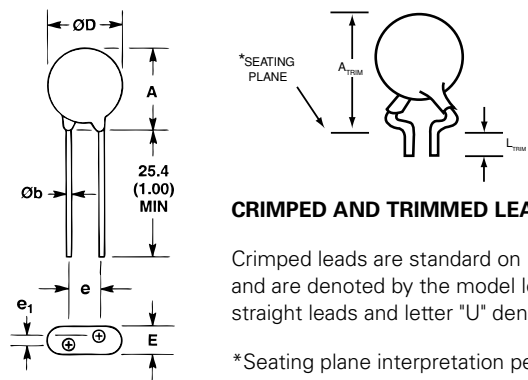


## LA Series Varistors for Hi-Temperature Operating Conditions:

- Phenolic-coated LA Series devices are available with improved maximum operating maximum temperature 125°C.
- These devices also have improved temperature cycling performance capability.
- Ratings and Specifications are as per standard LA Series except Hi-Pot Encapsulation (Isolation Voltage Capability) = 500V.
- To order: add X1347 to part number (e.g. V230LA20AX1347)
- Marked identifier will contain 'P' to denote Phenolic.
- These devices are not UL, CSA, VDE or CECC certified.
- Contact factory for further details.

## Product Dimensions (mm)



### CRIMPED AND TRIMMED LEAD

Crimped leads are standard on LA types supplied in tape and reel and are denoted by the model letter "T." Model letter "S" denotes straight leads and letter "U" denotes special under-crimped leads.

\*Seating plane interpretation per IEC-717

Dimension	V <sub>RMS</sub> Voltage Model	7mm Size		10mm Size		14mm Size		20mm Size	
		Min. mm (in)	Max. mm (in)	Min. mm (in)	Max. mm (in)	Min. mm (in)	Max. mm (in)	Min. mm (in)	Max. mm (in)
A	V130LA-	-	12	-	16	-	20	-	26.5
	V320LA	-	(0.472)	-	(0.630)	-	(0.787)	-	(1.043)
	V385LA-	-	13	-	17	-	20.5	-	28
	V1000LA	-	(0.0512)	-	(0.689)	-	(0.807)	-	(1.102)
ØD	All	-	9 (0.354)	-	12.5 (0.492)	-	17 (0.669)	-	23 (0.906)
e	All	4 (0.157)	6 (0.236)	6.5 (0.256)	8.5 (0.335)	6.5 (0.256)	8.5 (0.335)	6.5 (0.256) (Note 2)	8.5 (Note 2)
e <sub>1</sub>	V130LA-	1.5	3.5	1.5	3.5	1.5	3.5	1.5	3.5
	V320LA	(0.059)	(0.138)	(0.059)	(0.138)	(0.059)	(0.138)	(0.059)	(0.138)
	V385LA-	2.5	5.5	2.5	5.5	2.5	5.5	2.5	5.5
	V1000LA	(0.098)	(0.217)	(0.098)	(0.217)	(0.098)	(0.217)	(0.098)	(0.217)
E	V130LA-	-	5.6	-	5.6	-	5.6	-	5.6
	V320LA	-	(0.220)	-	(0.220)	-	(0.220)	-	(0.220)
	V385LA-	-	7.3	-	7.3	-	7.3	-	7.3
	V510LA	-	(0.287)	-	(0.287)	-	(0.287)	-	(0.287)
	V550LA-	-	8.3	-	8.3	-	8.3	-	8.3
	V680LA	-	(0.327)	-	(0.327)	-	(0.327)	-	(0.327)
	V1000LA	-	-	-	-	-	10.8 (0.425)	-	10.8 (0.425)
Øb	All (Note 3)	0.585 (0.023)	0.685 (0.027)	0.76 (0.030)	0.86 (0.034)	0.76 (0.030)	0.86 (0.034)	0.76 (0.030) (Note 2)	0.86 (0.034) (Note 2)
A <sub>TRIM</sub>	All	-	15 (0.591)	-	19.5 (0.768)	-	22.5 (0.886) (NOTE 4)	-	29.0 (1.142)
L <sub>TRIM</sub>	All	2.41 (0.095)	4.69 (0.185)	2.41 (0.095)	4.69 (0.185)	2.41 (0.095)	4.69 (0.185)	2.41 (0.095)	4.69 (0.185)

