



Micro Commercial Components  
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# 182KD10 thru 180LD10

## Features

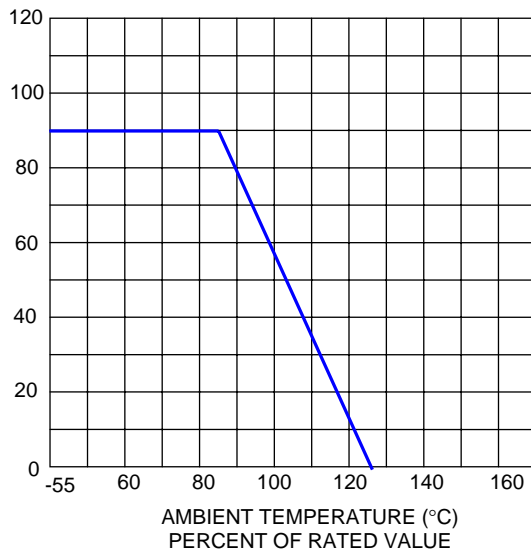
- Radial-Lead Varistor
- Designed to be Operated Continuously Across AC Power Lines
- No Derating Up to 85°C Ambient
- Available in Tape and Reel or Bulk Pack
- UL Recognized File # E171541

**10 to 1000 Volts  
 Varistor  
 3 to 250 Joule**

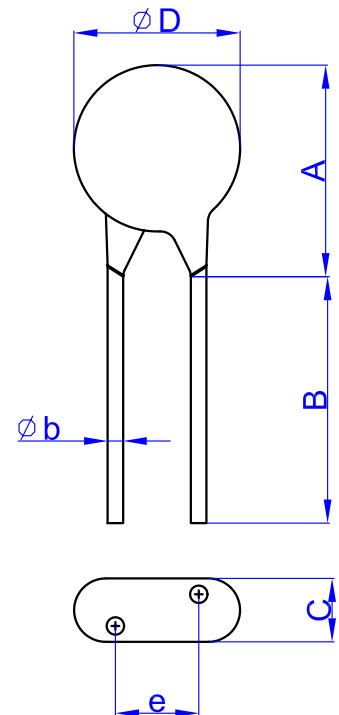
## Maximum Ratings

- Operating Ambient Temperature Range: -55°C to +85°C
- Storage Temperature Range: -55°C to +125°C
- Temperature Coefficient ( $\alpha V$ ) of Clamping Voltage ( $V_C$ ) at Specified Test Current: <0.05%/°C
- Varistor voltage temperature coefficient:

$$\frac{V_b \text{ at } 20^\circ\text{C} - V_b \text{ at } 70^\circ\text{C}}{V_b \text{ at } 20^\circ\text{C}} \times \frac{1}{50} \times 100 (\% / ^\circ\text{C})$$



CURRENT, ENERGY AND POWER DERATING CURVE



DIM	DIMENSIONS				NOTE
	INCHES		MM		
D	---	.512	---	13.00	
A	---	.630	---	16.00	
d	.030	.034	0.75	0.85	
e	.264	.327	6.70	8.30	
B	.787	---	20.00	---	
C	See note 2				

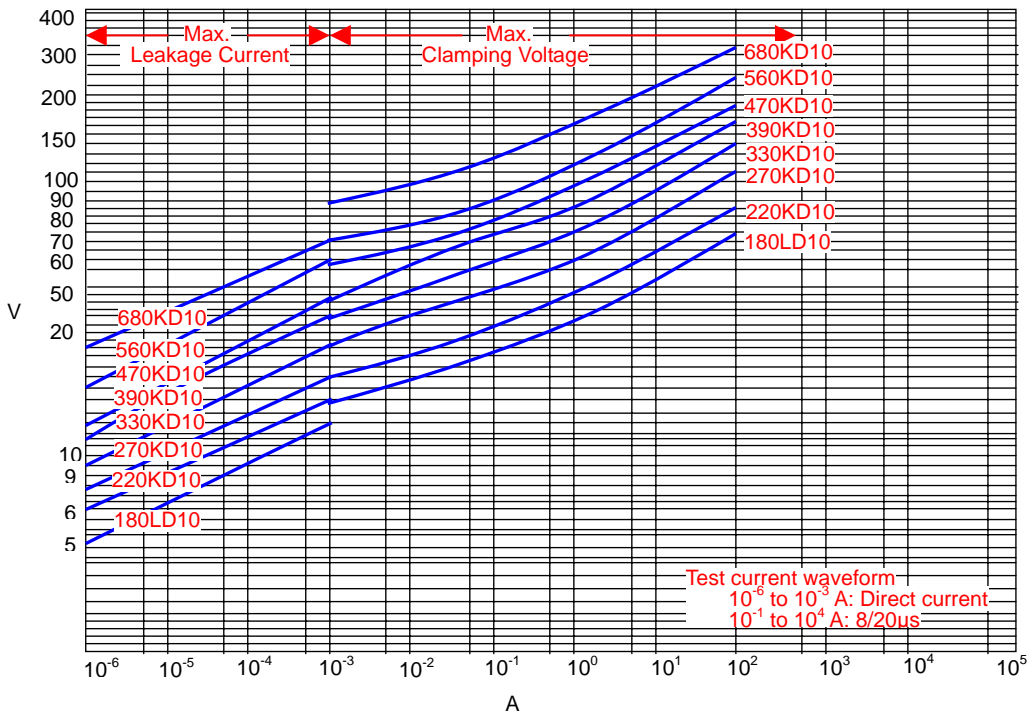
**Electrical Characteristics @ 25°C Unless Otherwise Noted**

