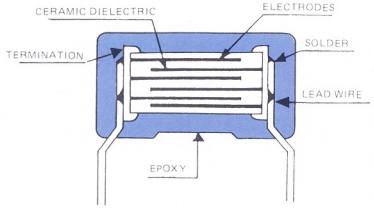
MULTILAYER CERAMIC CAPACITORS
EPOXY COATED RADIAL TYPE

CONSTRUCTION



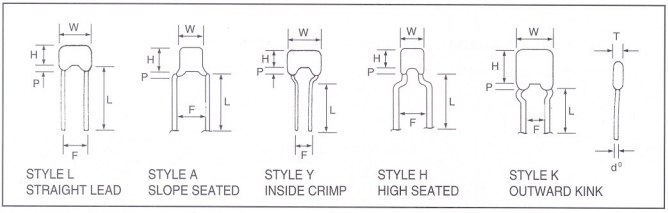
APPLICATION

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, ultrastable 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 permissible and dissipation factor is not critical.

Z5U/Y5V: General type for by-pass and filtering applications.

1. LEAD SHAPE:



2. LEAD SPACE (F)

CODE	LEAD SPACE (mm/inch)	
2	2.54±0.8	0.1±0.032
5	5.08±0.8	0.2±0.032

3. LEAD LENGTH

CODE	PACKING	LEAD LENGTH
R	Tape/Reel	–
B	Tape/Box	–
K	Bulk	LEAD LENGTH UPON REQUEST 2.5~25.4mm
L		25.4mm min

SIZE CODE and DIMENSIONS (millimeter)

SIZE CODE	H	W	T	D	d°	LEAD LENGTH	LEAD SPACING(F)	LEAD SHAPE
RD15	3.81	3.81	2.54	2.00	0.53	2.5mm ≀ 25.4mm	2.54	L
							5.08	A.H.K.
RD20	5.08	5.08	3.18				2.54	L.K.Y.
							5.08	H.K.
RD30	7.62	7.62	3.81				5.08	H

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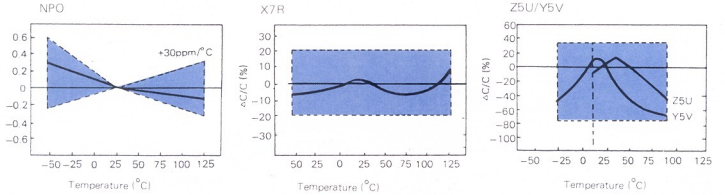
Part Code Designation

RD15	Z	104	M	1H	A	5	—	L

SIZE	T.C.	CAPACITANCE CODE	TOLERANCE	VOLTAGE	LEAD SHAPE	LEAD SPACE	PACKAGE LEAD LEGTH
RD15 RD20 RD30	N=NP0 B=X7R Z=Z5U Y=Y5V X=X5R	Two Significant digits + No. of zeros. Example: 10PF = 100 100PF = 101 1.000PF = 102 22.000PF = 223 100.000PF = 104	J= ± 5 % K= ± 10% M= ± 20% Z= + 80% − 20%	1E=25V 1H=50V 2A=100V 2D=200V 2H=500V 3A=1KV 3D=2KV 3F=3KV	L: Straight A: Slope 45° Lead Y: Inside Crimp H: Hight Seated 90° Lead K: Outward Kink	2 = 2.54 ± 0.8 5 = 5.08 ± 0.8 (mm)	R = Tape / Reel B = Tape / Box K = Bulk L = 25.4mm min.

TYPICAL PERFORMANCE CHARACTERISTICS

1. TEMPERATURE CHARACTERISTICS



2. SPECIFICATIONS

Temperature coefficient

NPO : 0 ± 30ppm/°C, −55°C to +125°C
X7R : ±15%, −55°C to +125°C
Z5U : +22%, −56%, +10°C to +85°C
Y5V : +22%, −82%, −30°C to +85°C

Capacitance Test 25°C

NPO : 1 VRMS max at 1 KHz
(1 MHz for 100pF or less)
X7R : 1 VRMS max at 1 KHz
Z5U : 1 VRMS max at 1 KHz
Y5V : 1 VRMS max at 1 KHz

Dissipation Factor 25°C

NPO : 0.15% max at 1 KHz, 1 VRMS max.
(1 MHz for 100pF or less)
X7R : 2.5% max at 1 KHz, 1 VRMS max.
Z5U : 5% max at 1 KHz, 1 VRMS max.
Y5V : 5% max at 1 KHz, 1 VRMS max.

Dielectric Strength 25°C (Flash Test)

NPO and X7R: 300% rated voltage for 5 seconds with 50 mA. max charging curent.
Z5U and Y5V : 250% rated voltage for 5 seconds with 50 mA. max charging current.

Life Test (1000hrs)

NPO : ≤ ± 3% at 200% vated voltage, 125°C
X7R : ≤ ± 12.5% at 200% rated voltage, 125°C
Z5U : ≤ ± 30% at 200% rated voltage, 85°C
Y5V : ≤ ± 30% at 200% rated voltage, 85°C

Insulation Resistance 25°C

NPO and X7R : 100GΩ or 1000MΩ-MFD whichever is less.
Z5U and Y5V : 10GΩ or 100MΩ-MFD whichever is less.