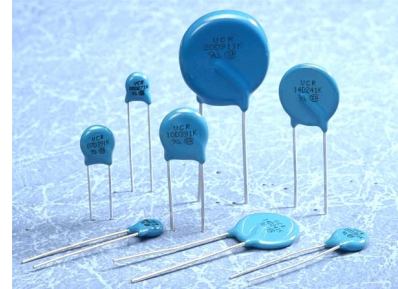


INTRODUCTION

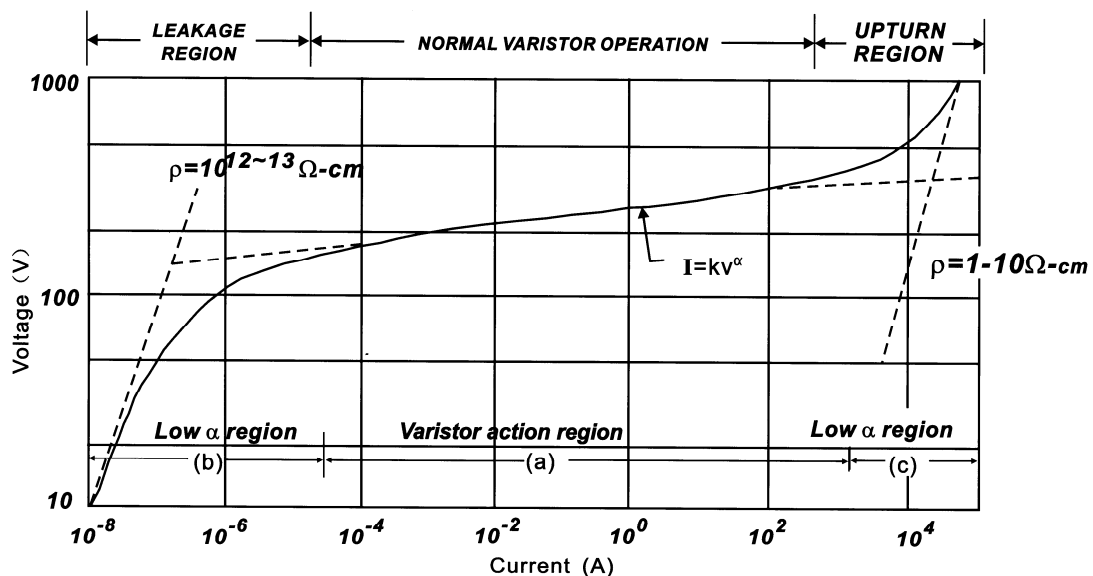
"VCR" Varistor is from 18VDC to 1800VDC and they have been recognized by UL CUL and VDE.

VCR VARISTORS applications:

- * Power Supplies
- * Ground Fault Interrupters
- * Communication Equipments
- * Cable TV Systems
- * Motor Control Systems
- * Microprocessor protections
- * AC Operated Smoke Detectors
- * Surge Protection in consumer electronics
- * Surge Protection in measuring and controller systems
- * Surge Protection in industrial electronics
- * Surge Protection in electronic home appliances
- * Protection against transients induced by lightning on incoming power lines
- * Suppressor of transients caused by switching inductive loads:
transformers, relays, coils.



VCR Varistor is a polycrystalline ceramic body consisting of semi-conducting zinc-oxide (ZnO) grains and second phase (Including) Bi_2O_3 , Sb_2O_3 , MnO , CoO , etc) Located at the joints of the grains, it's called varistor (Variable resistor), surge absorber of TVS (Transient voltage suppressor) because of its electrical resistance varies nonlinearly with the voltage applied to it's terminals.



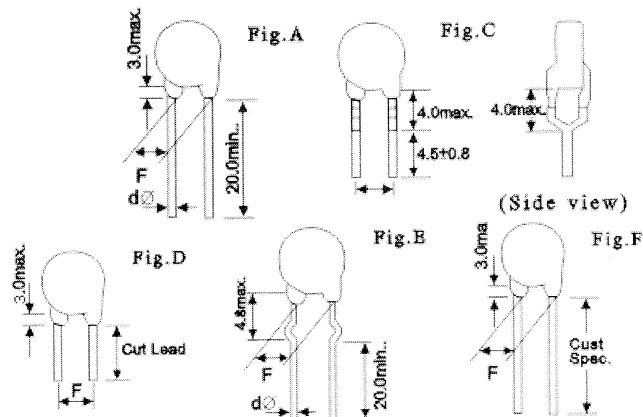
Typical Varistor V-I Curve

PART NUMBER DESIGNATION :