Part Number	Maximum Allowable Voltage		Maximum Energy		Withstanding Surge Current		Rated Wattage	Varistor Voltage	Maximum Clamping Voltage
	Acrcms (V)	DC (V)	8/20 μ s (J)	10/1000us (J)	1time	2times			
					(A)		(W)	V1mA (V)	V25A (V)
182KD10	1000	1465	250	250	3500	2500	0.4	1800(1620-1980)	2970
112KD10	680	895	155	155				1100(990-1210)	1815
102KD10	625	825	140	140				1000(900-1100)	1650
911KD10	550	745	133	133				910(819-1001)	1500
821KD10	510	670	125	125				820(738-902)	1355
781KD10	485	640	125	125				780(702-858)	1290
751KD10	460	615	125	125				750(675-825)	1240
681KD10	420	560	102	102				680(612-748)	1120
621KD10	385	505	102	102				620(558-682)	1025
561KD10	350	460	94	94				560(504-616)	920
511KD10	320	415	94	94				510(459-561)	845
471KD10	300	385	94	94				470(423-517)	775
431KD10	275	350	88	88				430(387-473)	710
391KD10	250	320	81	81				390(351-429)	650
361KD10	230	300	74	74				360(324-396)	595
331KD10	210	275	69	69				330(297-363)	550
301KD10	190	250	63	63				300(270-330)	505
271KD10	175	225	57	57				270(243-297)	455
241KD10	150	200	50	50				240(216-264)	395
221KD10	140	180	46	46				220(198-242)	360
201KD10	130	170	42	42				200(180-220)	330
181KD10	115	150	38	38				180(162-198)	300
151KD10	95	125	25	25				150(135-165)	250
121KD10	75	100	21	21				120(108-132)	200
101KD10	60	85	18	18				100(90-110)	165
820KD10	50	65	17	17				82(74-90)	135
680KD10	40	56	15	15				68(61-75)	*135
560KD10	35	45	13	13				56(50-62)	*110
470KD10	30	38	11	11				47(42-52)	*93
390KD10	25	31	9	9				39(35-43)	*77
330KD10	20	26	7	7				33(30-36)	*65
270KD10	17	22	6	6				27(24-30)	*53
220KD10	14	18	5	5				22(20-24)	*43
180LD10	10	14	3	3	18(15-21)	*38			

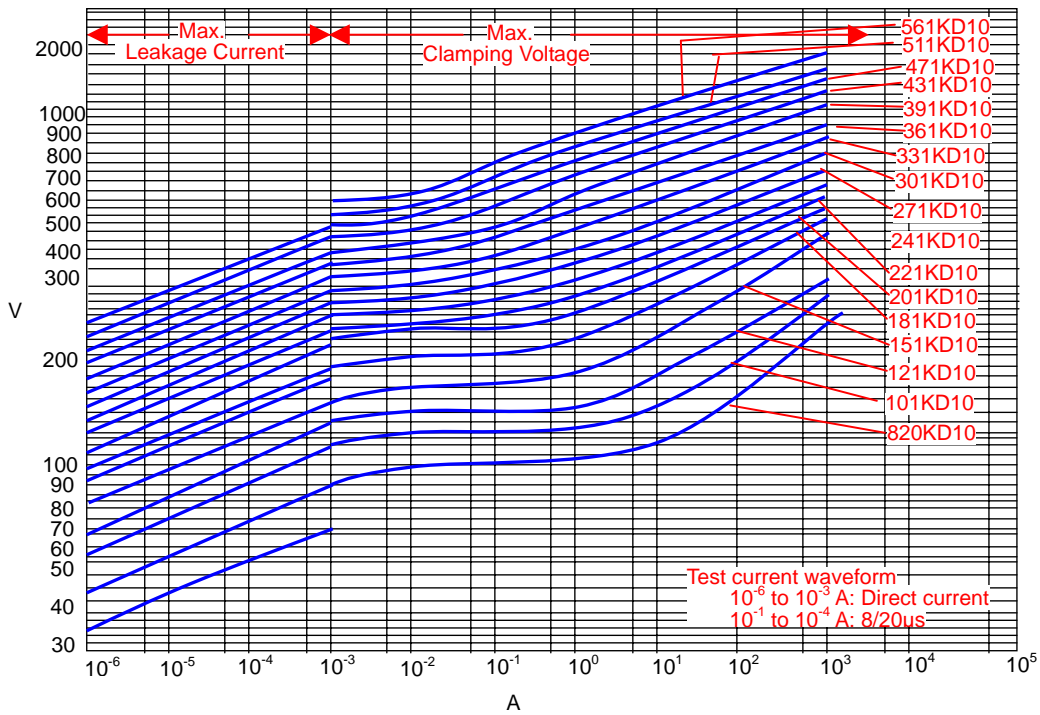
Note: The maximum current within the varistor voltage change of ± 10% with the standard impulse current (8/20 μ sec) applied one time.