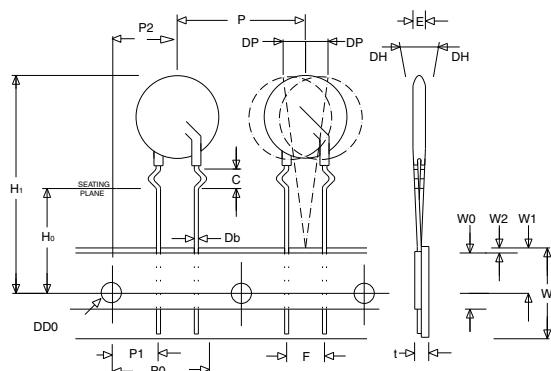
Notes :

1. Dimensions in millimeters, (inches) in parentheses.
2. 10mm (9mm Min. & 11mm Max.) ALSO AVAILABLE; see additional lead style options
3. 1000V parts supplied with lead wire of diameter 1.00 +/- 0.05 (0.039 +/- 0.002)
4. 'A' Max. for V1000LC80A (P) = 24.00 (0.945")

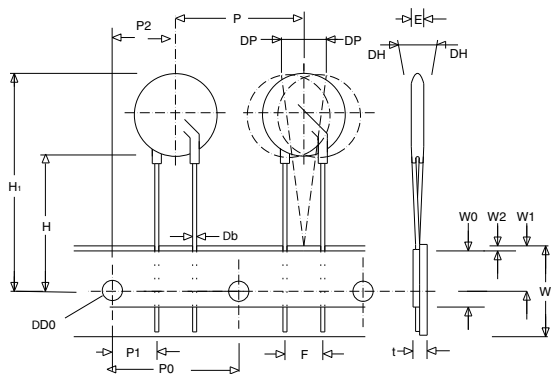
(Dimensions presented on following page.)

**7mm Devices**

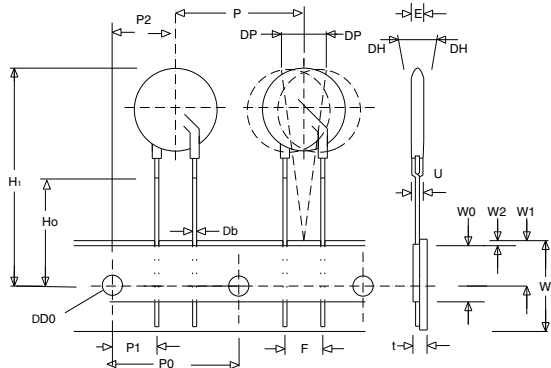
CRIMPED LEADS "LT"



STRAIGHT LEADS "LS"

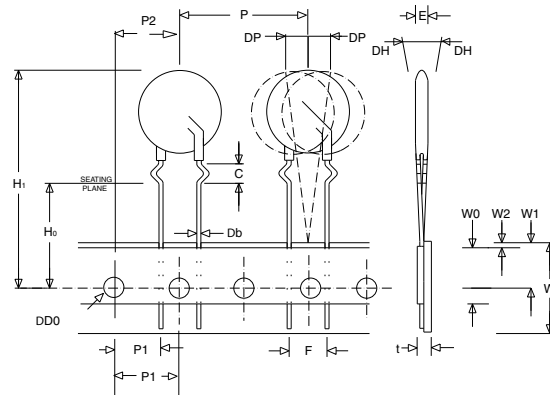


UNDER-CRIMPED LEADS "LU"

