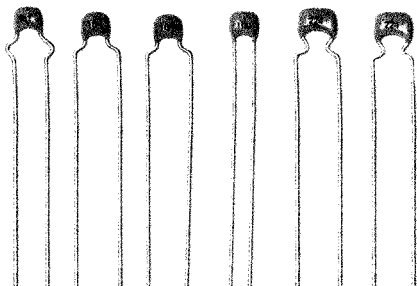


HOLDER

CC4、CT4 Series

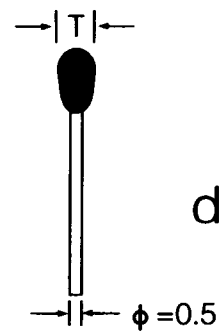
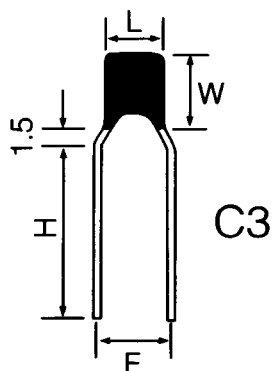
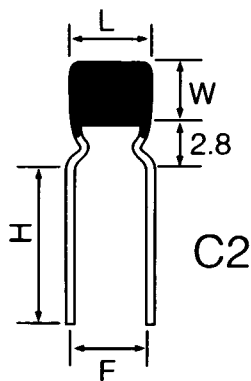
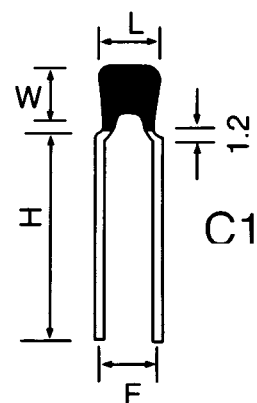
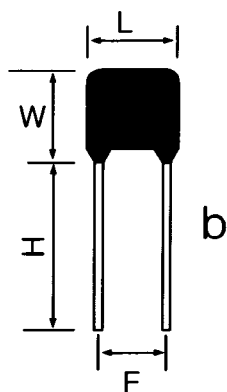
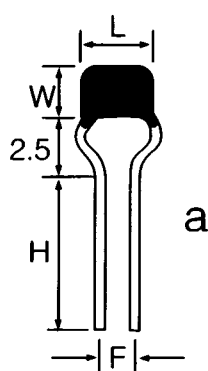


- Wide capacitance, TC, voltage and tolerance range
- Industry standard sizes
- Tape and Reel available for auto placement
- Various lead spacing available
- Capacitor Selection(see P1)
- General Specifications(see P4~P9)

CC ₄ : Class I Radial leads MLCC	0805	CG	102	K	500	C1	F
CT ₄ : Class II Radial leads MLCC	Size code(inches)	Dielectric	(PF) Nominal Capacitance	Tolerance	Rating voltage		Packaging Style
	0805 0.08x0.05	CG COG (NPO)	100 10X10 ⁰	B ± 0.10PF	160 16x10 ⁰	a 2.54/5.08	Tape & Reel T Ammo
	1206 0.12x0.06		102 10x10 ²	C ± 0.25PF	250 25x10 ⁰	b 2.54/5.08	
	1210 0.12x0.10	B X7R	5R0 5.0	D ± 0.5PF	500 50x10 ⁰	c1 5.08	Bulk(mm) F
	1812 0.18x0.12	F Y5V		F ± 1.0%	630 63x10 ⁰	c2 5.08	
	2225 0.22x0.25			G ± 2.0%	101 10x10 ¹	c3 5.08	
				J ± 5.0%	201 20x10 ¹		
				K ± 10%	501 50x10 ¹		
				M ± 20%	102 10x10 ²		
				S +50 -20%	202 20x10 ²		
				Z +80 -20%			
				P +100% 0			

