

# CC41 CT41 Multilayer Chip Ceramic Capacitors

## Capacitors Selection

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

**1.NPO(COG)** Ultra stable Class I dielectric, with negligible dependence of electrical properties on temperature, voltage, frequency and time, Used in circuits requiring stable performance.

**2.X7R** Stable Class II dielectric, with predictable change of properties with temperature, voltage, frequency and time. Used as blocking, coupling, by-passing and frequency discriminating elements. This dielectric is ferroelectric and offers higher capacitance ranges than Class I.

**3.Y5V(Z5U)** General purpose Class II dielectric with highest dielectric constant and greater variation of properties with temperature and test conditions. Very high capacitance per unit volume and suited for application as well as filtering, transient suppression blocking, and charge storage application.

## Chip Type Size Code, Capacitance and Voltage

Size code	Dimensions:(mm)				Voltage	Capacitance (pF)		
	L	W	Tmax	MB		COG(NPO)	X7R	Y5V(Z5U)
805	2.00±0.30	1.25±0.20	1.25±0.15	0.5±0.25	25V	0R5~332	221~105	103~105
					50V	0R5~222	221~105	103~684
					100V	0R5~102	221~683	103~224
1206	3.20±0.40	1.60±0.20	1.25 <sup>0</sup> <sub>-0.2</sub>	0.5±0.25	25V	0R5~682	102~105	103~125
					50V	0R5~472	102~105	103~105
					100V	0R5~392	102~683	
1210	3.20±0.30	2.50±0.30	1.25 <sup>0</sup> <sub>-0.2</sub>	0.75±0.25	25V	561~103	102~334	104~155
					50V	561~682	102~205	104~155
					100V	561~472	102~104	104~105
1812	4.50±0.50	3.20±0.40	2.5	0.75±0.25	25V	102~153	103~474	154~335
					50V	102~103	103~334	154~225
					100V	102~682	103~224	104~225
2225	5.70±0.50	6.40±0.5	2.5	1.00±0.25	25V	102~223	103~105	684~475
					50V	102~223	103~105	684~335
					100V	102~103	103~474	
3035	7.60±0.50	9.00±0.5	3.0	1.00±0.25	25V	102~104	103~225	105~106
					50V	102~473	103~225	105~685
					100V	102~333	103~105	

## How To Order

CT41 0805 Y 104 Z 500 T

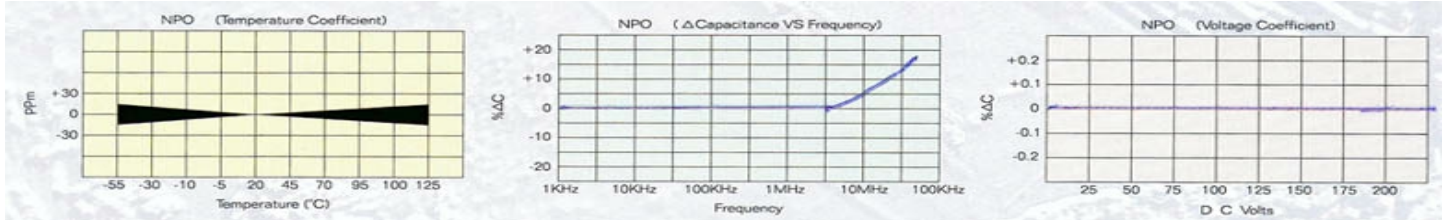
CT41	0805	Y	104	Z	500	T
Type	Size code	Dielectric	Cap.(pF)	Cap. Tolerance	Voltage	Packaging
CC41 class dielectric for chip type	(mm) LxW 0805=2.0x1.25	N=NPO B=X7R	104=100000(pF) Two significant digits followed by no. of zeros	B=±0.01pF C=±0.25pF D=±0.50pF F=±1.0% G=±2.0% J=±5.0% K=±10% M=±20% S=+50%/-20% Z=+80%/-20%	500=50V 101=100V	T=Reeled No code is bulk Package
CT41 class dielectric for chip type	1206=3.2x1.6 1210=3.2x2.5 1812=4.5x3.2 2225=5.7x6.4 3035=7.6x9.0	Y=Y5V (Z5U)				

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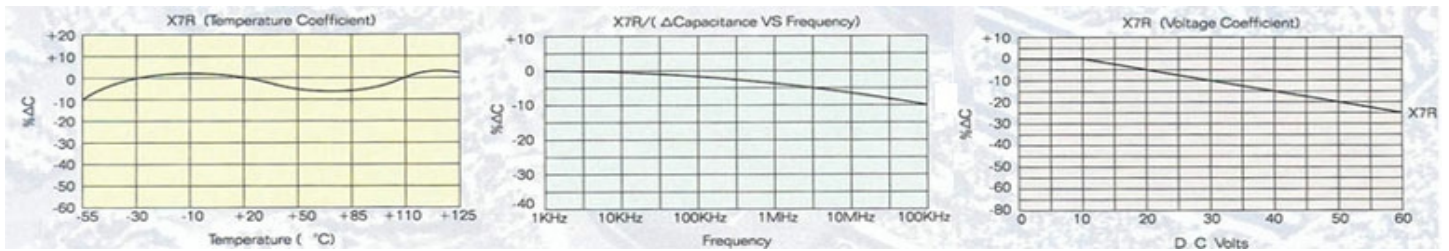
## Technical Parameter

