This widely used ceramic capacitors includes both monolithic and multilayer types to provide a wide capacitance range of 1pF through 4.7uF in respectly one standard size and shape (Radial & Axial).

The class I temperature compensating (C0G) products can be used in circuits to stabilize frequency and temperature characteristics.

The X7R, Z5U, Y5V dielectrics are optimum for by pass capacitors.

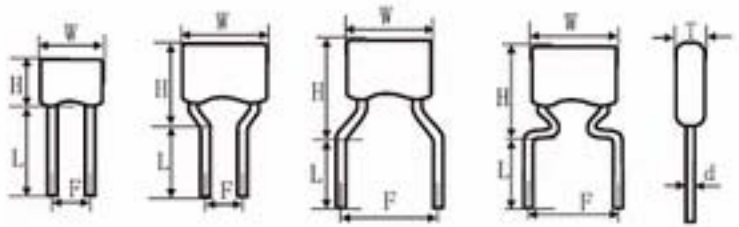
	C0G	Z5U	X7R	Y5V
Capacitance Range	1pF to 6800pF	0.01uF to 0.47uF	100pF to 2.2uF	0.01uF to 4.7uF
Rated Voltage (U_R)	25Vdc to 200Vdc	25Vdc to 50Vdc	25Vdc to 200Vdc	25Vdc to 50Vdc
Dielectric Strength	No defects or abnormalities. No failure should be observed when 250% of the rated voltage (above 200V of the rated voltage for 150%) is applied between the terminations for 1 to 5 seconds, provided the charge/discharge current is less than 50mA			
Capacitance (C_R)	Within the specified tolerance $C_R \leq 1000pF$: 1MHz $C_R > 1000pF$: 1KHz Both are 1Vrms, 25°C	Within the specified tolerance 1KHz, 0.5Vrms, 25°C.	Within the specified tolerance 1KHz, 1Vrms, 25°C	
Dissipation Factor (tanδ) or Q Value	C≥30pF, Q≥1000: C<30pF, Q≥400+20C_R	≤0.025	>50V: ≤0.025 for <0.068uF ≤0.050 for ≥0.068uF 25V & 50V: ≤0.025	<0.1uF: ≤0.050 ≥0.1uF: ≤0.090
	Measured Condition see "Capacitance".			
Insulation Resistance	More than 10000MΩ or 500MΩ·uF (whichever is less). The insulation resistance should be measured with a DC voltage not exceeding the rated voltage at 25°C and 75%RH maximum and within 1 minutes of charging, provided the charge/discharge current is less than 50mA.			
Operating Temperature Range	-55°C to +125°C	+10°C to +85°C	-55°C to +125°C	-25°C to +85°C

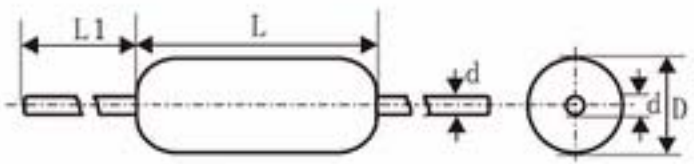
Capacitance Chart

Temperature Characteristic	NPO				X7R				Y5V				Z5U			
Rated Voltage (DC)	25V	50V	100V	200V	25V	50V	100V	200V	25V	50V	100V	200V	25V	50V	100V	200V
Cap. (pF) 1 to 10																
12																
15																
18																
22																
27																
33																
39																
47																
56																
68																
82																
100																
120																
150																
180																
220																
270																
330																
390																
470																
560																
680																
820																
1000																
1500																
2200																
3300																
4700																
6800																
Cap. (uF) 0.010																
0.015																
0.022																
0.033																
0.047																
0.068																
0.10																
0.22																
0.47																
1.0																
2.2																
4.7																
10																
Tolerance	C, D(for 1 to 10PF) J, K(for over 10PF)				K, M				M, Z				M, Z			

Shape and Dimensions

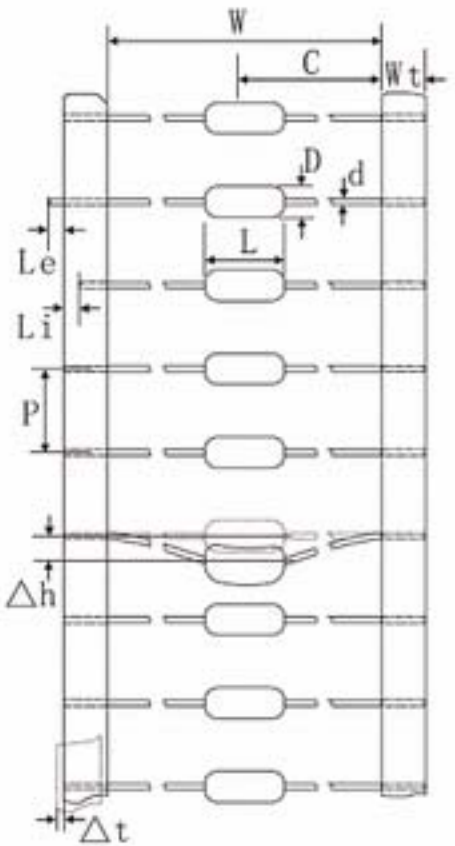
RADIAL						AXIAL				
Size code	F	W	H	T	d	Size code	L	D	L1	d
045A	2.5±0.8	4.5 max	5.0 max	3.8 max	0.5±0.05	2635	3.5 max	2.6 max	25 min	0.5±0.05
045B	5.0±0.8					2645	4.5 max			
060B		6.0 max	6.4 max			2668	6.6 max			



