50V	105~685
					100V	
					200V	
					500V	
					1000V	
	2000V					

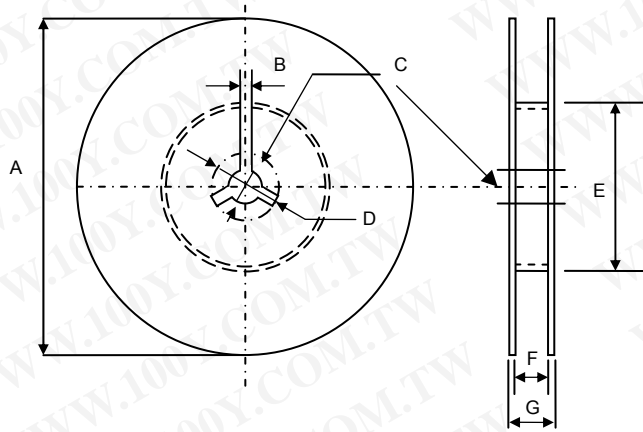
Multilayer Ceramic Capacitors – Y5V

Packaging

Structure and Dimension

Tape & Reel

A	B*	C	D*	E	F	G
178±2.0	3.0	13±0.5	φ32	50MIN	10.0±	14.9
				φ±1	1.5	12±2.0

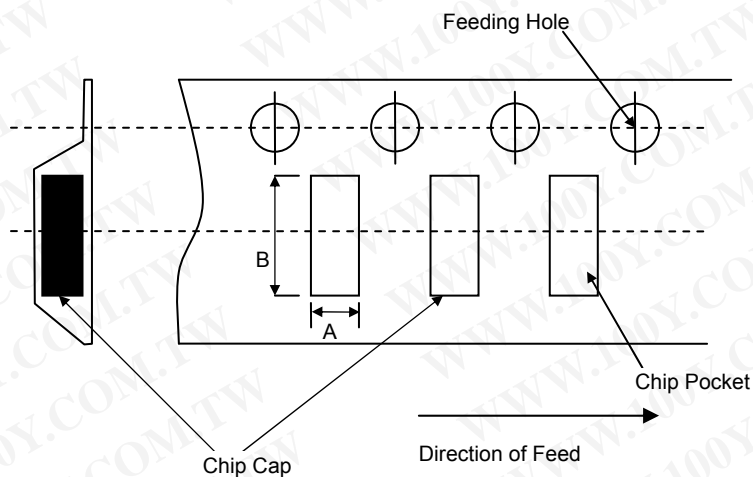


Paper Tape

Size	A	B
0402	0.6±0.2	1.1±0.2
0603	1.1±0.2	1.4±0.2
0805	1.45±0.2	2.3±0.2
1206	1.8±0.2	3.4±0.2

Plastic Tape(Te)

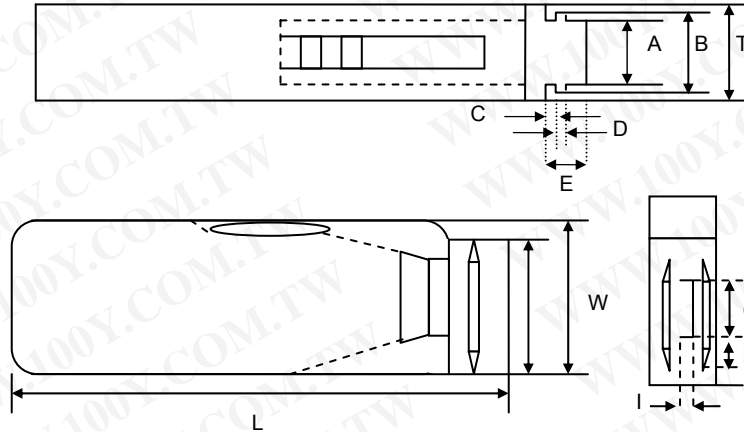
Size	A	B
0402	0.5±0.2	1.2±0.2
0603	0.8±0.2	2.0±0.2
0805	1.65±0.2	2.4±0.2
1206	2.0±0.2	3.6±0.2



Multilayer Ceramic Capacitors – Y5V

Cartridge

Symbol	A	B	D	C	T	E
Dimension	6.8±0.1	8.8±0.1	12±0.1	15±0.1-0	2±0.1	4.7±0.1
Symbol	F	W	G	H	L	I
Dimension	31.5±0.2-0	36±0.2	19±0.35	7±0.35	110±0.7	5±0.35



Packaging Quantity

Size	Quantity		
	Paper Tape Taping	Plastic Embossed Tapping	Bulk Packaging
0402	10000		10000
0603	4000		4000
0805	4000	2000 / 3000	4000
1206	4000	2000 / 3000	4000
1210		2000 / 3000	2000
1808		2000 / 3000	2000
1812		1000	2000
2225			
3035			