Features:

1. Worldwide safety agency certificate: UL/CSA/VDE/ENEC/CQC.
2. Operating temperature range: 125°C (UL: 85°C).
3. Dielectric strength: AC2600V.
4. Complete Range of capacitance values.
5. Coated with flame-resistant epoxy resin (UL94V-0).
6. Cost-saving automatic insertion available.
7. Comply with RoHS.
8. Halogen-free available.

Applications:

Across-the-line
Line by-pass
Antenna coupling

Approval Standard and Certificate No

country	Mark	Standard	Rated Voltage	Certificate No
UL (U.S.A.) UL (Canada)		UL1414	250VAC	E104572
CSA (Canada)		CAN/CSA E384-14-95	250VAC	1413193 (LR66829)
VDE (Germany)		EN 60384-14 IEC 60384-14	X1: 440/400VAC Y2: 300/250VAC	116772
ENEC		EN 60384-14 IEC 60384-14	X1: 440/400VAC Y2: 300/250VAC	40016156
CQC (China)		GB/T 14472-1998	X1: 400VAC Y2: 250VAC	CQC03001008380

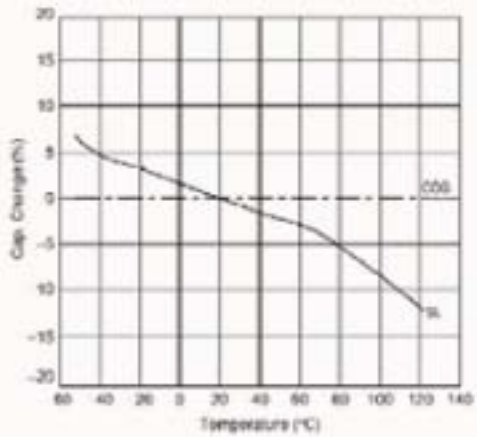
Marking

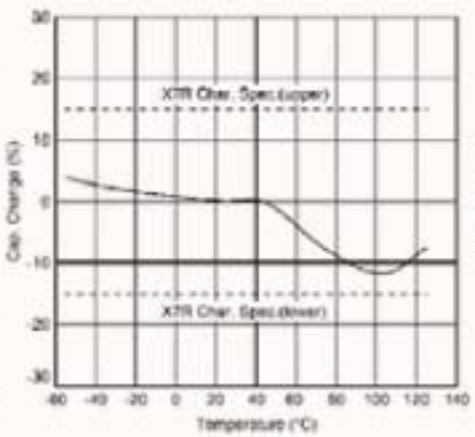
Example		
	Type Code:	KL (Class X1 Y2)
	Nominal Capacitance:	10000 (10000pF)
	Tolerance:	M (±20%)
	Rated Voltage:	400V~ (X1), 250V~ (Y2)
	Temperature Characteristic:	F (Y5V)
	Sub-class of Safety Performance:	X1 Y2 (KL type)
	Logogram:	
	Monogram Safety Regulation body:	

