



Micro Commercial Components
 20736 Marilla Street Chatsworth
 CA 91311
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182KD20 thru 180LD20

Features

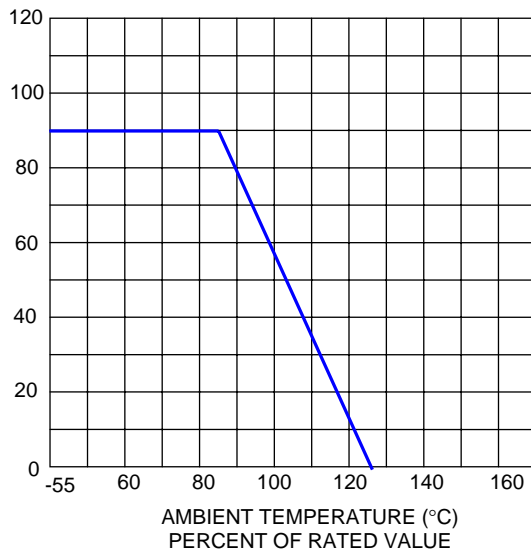
- Radial-Lead Varistor
- Designed to be Operated Continuously Across AC Power Lines
- No Derating Up to 85°C Ambient
- Available in Tape and Reel or Bulk Pack
- UL Recognized File # E171541

**11 to 1000 Volts
 Varistor
 13 to 860 Joule**

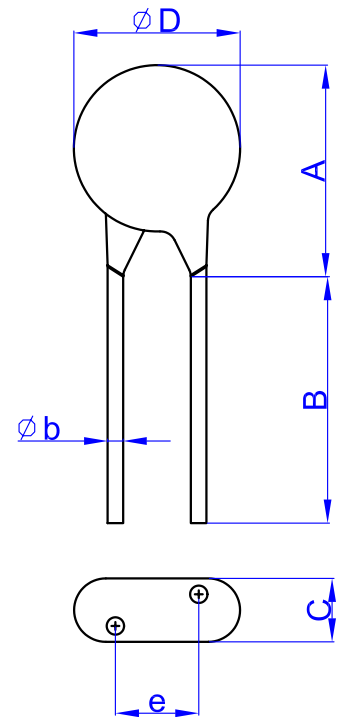
Maximum Ratings

- Operating Ambient Temperature Range: -55°C to +85°C
- Storage Temperature Range: -55°C to +125°C
- Temperature Coefficient (αV) 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	---	.984	---	25.00	
A	---	.102	---	28.00	
d	.030	.034	0.75	0.85	
	.037	.041	0.95	1.05	
e	.264	.327	6.70	8.30	
	.362	.425	9.20	10.80	
B	.787	---	20.00	---	
C	See note 2				