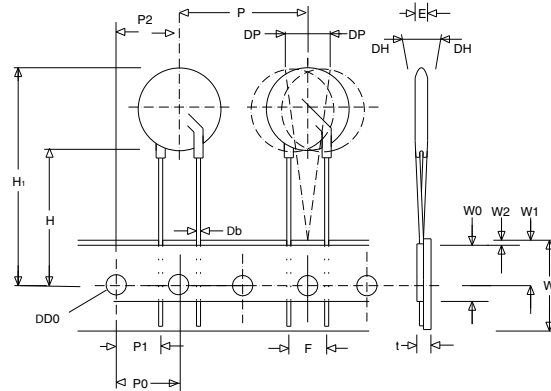


**10, 14 and 20mm Devices**

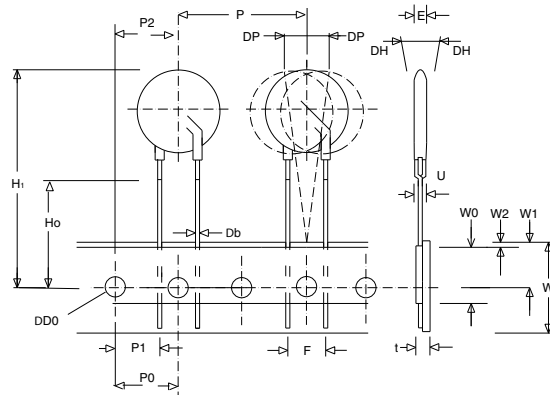
CRIMPED LEADS "LT"



STRAIGHT LEADS "LS"



UNDER-CRIMPED LEADS "LU"



**LA Series**

## Tape and Reel Specifications (continued)

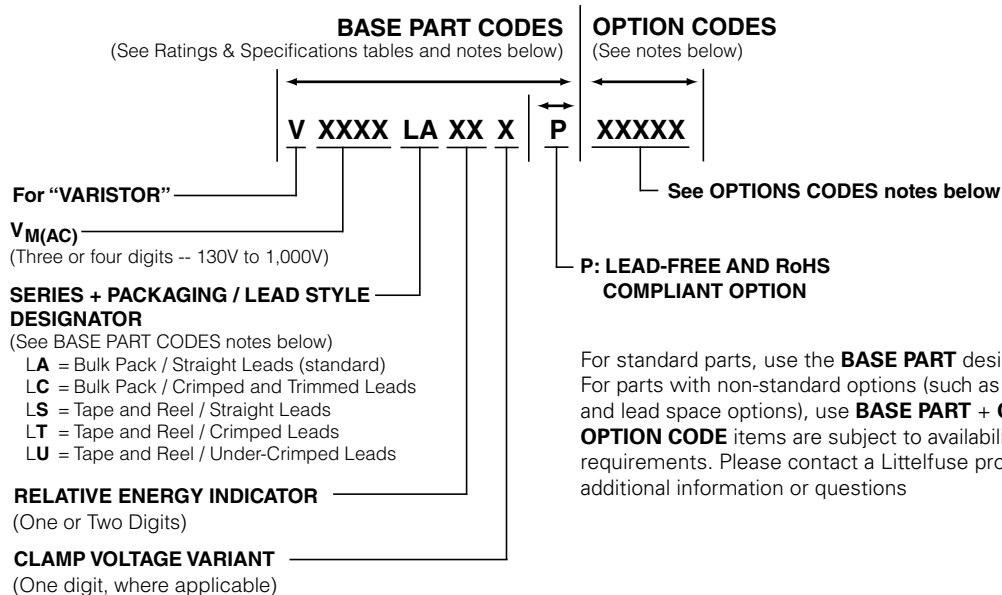
- Conforms to ANSI and EIA specifications
- Can be supplied to IEC Publication 286-2
- Radial devices on tape are supplied with crimped leads, straight leads, or under-crimped leads
- 7mm parts are available on tape and reel up to 480 VAC only
- 10mm parts are available on tape and reel up to 510 VAC only
- 14mm and 20mm parts are available on tape and reel up to 550 VAC only