VCR – 10	D	241	K	A	R																																			
<table border="1"> <tr><td>Comment Code VCR</td><td>Element Dia</td></tr> <tr><td>Metal</td><td>05 5mm</td></tr> <tr><td>Oxide</td><td>07 7mm</td></tr> <tr><td>Varistor</td><td>10 10mm</td></tr> <tr><td>Surge</td><td>14 14mm</td></tr> <tr><td>Absorber</td><td>20 20mm</td></tr> <tr><td></td><td>25 25mm</td></tr> </table>	Comment Code VCR	Element Dia	Metal	05 5mm	Oxide	07 7mm	Varistor	10 10mm	Surge	14 14mm	Absorber	20 20mm		25 25mm	<table border="1"> <tr><td>Disc Type</td></tr> <tr><td>D Disc</td></tr> <tr><td>S Square</td></tr> </table>	Disc Type	D Disc	S Square	<table border="1"> <tr><td>Varistor Voltage</td></tr> <tr><td>The first 2 digits are significant figures and the third one denotes the number of zeros following decimal point is expressed by R.</td></tr> <tr><td>Examples:</td></tr> <tr><td>240 $24 \times 10^0 = 24V$</td></tr> <tr><td>241 $24 \times 10^1 = 240V$</td></tr> </table>	Varistor Voltage	The first 2 digits are significant figures and the third one denotes the number of zeros following decimal point is expressed by R.	Examples:	240 $24 \times 10^0 = 24V$	241 $24 \times 10^1 = 240V$	<table border="1"> <tr><td>Tolerance</td></tr> <tr><td>K $\pm 10\%$</td></tr> <tr><td>L $\pm 15\%$</td></tr> <tr><td>M $\pm 20\%$</td></tr> <tr><td>Or customer special requirement</td></tr> </table>	Tolerance	K $\pm 10\%$	L $\pm 15\%$	M $\pm 20\%$	Or customer special requirement	<table border="1"> <tr><td>Additional code</td></tr> <tr><td>J: High Surge</td></tr> <tr><td>H: Highergy</td></tr> <tr><td>Blank: Regular type</td></tr> </table>	Additional code	J: High Surge	H: Highergy	Blank: Regular type	<table border="1"> <tr><td>*Lead style</td></tr> <tr><td>B Bulk</td></tr> <tr><td>A Ammo</td></tr> <tr><td>R Reel</td></tr> </table>	*Lead style	B Bulk	A Ammo	R Reel
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* Lead Style

Fig.	Configuration
A	Straight Long
C	Vertical Crimped
D	Straight Short
E	Outside Crimped Long
F	Cust. Spec.(Over 25mm)



For specification not shown, pls contact us for information.

* Quantity & Measure: (包裝方式及數量)

A. Bulk Packaging:

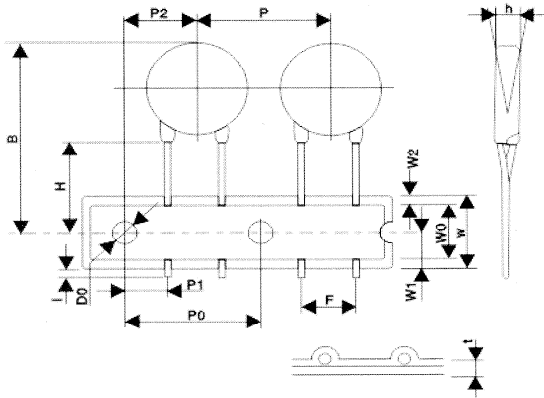
Series	Measure Quantity	Min. pcs per Plastic bag
07D	1000	
10D	500	
14D	500	
20D	180K-471K	250
	511K~	200
25D	200	

B: Taping Packaging:

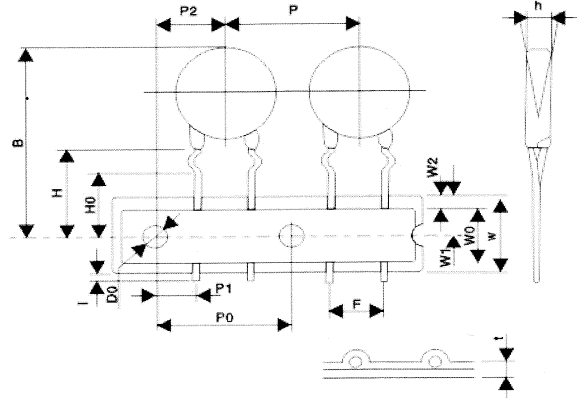
Packing	Dimensions in mm	Series	Quantity(pcs)	
Ammo		05D、07D	180L-471K	1500
			511K-182K	1000
		10D	180L-561K	1000
			621K-182K	500
		14D	180L-561K	500
			621K-182K	400
20D	180L~	500		
Reel		05D	180L-511K	2000
			561K~	1500
		07D	180L-471K	2000
			511K~	1500
		10D	180L-681K	1000
			751K~	750
		14D	180L-561K	750
			621K~	500
20D	180L~	500		