■ SIZE CODE, CAPACITANCE AND VOLTAGE

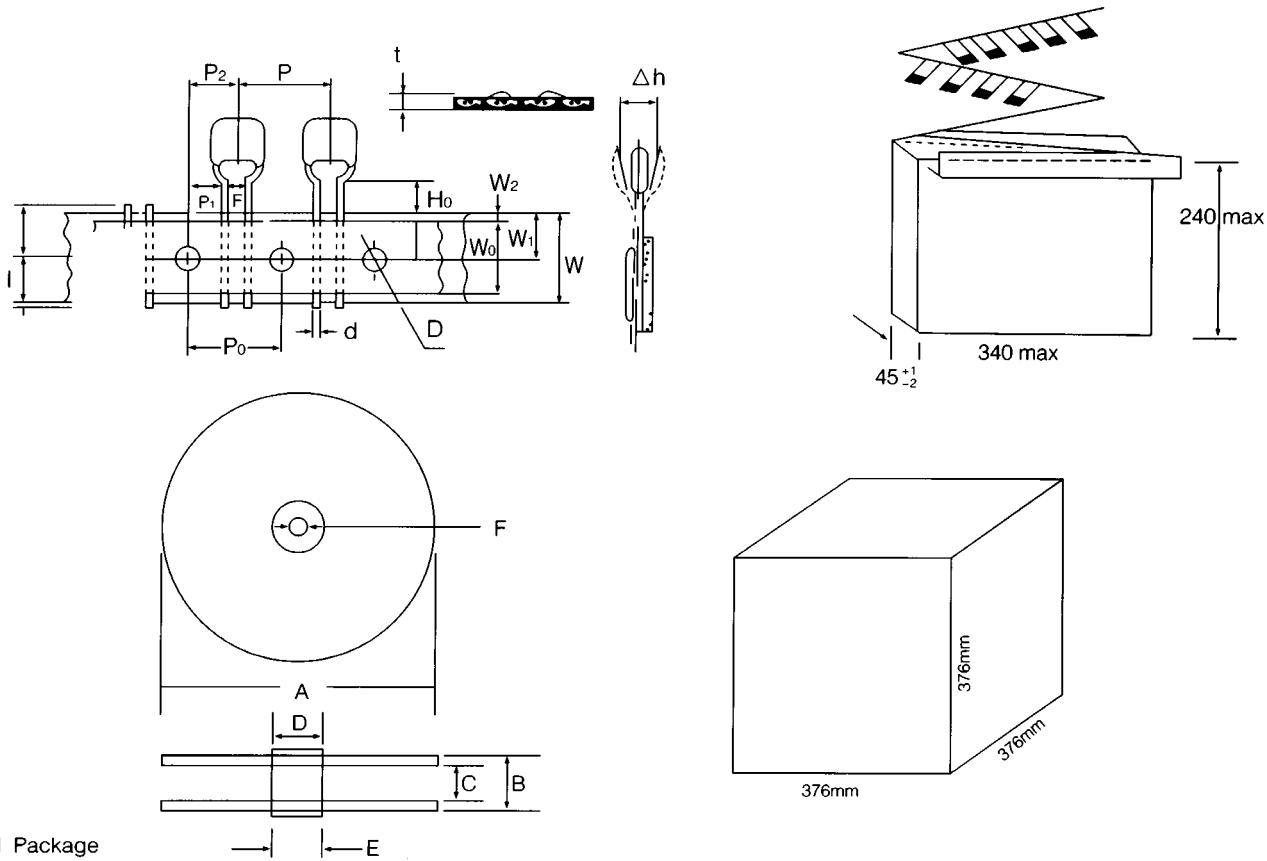
Size Code	Code	Unit: (mm)						Voltage	Capaitance(PF)		
		F(±0.2)	Hmin(±0.5)		Lmax	Wmax	Tmax		COG(NPO)	X7R	Y5V
0805	a	2.54	5.0	10.0	4.2	3.8	2.8	25V	OR5-332	221-224	102-105
	b	2.54	10.0					50V	OR5-222	221-104	102-684
	C1	5.08	5.0	10.0				100V	OR5-102	221-473	
	C3	5.08	5.0	10.0							
1206	a	2.54	10.0		5.0	4.5	3.8	25V	OR5-153	102-106	103-225
	b	3.50						50V	OR5-103	102-105	103-105
	C2	5.08						100V	OR5-472	102-104	
1210	b	3.50	10.0		5.0	5.0	3.8	25V	561-153	102-106	104-475
	C2	5.08						50V	561-103	102-105	104-225
								100V	561-472	102-334	
1812	b	4.75	10.0		7.6	6.8	3.8	25V	102-473	103-474	154-106
								50V	102-153	103-334	154-335
								100V	102-103	103-224	
2225	b	5.50	10.0		8.5	9.5	4.2	25V	102-223	103-105	684-226
								50V	102-223	103-105	684-475
								100V	102-103	103-474	



■ PACKAGING STYLE

Unit:(mm)

Code	P	P ₀	P ₁	P ₂	d	△h	W	W ₀	W ₁	W ₂	H ₀	1	D	t	Lo
Dim	12.7	12.7	3.75 5.1	6.35	0.5	0	18	13	9	3.0	7-10	1.0	4.0	0.7	11
Tol.	±1	±0.8	±0.7	±1.3	±0.1	±2	±0.8	±1	±0.5	MAX	±0.5	MAX	MAX	MAX	MAX



Reel Package

A	B	C	D	E	F
355-365	50.8max	38.10-46.02	102.01max	86.36max	25.40-30.48

■ PACKAGING QUANTITY

Ammo Package	Bulk Package
2000	1000,500,200
2.54mm P1=5.1±0.7	5.08mm P1=3.75±0.7

CLASS II Dielectric Characteristic Introduction & Test Method X7R(B) and Y5V (F)