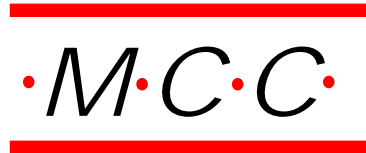


Electrical Characteristics @ 25°C Unless Otherwise Noted

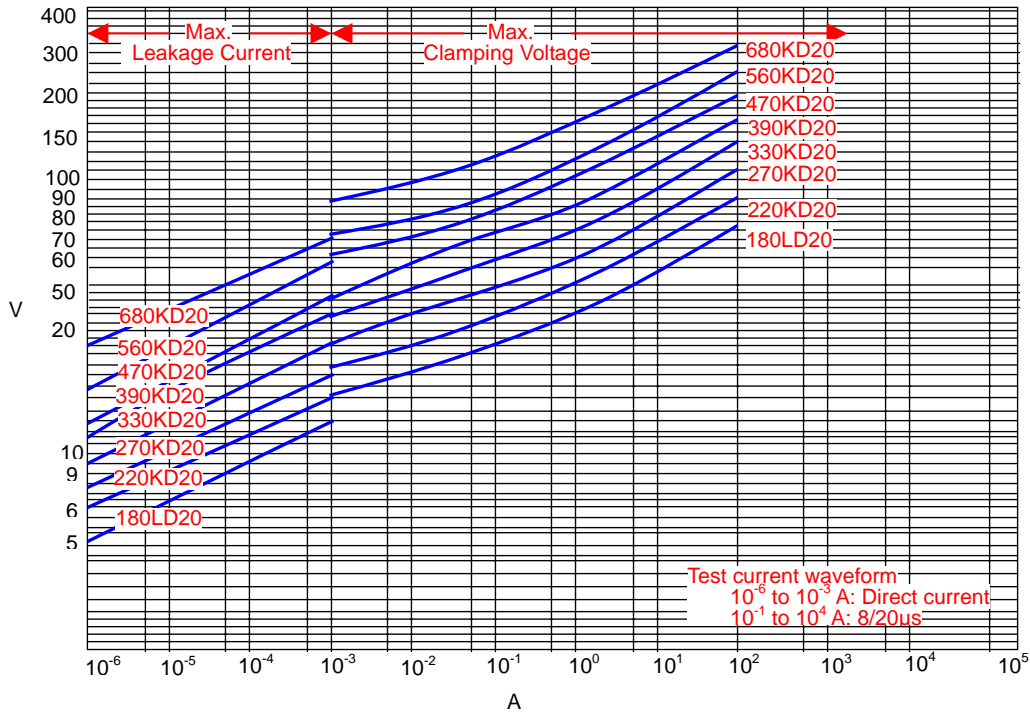
Part Number	Maximum Allowable Voltage		Maximum Energy		Withstanding Surge Current		Rated Wattage (W)	Varistor Voltage V1mA (V)	Maximum Clamping Voltage V100A (V)
	Acrms (V)	DC (V)	8/20 μ s (J)	10/1000us (J)	1time	2times			
					(A)				
182KD20	1000	1465	860	860	10000	7000	1.0	1800(1620-1980)	2970
152KD20	750	1300	780	780				1500(1350-1650)	2475
112KD20	680	895	620	620				1100(990-1210)	1815
102KD20	625	825	560	560				1000(900-1100)	1650
911KD20	550	745	510	510				910(819-1001)	1500
821KD20	510	670	460	460				820(738-902)	1355
781KD20	485	640	420	420				780(702-858)	1290
751KD20	460	615	420	420				750(675-825)	1240
681KD20	420	560	380	380				680(612-748)	1120
621KD20	385	505	380	380				620(558-682)	1025
561KD20	350	460	380	380				560(504-616)	920
511KD20	320	415	380	380				510(459-561)	845
471KD20	300	385	350	350				470(423-517)	775
431KD20	275	350	305	305				430(387-473)	710
391KD20	250	320	275	275				390(351-429)	650
361KD20	230	300	255	255				360(324-396)	595
331KD20	210	275	228	228				330(297-363)	550
301KD20	190	250	210	210				300(270-330)	505
271KD20	175	225	190	190				270(243-297)	455
241KD20	150	200	168	168				240(216-264)	395
221KD20	140	180	155	155				220(198-242)	360
201KD20	130	170	140	140				200(180-220)	330
181KD20	115	150	130	130				180(162-198)	300
151KD20	95	125	106	106				150(135-165)	250
121KD20	75	100	85	85				120(108-132)	200
101KD20	60	85	70	70				100(90-110)	165
820KD20	50	65	56	56				82(74-90)	135
680KD20	40	56	49	49				3000	2000
560KD20	35	45	41	41	56(50-62)	*110			
470KD20	30	38	34	34	47(42-52)	*93			
390KD20	25	31	28	28	39(35-43)	*77			
330KD20	20	26	24	24	33(30-36)	*65			
270KD20	17	22	19	19	27(24-30)	*53			
220KD20	14	18	16	16	22(20-24)	*43			
180LD20	11	14	13	13	18(15-21)	*38			

