HITANO ENTERPRISE CORP. ®

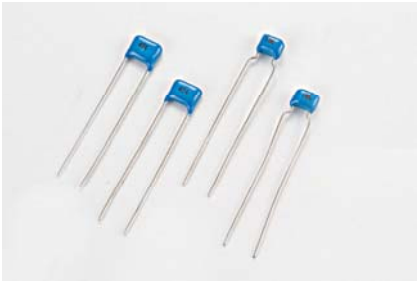
MULTILAYER CERAMIC CAPACITORS EPOXY COATED RADIAL TYPE

Application

NPO：Temperature compensation type, have little or no change in capacitance with variation in temperature. Hence, they are used in radio-frequency oscillators, precision timing circuits, ultra stable amplifiers, etc.

X7R：Temperature stable type for by-pass and decoupling in radio and television receivers, computers servo systems. Audio tone, and coupling, etc., where moderate capacitance variations are

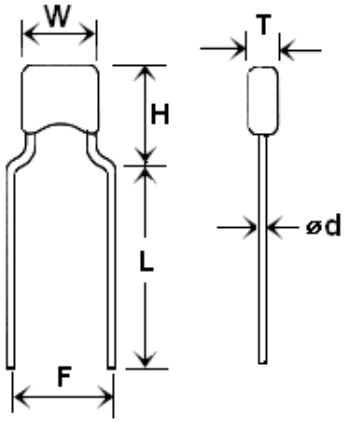
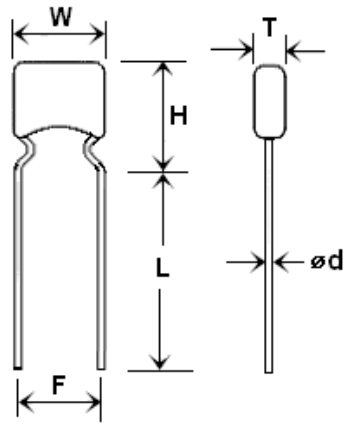
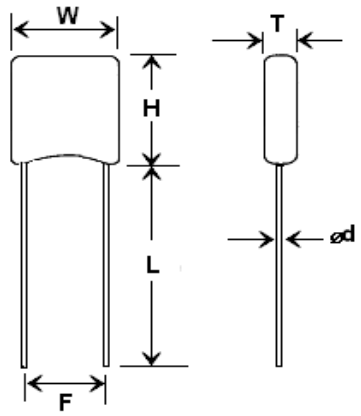
Construction



Part Number Designation:

R15	W	104	M	2H	L	5	L
SIZE	**T.C**	**Capacitance-Code**	**Tolerance**	**Voltage**	**Lead shape**	**Lead space**	**Package-Lead-length**
R15 R20 R25	N=NPO W=X7R	Two significant digits ＋No. of zeros. Example 102=1000pf 223=22000pf 104=100000pf	A=±0.05PF F=±1% B=±0.10PF G=±2% C=±0.25PF J=±5% D=±0.50PF K=±10% M=±20% Z=+80/-20%	2E=250V 2H=500V 3A=1KV 3D=2KV 3F=3KV	L=Straight H=High seated	5=5.08±0.8 (mm)	R=Tape/Reel B=Tape/Box 6=6±1mm L=25.4mm(min)

1. LEAD SHAPE：

		
R15 **H**	**R20** **H**	**R25** **L**

2. LEAD SPACE (F)

CODE	LEAD SPACE (mm/inch)	
5	5.08±0.8	0.2±0.032

3. LEAD LENGTH (L)

CODE	LEAD LENGTH	REMARK
6	6mm±1mm	Specified lead length upon request.
L	25mm (min)	

4. BODY SIZE & DIMENSION

Size code	Lead style available	Capacitance Range		Dimensions (mm)				
		NPO	X7R	W max	H max	T max.	d±0.05	F±0.8
R15	H	250V: 10 – 1500pF	250V: 100pF – 0.047uF	4.5	7.0	3.0	0.5	5.08
		500V: 10 – 560pF	500V: 100pF – 0.022uF					
R20	H	250V: 2200 – 10,000pF	250V: 0.068 – 0.47uF	5.5	7.0	4.0	0.5	5.08
		500V: 680 – 4700pF	500V: 0.022 – 0.1uF					
		1KV: 10 – 2200pF	1KV: 220pF – 0.047uF					
		2KV: 10 – 1000pF	2KV: 220pF – 3900F					
		3KV: 10 – 220pF	3KV: ------					
R25	L	250V: 0.012 – 0.033uF	250V: 0.047 – 1.0uF	7.5	8.0	5.0	0.5	5.08
		500V: 5600 – 22,000pF	500V: 0.012 – 0.22uF					
		1KV: 2700 – 4700pF	1KV: 0.01uF – 0.056uF					
		2KV: 1000 – 3300pF	2KV: 4700pF – 0.01uF					
		3KV: 270 – 1000pF	3KV: 100 – 4700pF					

Typical Performance Characteristics

Specifications

Temperature coefficient

- NPO: ± 30PPM/℃, -55℃ to +125℃
- X7R: ± 15%, -55℃ to +125℃

Capacitance test 25℃

- NPO: 1 VRMS max at 1 KHz(1 MHz for 100pF or less)
- X7R: 1 VRMS max at 1 KHz

Dissipation Factor 25℃

- NPO: 0.15% max at 1KHz, 1 Vrms max.

  (1MHz for 1000pF or less)

- X7R: 2.5% max at 1KHz, 1 Vrms max

Dielectric strength 25℃ (Flash Test)

- NPO: 250V-2.0 X V rated, 500V-1.5 X V rated, ≥1KV-1.2 X V rated
- X7R: 250V-2.0 X V rated, 500V-1.5 X V rated, ≥1KV-1.2 X V rated

Life Test :

(1000 hrs at max temp. applied with Flash test voltage Recovery for 24± 2 hrs)

	NPO	X7R
ΔC/C	≤ ± 3%	≤ ± 20%
D.F.	≤ 2 x initial	≤ ±7%
I .R.		≥0.25 x initial

Insulation Resistance after 60 secs, charging at rated voltage, 25℃, 55%R.H. max

- NPO: 100GΩ or 1000MΩ-uF whichever is less
- X7R : 10GΩ or 100MΩ-uF whichever is less