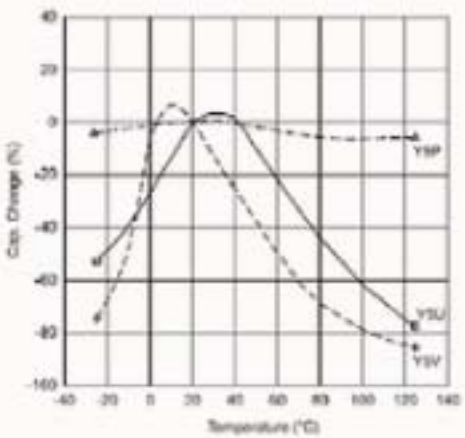
General Specifications

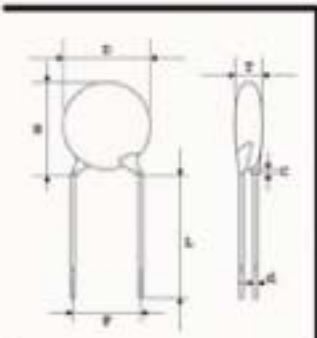
Capacitance Range:	1pF to 0.015uF
Rated Voltage (U_R):	X1: 440/400VAC; Y2: 300/250VAC
Dielectric Strength:	2600Vac (50~60Hz, 50mA max) for 1 minute
Capacitance (C_R):	Within the specified tolerance Y5P, Y5U, Y5V, X7R measured at 1KHz±20% C0G, SL measured at 1MHz±20% Both are 1Vrms, 25°C
Dissipation Factor (tanδ) or Q Value:	SL and C0G : C≥30pF, Q≥1000; C<30pF, Q≥400+20C_R Y5P, Y5U, X7R: tanδ≤0.025 Y5V : tanδ≤0.050 Measured Condition see "Capacitance".
Insulation Resistance:	10000MΩ minimum at 500VDC for 1 minute
Operating Temperature Range:	-25°C to +125°C (UL/CSA: -25°C to +85°C) -55°C to +125°C for SL, C0G and X7R

