



## TMC003 - RADIAL MULTILAYER CERAMIC CAPACITOR

### Feature

- Miniature size, wide capacitance, tape and reel packing available for auto-placement.
- Coating with epoxy resin, creates the excellent humidity resistance and prevents body from damage during soldering and washing.
- Industry standard size and various lead spacing available



T.C	NPO/COG	X7R (B)	Y5V (Y/F)	Z5U (E)
Dielectric type	Stable class I Dielectric	Stable class II Dielectric		
Electrical properties	With negligible dependence of electrical properties on temperature, voltage, frequency and time	With predictable change of properties with temperature, voltage, frequency and time, this dielectric is ferroelectric and offers higher capacitance ranges than class I.	With high dielectric constant and greater variation of properties with temperature and test conditions, very high capacitance per unit volume.	
Application	Use in circuits requiring stable performance	Use as blocking, by-passing discriminating element	Suited for by-passing and coupling application such as store power and memory circuit.	

### General Specification

	CC4(NPO)	CC4(X7R)	CT4(Y5V/Z5U)
Capacitance Range	OR5 to 104	221 to 225	103 to 106
Temperature Coefficient	0 ± 30PPm/°C 0 ± 60PPm/°C (-55 to +125)	± 15% (-55°C to 125°C)	+30% ~ -80% (-25°C to +85°C) +22% ~ -56% (+10°C to +85°C)
Insulation Resistance	C ≤ 10nF R ≥ 10000M C > 10nF C.R ≥ 100S		C ≤ 25nF R ≥ 4000M C > 25nF C.R ≥ 100S
With Standing Voltage	2.5 rated voltage		
Dissipation Factor	0.15% max (20°C, 1MHz, 1VDC)	2.5% max (20°C, 1KHz, 1VDC)	5.0% max (20°C, 1KHz, 0.3VDC)
Rated Voltage	25, 50, 63, 100VDC		25, 50, 63VDC
Capacitance Tolerance	B = ± 0.1PF D = ± 0.5PF G = ± 2% K = ± 10%	C = ± 0.25PF F = ± 1% J = ± 5% M = ± 20%	K = ± 10% M = ± 20% S = +50% Z = -20%
Life Test (1000 hours)	200% rated voltage at +125°C 1000h		150% rated voltage at +85°C 1000h

### Quality Item & reliability inspection

Item	Test specifications	Test Methods																																	
Solderability	Termination area shall be at least 75% covered with a new solder coating	The lead wire of a capacitor shall be dipped into a 25% methanol solution of rosin and then into molten solder of 235°C ± 5°C for 2 ~ 0.5 seconds, in both cases the depth of dipping is up to about 2.5 to 3.0 mm from the root of lead.																																	
Resistance to soldering heat	There shall be no evidence of damage or flash over during the test and sign in focus <table border="1"> <tr><td>T.C.</td><td>ΔC/C ≤</td></tr> <tr><td>CG/CH/RH</td><td>0.5% or 0.5pF</td></tr> <tr><td>UJ/SL</td><td>1% or 1pF</td></tr> <tr><td>B</td><td>± 10%</td></tr> <tr><td>Y(F)/E</td><td>± 20%</td></tr> </table>	T.C.	ΔC/C ≤	CG/CH/RH	0.5% or 0.5pF	UJ/SL	1% or 1pF	B	± 10%	Y(F)/E	± 20%	The lead wire shall be immersed into the melted solder of 260°C ± 5°C, up to about 2.5 to 3.0 mm from the main body for 5 ± 0.5 sec and the specified items shall be measured after leaving for 24 ± 2 hours.																							
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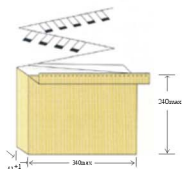
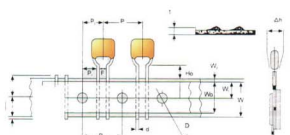
### SIZE CODE, CAPACITANCE AND VOLTAGE

Size code	shope	Dimensions:(mm)							Voltage	Capacitance(PF)		
		F (±0.5)	Hmin (±0.5)	Lmax	Wmax	Tmax	D	COG(NPO)		X7R	Y5V (Z5U)	
0805	A	2.54	5.0	8.8	3.8	3.8	0.5	25V	OR5~332	221~105	103~105	
	B	2.54	10.0									
	C	5.08	5.0 10.0									
	E	5.08	5.0 10.0									
1206	A	2.54	10.0	5.0	4.5	3.8	0.5	25V	OR5~682	102~105	103~125	
	B	3.50										
	C	5.08										
1210	B	3.50	10.0	5.0	5.5	3.8	0.5	25V	561~103	102~334	104~155	
	C											5.08
1812	B	4.57	10.0	8.5	6.5	3.8	0.5	25V	102~153	103~474	154~335	
2225	B	5.50	10.0	10.5	9.5	4.2	0.5	25V	102~223	103~105	684~475	
3035	B	7.50	10.0	12.5	10.5	4.2	0.5	25V	102~104	103~225	105~106	

\* Lead spacing determined by customer requirements

### PACKAGING STYLE

#### Ammo Package



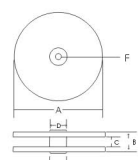
Code	P	P <sub>0</sub>	W	W <sub>0</sub>	H <sub>2</sub>	W <sub>2</sub>	H <sub>1</sub>	D	T	Δh	H	S	P <sub>1</sub>	P <sub>2</sub>	ΔP
Dim	12.7	12.7	18	5	9	0	32.5	4	0.5	0	16-18	5	3.85	6.35	1.3
Tol	± 1	± 0.3	+1 -0.5	MIN	± 0.5	+1	MAX	± 0.2	± 2.0	± 0.2	± 0.5	± 0.5	± 0.7	± 0.4	MAX

#### Reel Package

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

#### Packaging Quantity

Reel Package	Ammo Package	Bulk Package
2500	4000	1000



Dimension of tape coiling package for radial lead capacitors

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