ITEM	SPECIFICATION		TEST METHOD
	X7R(B)	Y5V(F)	
CAPACITANCE	100PF~10 μ F	1000PF~10 μ F	Test Frequency: 1KHz ± 10% Test Voltage: X7R: 1.0 Vrms Y5V: 0.5 Vrms
Capacitance tolerance	K= ± 10% M= ± 20%	M= ± 20% S= +50/-20% Z= +80/-20% P= +100%/0%	
(U _R) Rated Voltage	16.25.50.63.100.200.500. 1000.2000VDC	16.25.50.63.100VDC	
Dissipation Factor (Tan δ)	X7R(B) Tan δ ≤3.5% U _R ≤25V Tan δ ≤2.5% U _R ≥50V	Y5V(F) Tan δ ≤12.5% U _R ≤16V Tan δ ≤7% U _R =25V Tan δ ≤5% U _R ≥50V	
Insulation Resistance(IR)	C _R ≤25NF Ri≥4000MΩ C _R >25NF Ri × C _R ≥100S		Test Voltage: Charging Time: Temperature: 18~25℃ Humidity:<80%
Dielectric Withstanding voltage	There shall be no evidence of damage or flash over during the test.		Apply 2.5x rating voltage to both terminations for 5 seconds, charge and discharge are less than 50mA.
Termination Adhesion	There shall be no evidence of damage or flash over during the test.		Test condition: 5N,10 ± 1s
Bending Strength	There shall be no appearance damage during the test capacitance tolerance shall be not more than 10%		After soldering capacitor on the PCB, 1mm of bending shall be applied for 1 second as shown by drawing.
Solderability	Termination area shall be at least 80% covered with a new solder coating. there shall be no appearance damage after melting.		
Resistance to Soldering Heat	Temperature	265 ± 5℃	The capacitors are completely immersed curing 2 in the molthen rosin, Then immersed 10mm during 2 ± 1s in the molthen solder with a temperature of 235 ± 5℃. Pick up the capacitors and cleaned with solvent, and put in on the > 10 times microscope.
	Time	5 ± 1s	
	Cover	≥75%	
	Item	X7R(B) Y5V(F)	
	Δ C/C	-5%~+10% -10%~+20%	
Humidity & Moisture Resistance	Item	X7R(B) Y5V(F)	Permanent moisture: T=40 ± 2℃ t=21d Relative humidity: 93 ^{+2%} _{-3%} Resume time: 1~2h
	Δ C/C	≤10% ≤20%	
	Tan δ	≤5% ≤7%	
	I. R	Ri ≥1000MΩ × C _R >25s	
	There shall be no appearance damage during the test		
Vibration	There shall be no appearance damage during the test		Vibration frequency: f=10~500Hz Vibration range: 0.75mm In 3 direction: 2h/direction

ITEM	SPECIFICATION			TEST METHOD		
Temperature Cycling	ITEM	X7R(B)	Y5V(F)	ITEM	X7R(B)	Y5V(F)
	Δ C/C	$\leq 10\%$	$\leq 30\%$	Temp, θ a	$-55 \pm 2^{\circ}\text{C}$	$-25 \pm 2^{\circ}\text{C}$
				Temp, θ b	$+125 \pm 2^{\circ}\text{C}$	$+85 \pm 2^{\circ}\text{C}$
	There shall be no appearance damage during the test			Circulation times; 5times 30min/time		
				Resume time; $24 \pm 2\text{h}$		
				Switch time; 2~3min		
T.C Characteristics	ITEM	Δ C/C		Temperation changing turn;		
	X7R(B)	$\pm 15\%$		$+20^{\circ}\text{C} \rightarrow -55^{\circ}\text{C} \rightarrow +20^{\circ}\text{C} \rightarrow +125^{\circ}\text{C}$		
	Y5V(F)	$+30\% \sim -80\%$		$+20^{\circ}\text{C} \rightarrow -25^{\circ}\text{C} \rightarrow +20^{\circ}\text{C} \rightarrow +85^{\circ}\text{C}$		
Bump	ITEM	X7R(B)	Y5V(F)	Times: 4000		
	Δ C/C	$\pm 10\%$	$\pm 20\%$	Adder speed: 390m/s^2		
	There shall be no appearance damage during the test			Pulse duration: 6ms		
Life test	ITEM	X7R(B)	Y5V(F)	Condictions	X7R(B)	Y5V(F)
	Δ C/C	$\leq 20\%$	$\leq 30\%$	Temperature	$+125^{\circ}\text{C}$	$+85^{\circ}\text{C}$
	Tan δ	$\leq 5\%$	$\leq 7\%$	Time	T=1000h	
	I.R	$R_L \times C_R > 50\text{s}$	$\geq 2000\text{M}\Omega$	Voltage	$1.5U_R$	
	There shall be no evidence of damage during the test.			Resume time	$24 \pm 2\text{小時}$	
					$24 \pm 2\text{h}$	
6 grade failure test	ITEM	X7R(B)	Y5V(F)	Condictions	X7R(B)	Y5V(F)
	Δ C/C	$\leq 20\%$	$\leq 30\%$	Temperature	$+125 \pm 2^{\circ}\text{C}$	$+85 \pm 2^{\circ}\text{C}$
	Tan δ	$\leq 5\%$	$\leq 7\%$	Creditability	60%	
	I.R	$R_L \times C_R > 25\text{s}$	$\geq 2500\text{M}\Omega$	Voltage	Rating voltage	
	There shall be no evidence of damage during the test.			Time	1000h	

■ TYPICAL CHARACTERIASTICS

Class II Dielectric