\*680K-180L Max. Clamping Voltage testing current 5A.

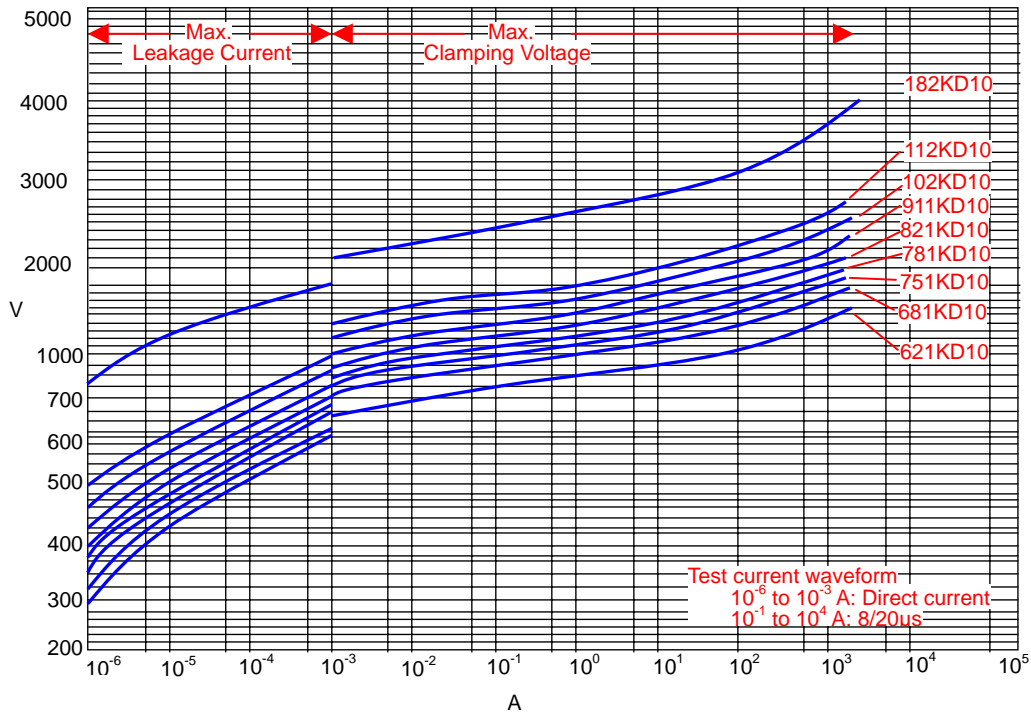
V-I Curve (180L to 680K)



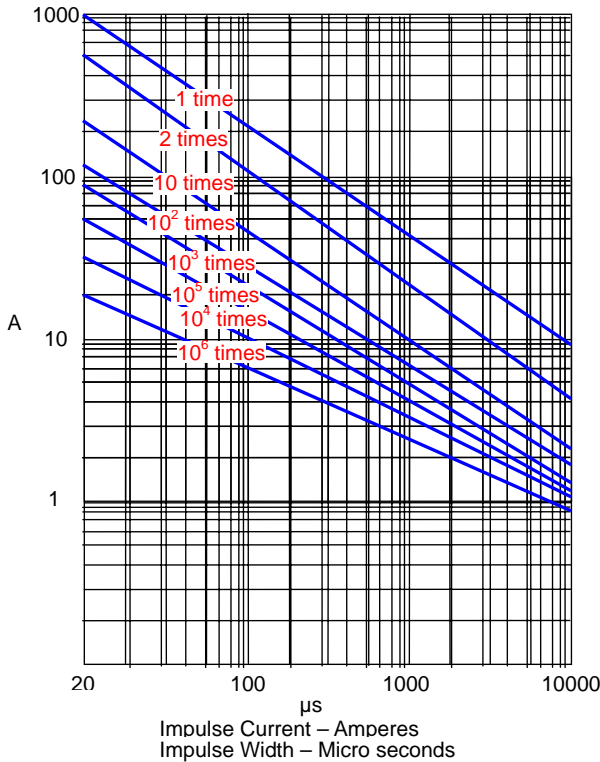
V-I Curve (820K to 561K)