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

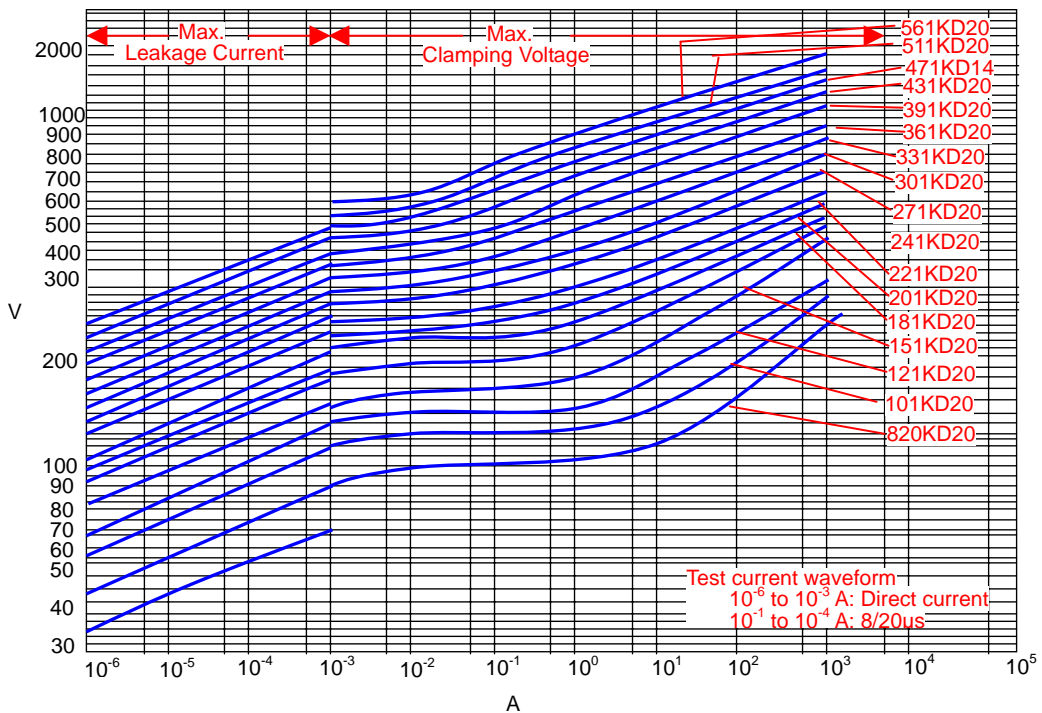
*680K-180L Max. Clamping Voltage testing current 20A.



V-I Curve (180L to 680K)

