

Ceramic Axial-Lead Capacitors (Small Body Style) CA10 Series



CHARACTERISTICS

Item	Characteristics		
	NPO	X7R	Z5U
Operating Temperature Range	-55°C ~ +125°C	-55°C ~ +125°C	-25°C ~ +85°C
Working Voltage (WVDC)	50 (other voltages available upon special order, ask for details)		
Capacitance Range	10pF ~ 1200pF	330pF ~ 27000pF	1000pF ~ 470,000pF
Temperature Characteristics	>20pF is 0 ±30ppm/°C; ≤20pF is 0 ±120/-40ppm/°C	ΔC ±15% maximum over -55°C ~ +125°C	ΔC +22/-55% maximum over +10°C ~ +85°C
Dissipation Factor (Tan δ)	≥50pF is ≤0.001; <50pF is ≥1.5(150/C + 7) × 10 ⁴	≤0.025	≤0.030
Measuring Conditions for Capacitance and DF	>1000pF is 1KHz, 1Vrms; ≤1000pF is 1MHz, 1Vrms	1KHz, 1Vrms	1KHz, 0.3Vrms
Capacitance Aging	0	1.5% per decade hour	5% per decade hour
Insulation Resistance (IR)	After 60 seconds charging at WV, 25°C: ≥100GΩ or ≥1,000MΩ per μF, whichever is less		
Solderability Test	235 ±5°C, immersion 2 ±0.5 seconds, 1.5mm ~ 2.0mm depth. At least 95% of leads should be well tinned		
Resistance to Soldering Heat Test	No visible damage. NPO is ≤ ±0.5% or ±0.5pF; X7R is ≤ ±10/-5%; Z5U is ≤ ±20/-10%. Immersion in solder bath at 260 ±5°C for 10 ±1 seconds. Recovery for 24 ±2 hours.		
Rapid Change of Temp. Test	No visible damage. NPO and X7R at -55°C ~ +125°C; Z5U at -25°C ~ +85°C. Recovery for 24 ±2 hours.		
Life Test	No visible damage. NPO ΔC/C is ≤2% or ±2pF; X7R ΔC/C is ≤ ±10%; Z5U ΔC/C is ≤ ±20%. DF is ≤1.5 x initial requirement. IR is ≥0.25 x initial requirement. 1,000 hours at minimum temperature with 1.5 WV applied. Recovery for 24 ±2 hours		
Vibration Test	No visible damage. 5 cycles for 30 min. each: 10Hz ~ 2000KHz, apm. 0.75mm or 98m/sec. Total duration is 6 hours.		
Robustness of Termination Test	No visible damage. Visual inspection test: VAL is 10N, VB is 5N.		

PART NUMBERING SYSTEM

PART NUMBERING SYSTEM															
1	4	7	-	7	5	-	1	0	1	/	R	E	E	L	
Series				Temp. Coeff. & Tolerance			Capacitance (EIA) (pF)				Suffix				
															Temp. Coeff. & Tol. Code:
															75 = NPO, 5%
															71 = X7R, 10%
															72 = Z5U, 20%

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