### Dielectric Classification

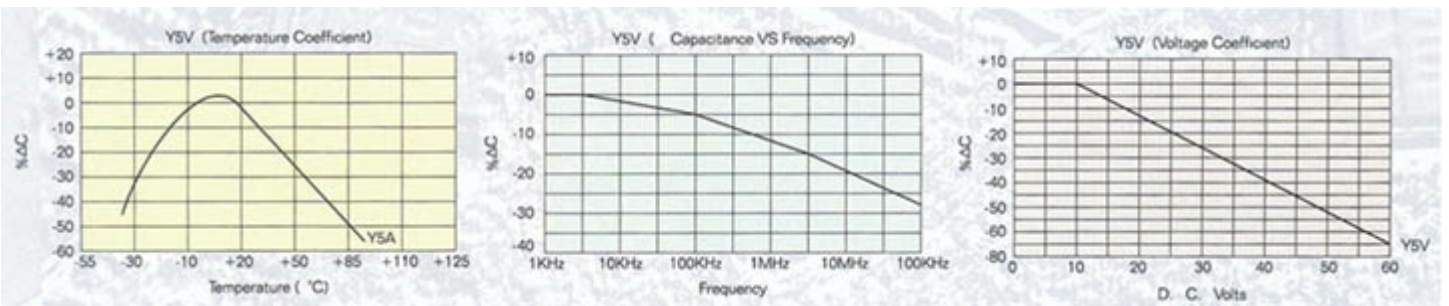
**NPO** Class I dielectric, ultra stable, suitable for circuits required stable performance.



**X7R** Class II dielectric, ultra stable, suitable for circuits required general stable capacitance.



**Y5V** Class II dielectric, with higher dielectric constant, but stability is less than X7R.



# CC41 CT41 Multilayer Chip Ceramic Capacitors

## General Specifications

		CC41 (NPO,COG)	CT41(X7R)	CT41 (Y5V,Z5U)	
Capacitance Range		0.5pF~0.1uF		331~225	
Capacitance Tolerance		B=±0.1pF C=±0.25pF D=±0.5pF F=±1% G=±2% J=±5% K=±10% M=±20% B,C,D for C <10pF	K=±10% M=±20% S=+50%~-20%	M=±20% S=+50%~-20% Z=+80%~-20%	
Rated Voltage		16,25, 50, 63, 100,200,500,1000,2000 VDC		16,25,50,100 VDC	
Dissipation Factor(DF)		0.15%Max (20 ,1MHZ,1VDC)	2.5%Max (20 ,1KHZ,1VDC)	3.5%Max (20 ,1KHZ,0.3VDC)	
Insulation Resistance		C 10nF I <sub>R</sub> 10000M C 10nF I <sub>R</sub> >500 .F	C 25nF I <sub>R</sub> 4000M C 25nF CxR>100 F		
Dielectric With Standing Voltage		There shall be no evidence of damage or flash over during the test.			
Termination adhesion strength		There shall be no evidence of damage or flash over during the test.			
Bending Strength		There shall be no evidence of damage or flash over during the test,capacitance tolerance shall be not more than 10%.			
Solderability	Time:	2±1s			
	Temp.:	235±5			
	Cover:	95%			
Resistance to Soldering Heat	Time:	5±1s			
	Temp.:	265±5			
	Cover:	95%			
	C/C:	0.5% or 0.5pF	-5% ~ +10%	-10% ~ +20%	
Temperature cycling	C/C:	1%	± 10%	±30%	
	Outlook:	There shall be no evidence of damage or flash over during the test.			
Humidity Moisture Resistance	C/C:	2%	10%	20%	
	DF	0.003	0.05	0.07	
	IR	RxC>25s			
	Outlook:	There shall be no evidence of damage or flash over during the test.			
T.C. Characteristics ( C/C)		±30ppm/	±15%	Z5U(E)	+22~-56%
				Y5V(F)	+22~-82%
Vibration	Outlook:	There shall be no evidence of damage or flash over during the test.			
Bump	C/C:	2%			
	Outlook:	There shall be no evidence of damage or flash over during the test.			
Life test (1000hours)	C/C:	2%	±12.5%	±30.0%	
	DF	0.003		0.05	
	IR	RxC>25s		RxC 25s	
	Outlook:	There shall be no evidence of damage or flash over during the test.			