TAPING SPECIFICATION

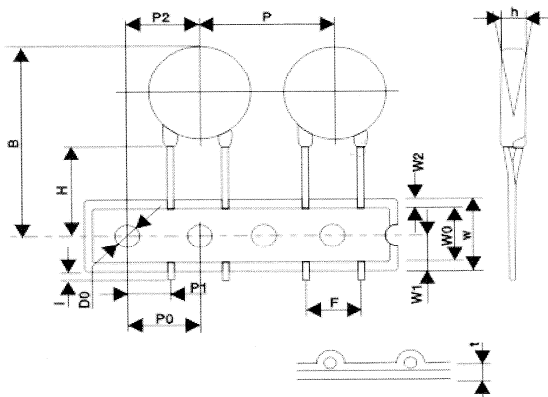
Straight Leads (05D, 07D, 10D(Old))



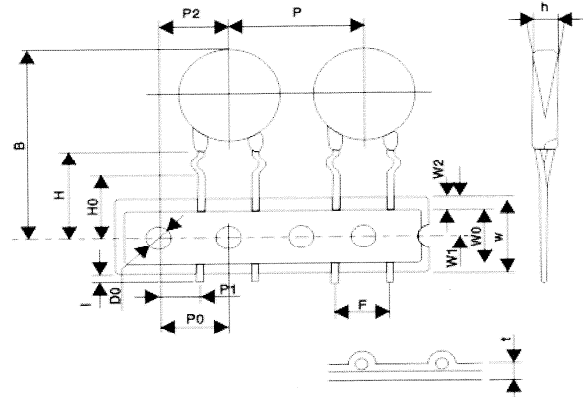
Crimped Leads (05D, 07D, 10D(Old))



Straight Leads (10D(New), 14D, 20D)



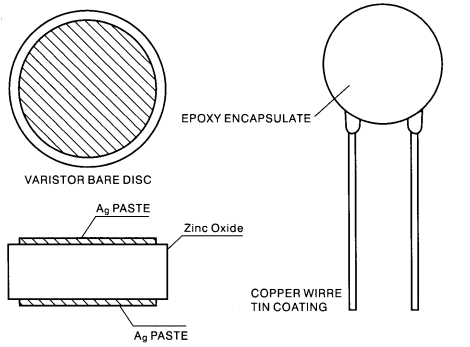
Crimped Leads (10D(New), 14D, 20D)



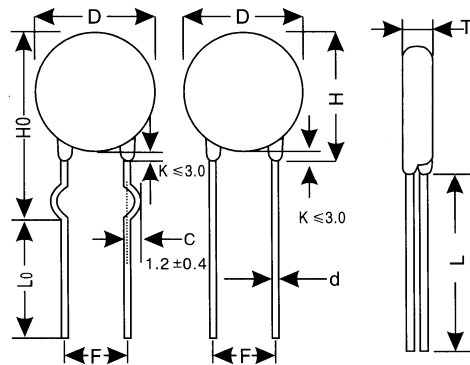
Symbol	Parameter	Series					
		05D	07D	10D (New)	10D (Old)	14D	20D
P	Pitch of Component	12.7 ± 1.0	12.7 ± 1.0	12.7 ± 1.0	15.0 ± 1.0	25.4 ± 1.0	25.4 ± 1.0
P0	Feed Hole Pitch	12.7 ± 0.3	12.7 ± 0.3	12.7 ± 0.5	15.0 ± 0.3	12.7 ± 1.0	12.7 ± 1.0
P1	Feed Hole Center to Lead	3.85 ± 0.7	3.85 ± 0.7	8.55 ± 0.7	3.75 ± 0.7	8.95 ± 0.7	7.7 ± 0.7
P2	Hole Center to Component Center	6.35 ± 1.3	6.35 ± 1.3	12.7 ± 1.3	7.5 ± 1.3	12.7 ± 1.3	12.7 ± 1.3
F	Lead to Lead Distance	5.0 ± 0.8	5.0 ± 0.8	7.5 ± 0.8	7.5 ± 0.8	7.5 ± 0.8	10.0 ± 0.8
h	Component Alignment	0 ± 2	0 ± 2	0 ± 2	0 ± 2	0 ± 4	0 ± 4
W	Tape Width	18.0 ± 1.0	18.0 ± 1.0	18.0 ± 1.0	18.0 ± 1.0	18.0 ± 1.0	18.0 ± 1.0
W0	Hold Down Tape Width	12.0 ± 1.0	12.0 ± 1.0	12.0 ± 1.0	12.0 ± 1.0	12.0 ± 1.0	12.0 ± 1.0
W1	Hold Position	9.0 ± 0.5	9.0 ± 0.5	9.0 ± 0.5	9.0 ± 0.5	9.0 ± 0.5	9.0 ± 0.5
W2	Hold Down Tape Position	3.0max	3.0max	3.0max	3.0max	3.0max	3.0max
H0	Height from Tape Center to Component	16.0 ± 1.0	16.0 ± 1.0	16.0 ± 1.0	16.0 ± 1.0	16.0 ± 1.0	16.0 ± 1.0
H	Height from Tape Center to Component	20.0 ± 2.0	20.0 ± 2.0	20.0 ± 2.0	20.0 ± 2.0	20.0 ± 2.0	20.0 ± 2.0
l	Length of Clipped Lead	1.0max	1.0max	1.0max	1.0max	1.0max	1.0max
D0	Feed Hole Diameter	4.0 ± 0.2	4.0 ± 0.2	4.0 ± 0.2	4.0 ± 0.2	4.0 ± 0.2	4.0 ± 0.2
t	Total Tape Thickness	0.6 ± 0.3	0.6 ± 0.3	0.6 ± 0.3	0.6 ± 0.3	0.6 ± 0.3	0.6 ± 0.3
B	Height from Tape Center to Component	32max	32max	36max	36max	40max	45max