Symbol	Description	Model Size			
		7mm	10mm	14mm	20mm
<b>P</b>	Pitch of Component	12.7 +/- 1.0	25.4 +/- 1.0	25.4 +/- 1.0	25.4 +/- 1.0
<b>P<sub>0</sub></b>	Feed Hole Pitch	12.7 +/- 0.2	12.7 +/- 0.2	12.7 +/- 0.2	12.7 +/- 0.2
<b>P<sub>1</sub></b>	Feed Hole Center to Pitch	3.85 +/- 0.7	8.85 +/- 0.7	8.85 +/- 0.7	8.85 +/- 0.7
<b>P<sub>2</sub></b>	Hole Center to Component Center	6.35 +/- 0.7	12.7 +/- 0.7	12.7 +/- 0.7	12.7 +/- 0.7
<b>F</b>	Lead to Lead Distance	5.0 +/- 0.8	7.5 +/- 0.8	7.5 +/- 0.8	7.5 +/- 0.8
<b>h</b>	Component Alignment	2.0 Max	2.0 Max	2.0 Max	2.0 Max
<b>W</b>	Tape Width	18.0 +1.0 / -0.5	18.0 +1.0 / -0.5	18.0 +1.0 / -0.5	18.0 +1.0 / -0.5
<b>W<sub>0</sub></b>	Hold Down Tape Width	12.0 +/- 0.3	12.0 +/- 0.3	12.0 +/- 0.3	12.0 +/- 0.3
<b>W<sub>1</sub></b>	Hole Position	9.0 +0.75 / -0.50	9.0 +0.75 / -0.50	9.0 +0.75 / -0.50	9.0 +0.75 / -0.50
<b>W<sub>2</sub></b>	Hold Down Tape Position	0.5 Max	0.5 Max	0.5 Max	0.5 Max
<b>H</b>	Height from Tape Center to Component Base	18.0 +2.0 / -0.0	18.0 +2.0 / -0.0	18.0 +2.0 / -0.0	18.0 +2.0 / -0.0
<b>H<sub>0</sub></b>	Seating Plane Height	16.0 +/- 0.5	16.0 +/- 0.5	16.0 +/- 0.5	16.0 +/- 0.5
<b>H<sub>1</sub></b>	Component Height	32.0 Max	36.0 Max	40.0 Max	46.5 Max
<b>D<sub>0</sub></b>	Feed Hole Diameter	4.0 +/- 0.2	4.0 +/- 0.2	4.0 +/- 0.2	4.0 +/- 0.2
<b>T</b>	Total Tape Thickness	0.7 +/- 0.2	0.7 +/- 0.2	0.7 +/- 0.2	0.7 +/- 0.2
<b>U</b>	Under-crimp Width	8.0 Max	8.0 Max	8.0 Max	8.0 Max
<b>P</b>	Component Alignment	3° Max 1.00mm	3° Max 1.00mm	3° Max 1.00mm	3° Max

NOTE: Dimensions are in mm.

## Standard Bulk Pack Quantity

Varistor Voltage Model	Standard Bulk Pack Quantity			
	Varistor Model Size			
	7mm	10mm	14mm	20mm
130-275	1500	1000	700	500
300-460	1500	1000	600	400
510-625	1500	1000	500	400
660	N/A	1000	500	400
680	N/A	1000	400	300
1000	N/A	N/A	300	200



For standard parts, use the **BASE PART** designator only.  
For parts with non-standard options (such as additional form, packaging and lead space options), use **BASE PART + OPTION CODE**.  
**OPTION CODE** items are subject to availability and minimum order requirements. Please contact a Littelfuse products representative for additional information or questions

## Ordering Notes:

### BASE PART CODES:

#### Series + Packaging / Lead Style Designators:

Ordering examples:

Straight Lead Bulk Pack (standard)	Straight Lead Tape & Reel	Crimped Lead Tape & Reel	Crimped & Trimmed Lead Bulk Pack	Under-Crimp Lead Tape & Reel
V130LA2	V130LS2	V130LT2	V130LC2	V130LU2

Crimped leads are standard on LA Series varistors supplied in tape and reel, denoted with "LT." For crimped leads without trimming and any variations other than that described above, please contact Littelfuse.

#### Lead-free / RoHS Designator:

For Lead-free and RoHS compliant parts add "P" after the BASE PART number and before any other OPTION CODE:

Standard Model	Order As
V130LA2	V130LA2P

Standard Model with Option	Order As
V420LA20AX1347	V420LA20APX1347

### OPTION CODES:

#### X10: 10MM LEAD SPACING OPTION --

For 10 (-/+1) mm lead spacing (available on 20mm diameter models only), append standard model BASE PART number with "X10." Example:

Standard Model	Order As
V130LA20A	V130LA20AX10

#### X2855: Nickel Barrier COATED WIRE OPTION --

All standard parts use Tin-coated Copper wire. Nickel Barrier coated wire is available as an option, consisting of Copper wire with a flashing of Nickel followed by a top coating of Tin. To order append standard model BASE PART number with "X2855." Example:

Standard Model	Order As
V130LA20A	V130LA20AX2855

Littelfuse LA Series varistors are shipped standard in bulk pack with straight leads and lead spacing outlined in the Package Dimensions section of this data sheet. Contact your Littelfuse sales representative to discuss non-standard options.