Temperature Characteristic Curves







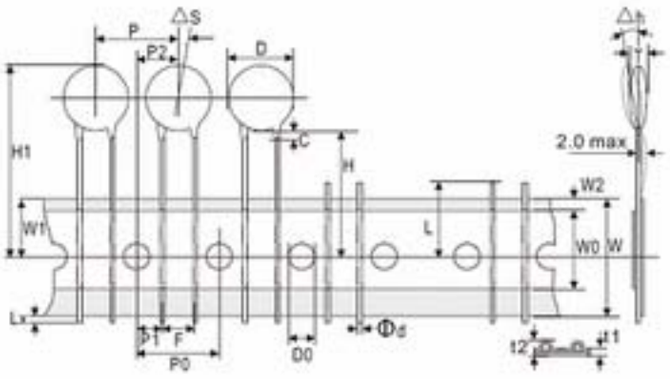


直脚	半行脚	内弯脚	外弯脚	双弯脚

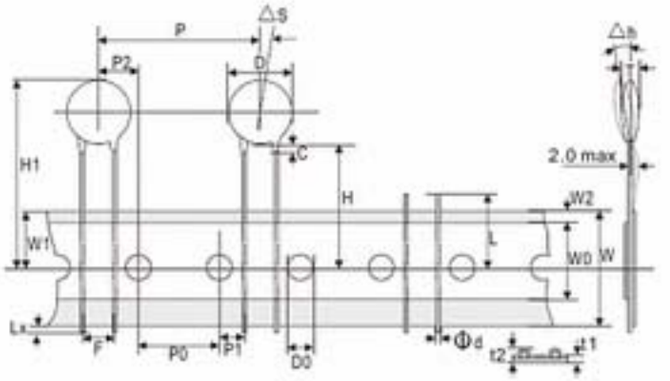
Type Code	Temperature Characteristic	Normal Capacitance (pF)	Tolerance	Dimensions (mm)			
				D (max.)	T (max.)	F (±1.0)	D (±0.1)
KL (X1Y2)	COG (C)	1.0, 1.5, 2.2, 3.3, 4.7, 5.1	C (±0.25pF) D (±0.5pF)	8	6	5 & 7.5 & 10	0.6
		6.8		10			
		10	J (5%), K (10%)	10			
	SL (L)	1.0, 1.5, 2.2, 3.3, 4.7, 5.1	C (±0.25pF) D (±0.5pF)	8	6	5 & 7.5 & 10	0.6
		6.8		10			
		10, 12, 15, 18, 20, 22	J (5%), K (10%)	8			
		27, 30, 33, 36, 39		10			
		47, 56, 68, 82		11			
	X7R (X)	5.1	C (±0.25pF) D (±0.5pF)	8	6	5 & 7.5 & 10	0.6
		10, 12, 15, 18, 20, 22, 27, 30, 33, 36, 39	J (5%), K (10%)	8			
		47, 56, 68, 82, 100		8			
		120, 150, 180, 220, 270, 330	K (±10%) M (±20%)	8			
		390, 470, 560, 680		9			
		820, 860, 1000		11			
		1200, 1500		14		7.5 & 10	
	Y5P (B)	1.0, 1.5, 2.2, 3.3, 4.7, 5.1	C (±0.25pF) D (±0.5pF)	8	6	5 & 7.5 & 10	0.6
		6.8		9			
		10, 12, 15, 18, 20, 22, 27, 30, 33, 36, 39	J (5%), K (10%)	9			
		47		9			
		56, 68, 82		11			
		100, 120, 150, 180, 220, 270, 330	K (±10%) M (±20%)	8			
		390, 470, 560, 680, 820, 860		10			
		1000, 1200		12		7.5 & 10	
		1500, 1800		15			
		2000, 2200		16			
	Y5U (E)	330, 390, 470, 560, 680, 820, 860	K (±10%) M (±20%)	7	6	5 & 7.5 & 10	0.6
		1000, 1200		8		7.5 & 10	
		1500, 1800		9			
		2000, 2200		10			
		2700, 2800, 3000, 3200, 3300		12			
		3600, 3900, 4000		14			
		4700		16			
		5000, 5500, 5600		16			
		6000, 6800, 8000, 8200, 8600		19			
		9000, 10000		25			
		15000		28			
	Y5V (F)	470, 560, 680, 820, 860	K (±10%) M (±20%)	7	6	5 & 7.5 & 10	0.6
		1000, 1200		8		7.5 & 10	
		1500, 1800		9			
		2000, 2200		10			
		2700, 2800, 3000, 3200, 3300		12			
		3600, 3900		14			
		4000, 4700, 5000, 5500, 5600		16			
		6000, 6800, 8000		19			
		8200, 8600		20			
		9000, 10000, 15000		25			