UNIT: mm

Materials T Thickness (max) (Unit: mm)



DIMENSION



L0: 15mm min L: 20mm min

Part Code	05D	07D	10D	14D	20D	25D
180L	4.5	4.5	4.6	4.6	4.8	4.8
220K	4.6	4.6	4.7	4.7	4.9	4.9
270K	4.7	4.7	4.8	4.8	5.0	5.0
330K	4.9	4.9	5.0	5.0	5.2	5.2
390K	4.8	4.8	5.3	5.3	5.5	5.5
470K	4.9	4.9	5.4	5.4	5.6	5.6
560K	5.0	5.0	5.5	5.5	5.7	5.7
680K	5.2	5.2	5.6	5.6	5.8	5.8
820K	4.1	4.1	4.7	4.7	4.9	4.9
101K	4.3	4.3	4.9	4.9	5.1	5.1
121K	4.5	4.5	5.1	5.1	5.3	5.3
151K	4.8	4.8	5.4	5.4	5.6	5.6
181K	4.3	4.3	4.8	4.8	5.0	5.2
201K	4.4	4.4	5.0	5.0	5.2	5.4
221K	4.5	4.5	5.1	5.1	5.3	5.5
241K	4.6	4.6	5.2	5.2	5.4	5.6
271K	4.9	4.9	5.4	5.4	5.6	5.8
301K	5.0	5.0	5.5	5.5	5.7	5.9
331K	5.1	5.1	5.8	5.8	6.0	6.1
361K	5.2	5.2	6.0	6.0	6.2	6.4
391K	5.4	5.4	6.2	6.2	6.4	6.6
431K	5.7	5.7	6.5	6.5	6.7	6.9
471K	6.0	6.0	6.7	6.7	6.9	7.1
511K	6.2	6.2	6.8	6.8	7.0	7.2
561K	6.5	6.5	7.0	7.0	7.2	7.4
621K	-	7.1	7.3	7.3	7.5	7.7
681K	-	7.3	7.6	7.6	7.8	8.0
751K	-	-	8.0	8.0	8.2	8.4
781K	-	-	8.1	8.1	8.3	8.5
821K	-	-	8.3	8.3	8.5	8.7
911K	-	-	8.8	8.8	9.0	9.2
102K	-	-	9.3	9.3	9.5	9.7
112K	-	-	9.9	9.9	10.1	10.3
122K	-	-	-	10.4	10.6	11.8
182K	-	-	-	13.0	13.2	15.2

Size	MAX			d ±0.05	F	C ±0.4
	D	H	H0			
05D	7.5	10.5	13	0.6	5 ± 0.8	1.2
07D	9	12	13.5	0.6	5 ± 0.8	
10D	12.5	16.5	17.5	0.8	7.5 ± 0.8	1.4
14D	16.5	20	21	0.8	7.5 ± 0.8	
20D	23	26.5	28	0.8	7.5 ± 0.8	1.4
				1.0	10 ± 1.0	1.6
25D	28	32	34	1.0	10 ± 1.0	1.6
					12.7 ± 1.0	

*Or per customer request.