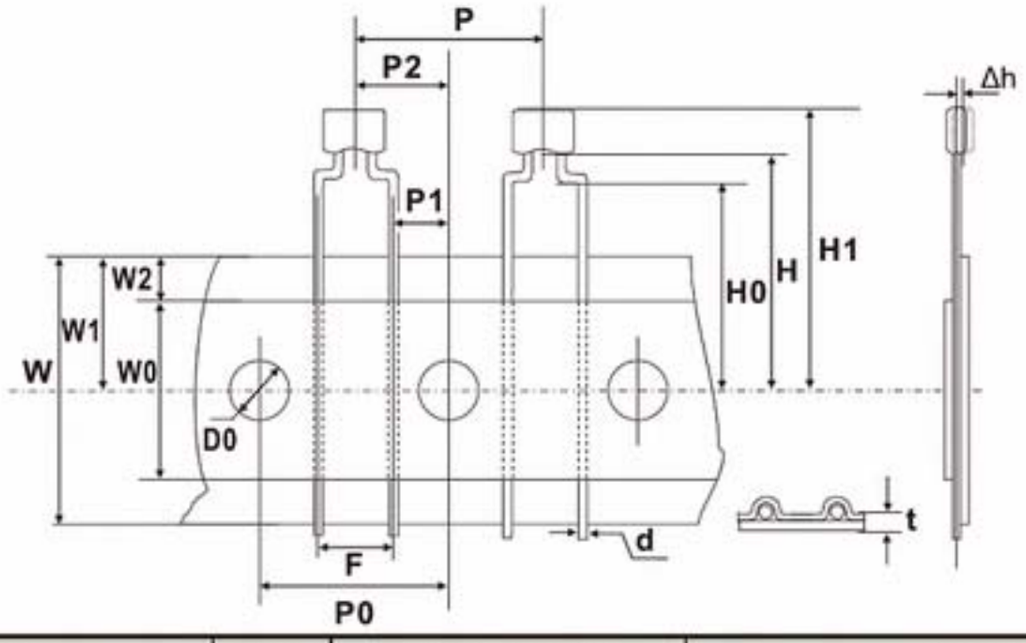


● Taping Specifications and Dimensions by Axial Type

Item	Symbol	Dimension (mm)
Pitch of Component	P	5.08±0.51
Length of Component	L	4.4 or 6.6 max.
Diameter of Component	D	2.6 max
Tape Width	Wt	6.0±1.0
Width Between Tapes	W	52.4±1.5
Lead Wire Protrusion	Le	1.57 max.
Lead Extension Into Tape	Li	3.96 max.
Offset Between Tapes	Δt	0.8 max
Centered	C	26.2±0.76
Deflection Form Nominal Position	Δh	1.2 max.
Diameter of Lead Wire	d	0.5±0.05
Cumulative Tolerance of Pitch Over 6 Consecutive Units	/	0±0.15



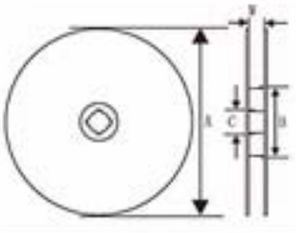
● Taping Specifications and Dimensions by Radial Type



Description	Symbol	Dimensions (mm)	Remark
Pitch of component	P	12.7±0.1	Cumulative pitch error ±1.0mm/20pitch.
Feed hold pitch	P0	12.7±0.3	
Feed hold center to lead	P1	3.85±0.7	
Feed hold center to component center	P2	6.35±1.3	
Lead to lead spacing	F	5.0+0.8/-0.2 or 2.5+0.8/-0.2	To lead tip within tolerance.
Component alignment, F-R	Δh	2.0 max.	The alignment from the center of the lead is ±1.0mm.
Tape width	W	18.0 +1.0/-0.5	
Adhesive tape width	W0	11.0 min.	
Hole position	W1	9.0±0.5	
Adhesive tape position	W2	3.0 max.	Adhesive tape must not protrude from base paper.
Height of bottom body from tape center	H	18.0 +2.0/-0	H+12.5 mm ≤ H1
Lead-wire clinch height	H0	16.0 ±0.5 or 18.0 ±0.5	6.5 ≤ H0 - W1
Component height	H1	32.25 max.	
Feed hold diameter	D0	4.0±0.3	
Total tape thickness	T	0.7±0.2	

● Packaging Style by Type

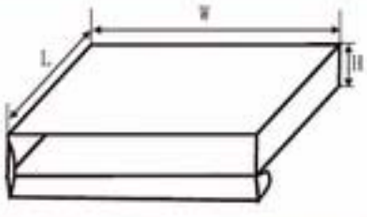
AMMO Packaging



Unit: mm

Type	W	L	H
Axial	258±5	72±5	81±5
Radial	340 max	280 max	52 max

Reel Packaging



Unit: mm

Type	A	B	C	W
Axial	300±2	60 max	15±1.5	70±1.5
Radial	360 max	76+0.5/-0	30+1/-0	45+0/-1