Taping Specifications

Type 1: F5.0, P12.7 & F7.5, P15.0

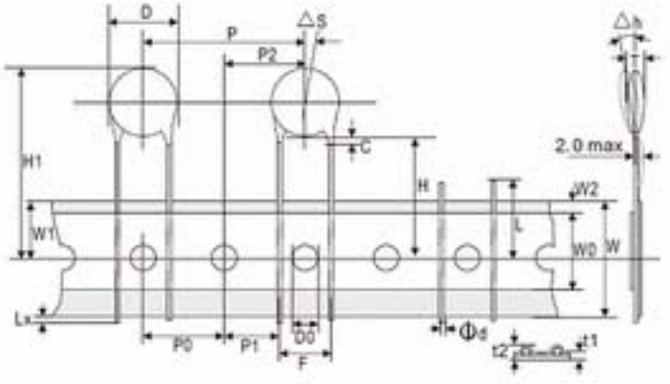


Type 2: F7.5, P30.0



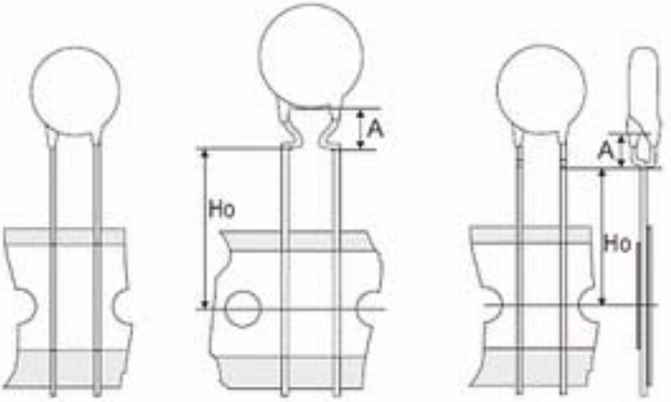
Item	Code	Taping Specification	
		Type 1	
Body Diameter	D	11.0 max	14.0 max
Body Thickness	T	6.0 max	8.0 max
Lead Diameter	Φd	0.6 ± 0.1	0.65 ± 0.1
Pitch of Sprocket Hole	P0	12.7 ± 0.3	15.0 ± 0.3
Pitch of Component	P	12.7 ± 1.0	15.0 ± 1.0
Lead Length from Hole Center Lead	P1	3.85 ± 0.7	3.75 ± 1.0
Lead Length from Hole Center Lead to component Center	P2	6.35 ± 1.3	7.5 ± 1.5
Lead Spacing	F	5.0+0.8/-0.2	7.5 ± 1.0
Deviation Along Tape, Left or Right	ΔS	0 ± 1.0	0 ± 1.0
Deviation Across Tape	Δh	0 ± 2.0	0 ± 2.0
Carrier Tape Width	W	18.0+1.0/-0.5	18.0+1.0/-0.5
Hold Down Tape Width	W0	5.0 min	5.0 min
Position of Sprocket Hole	W1	9.0 ± 0.5	9.0 ± 0.5
Hold Down Tape Position	W2	3.0 max	3.0 max
Height of Component from Hole Center	H	20.0 ± 1.5	20.0 ± 1.5
Lead-Wire Clinch Height	H0	16.0 ± 0.5	16.0 ± 0.5
Component Height	H1	32.25 max	/
Length of Snipped Lead	L	11.0 max	11.0 max
Diameter of Sprocket Hole	D0	4.0 ± 0.2	4.0 ± 0.2
Total Tape Thickness	t1	0.7 ± 0.2	0.7 ± 0.2
Total Thickness, Tape and Lead Wire	t2	1.5 max	1.7 max
Length of snipped Lead	Lx	1.0 max	1.0 max
Coating on lead	C	3.0 max	3.0 max
Height of Kink	A	5.0 max	5.0 max

Type 3: F10.0, P25.4



Item	Code	Taping Specification	
		Type 2	Type 3
Body Diameter	D	20.0 max	20.0 max
Body Thickness	T	8.0 max	8.0 max
Lead Diameter	Φd	0.65 ± 0.1	0.65 ± 0.1
Pitch of Sprocket Hole	P0	15.0 ± 0.3	12.7 ± 0.3
Pitch of Component	P	30.0 ± 1.0	25.4 ± 1.0
Lead Length from Hole Center Lead	P1	3.75 ± 1.0	7.7 ± 1.0
Lead Length from Hole Center Lead to component Center	P2	7.5 ± 1.5	12.7 ± 1.5
Lead Spacing	F	7.5 ± 1.0	10.0 ± 1.0
Deviation Along Tape, Left or Right	ΔS	0 ± 1.0	0 ± 1.0
Deviation Across Tape	Δh	0 ± 2.0	0 ± 2.0
Carrier Tape Width	W	18.0+1.0/-0.5	18.0+1.0/-0.5
Hold Down Tape Width	W0	5.0 min	9.0 min
Position of Sprocket Hole	W1	9.0 ± 0.5	9.0 ± 0.5
Hold Down Tape Position	W2	3.0 max	3.0 max
Height of Component from Hole Center	H0	20.0 ± 1.5	20.0 ± 1.5
Lead-Wire Clinch Height	H0	16.0 ± 0.5	16.0 ± 0.5
Component Height	H1	/	/
Length of Snipped Lead	L	11.0 max	11.0 max
Diameter of Sprocket Hole	D0	4.0 ± 0.2	4.0 ± 0.2
Total Tape Thickness	t1	0.7 ± 0.2	0.7 ± 0.2
Total Thickness, Tape and Lead Wire	t2	1.7 max	1.7 max
Length of snipped Lead	Lx	1.0 max	1.0 max
Coating on lead	C	3.0 max	3.0 max
Height of Kink	A	5.0 max	5.0 max

Lead Variation:



Straight type Inside Kink type Vertical Kink type