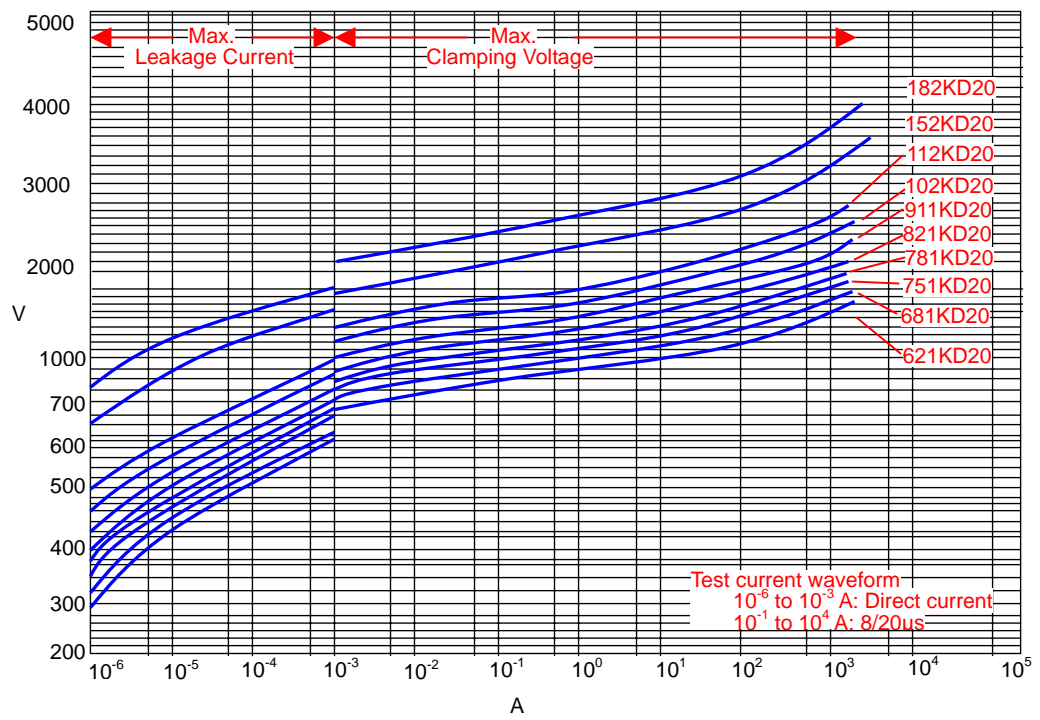


V-I Curve (820K to 561K)

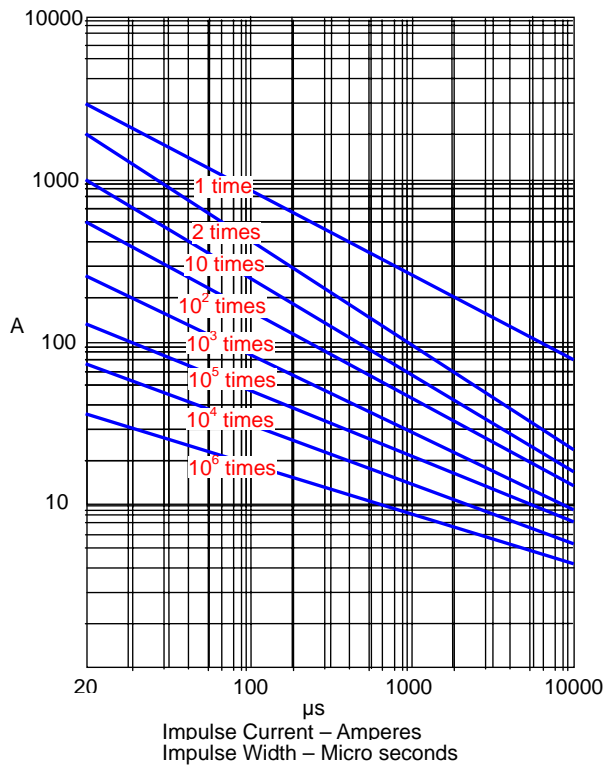




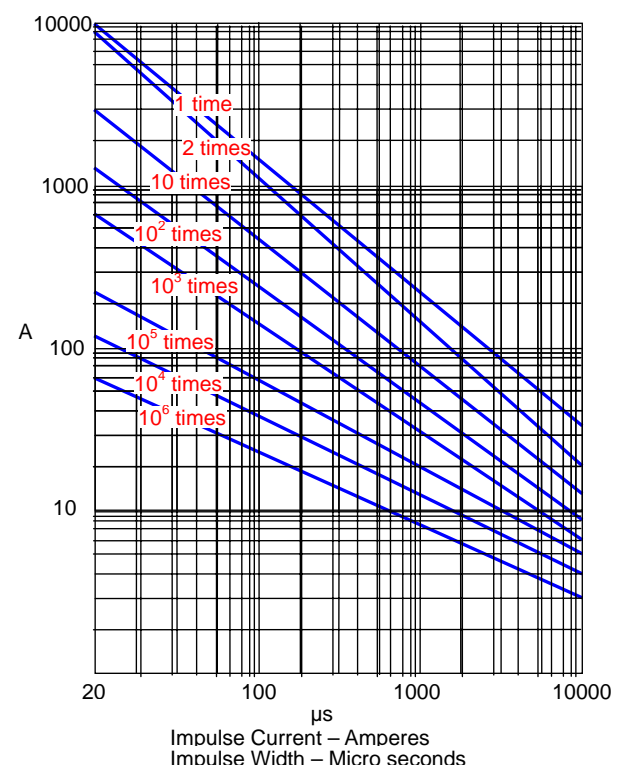
V-I Curve (621K to 182K)



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			