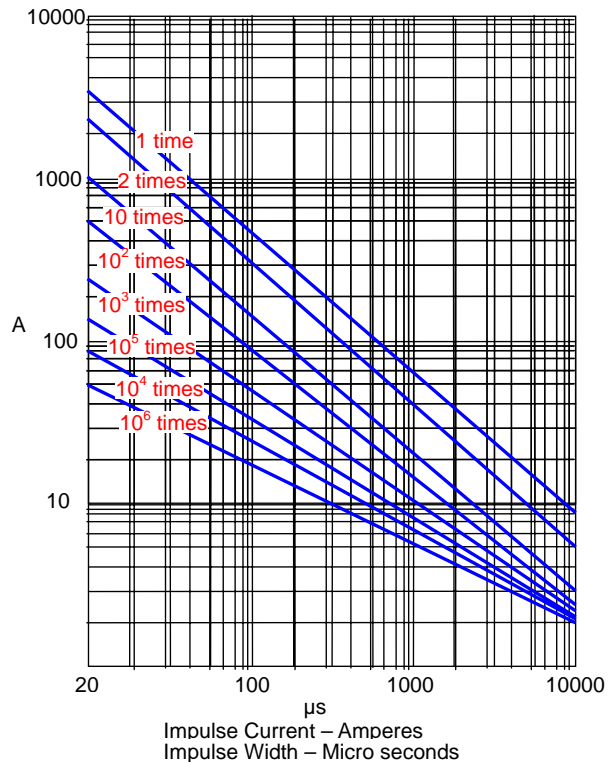
V-I Curve (621K to 182K)



V-I Surge Life Time Ratings (180L to 680K)



V-I Surge Life Time Ratings (820K to 182K)



Note 2.

T Thickness (max.)

Unit:mm

Part Code	D05	D07	D09	D10	D14	D18	D20
182K				12.5	12.5	12.5	15.6
152K				11	11	11	13.2
112K			7.5	8.5	8.5	8.5	10.1
102K			7.3	8.3	8.3	8.3	9.5
911K			7.1	8.1	8.1	8.1	9.0
821K		6.9	6.9	7.9	7.9	7.9	8.5
781K		6.7	6.7	7.7	7.7	7.7	8.4
751K	6.5	6.5	6.5	7.5	7.5	7.5	8.2
681K	6.4	6.4	6.4	7.1	7.1	7.1	7.8
621K	6.4	6.4	6.4	7.1	7.1	7.1	7.5
561K	6.2	6.2	6.2	6.7	6.7	6.7	7.0
511K	5.8	5.8	5.8	6.4	6.4	6.4	6.8
471K	5.6	5.6	5.6	6.1	6.1	6.1	6.6
431K	5.3	5.3	5.3	5.9	5.9	5.9	6.4
391K	5.1	5.1	5.1	5.7	5.7	5.7	6.2
361K	5.0	5.0	5.0	5.5	5.5	5.5	6.2
331K	4.8	4.8	4.8	5.3	5.3	5.3	5.9
301K	4.7	4.7	4.7	5.1	5.1	5.1	5.7
271K	4.5	4.5	4.5	5.0	5.0	5.0	5.6
241K	4.3	4.3	4.3	4.8	4.8	4.8	5.4
221K	4.2	4.2	4.2	4.7	4.7	4.7	5.3
201K	4.1	4.1	4.1	4.5	4.5	4.5	5.0
181K	4.1	4.1	4.1	4.5	4.5		5.0
151K	4.8	4.8	4.4	5.2	5.2		5.6
121K	4.5	4.5	4.1	4.9	4.9		5.3
101K	4.3	4.3	3.9	4.7	4.7		5.1
820K	4.1	4.1	3.8	4.5	4.5		4.9
680K	4.5	5.2	4.5	5.3	5.3		5.8
560K	4.5	5.0	4.4	5.1	5.1		5.7
470K	4.5	4.9	4.2	5.0	5.0		5.6
390K	4.5	4.8	4.0	4.9	4.9		5.5
330K	4.5	4.9	4.5	5.0	5.0		
270K	4.5	4.7	4.2	4.8	4.8		
220K	4.5	4.6	4.0	4.7	4.7		
180L	4.5	4.5	3.8	4.6	4.6		