



Micro Commercial Components

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**821KD07NX\***  
 thru  
**8R0MD07NX\***

## Features

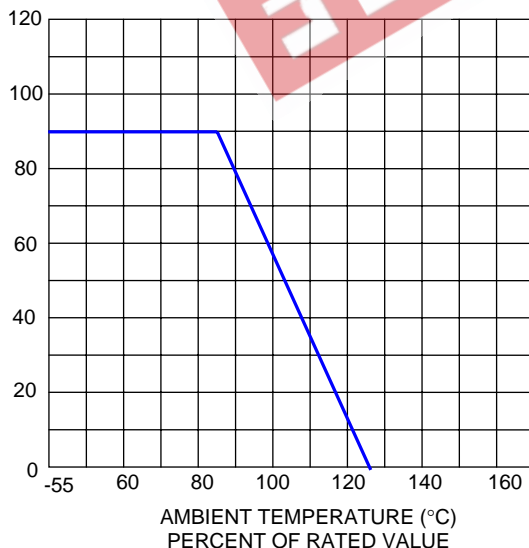
- Radial-Lead Varistor
- Designed to be Operated Continuously Across AC Power Lines
- No Derating Up to 85°C Ambient
- Available in Tape and Reel or Bulk Pack
- UL Recognized File # E306895(UL1449) and E306942(UL1414)

**4 to 510 Volts**  
**Varistor**  
**0.8 to 47 Joule**

## Maximum Ratings

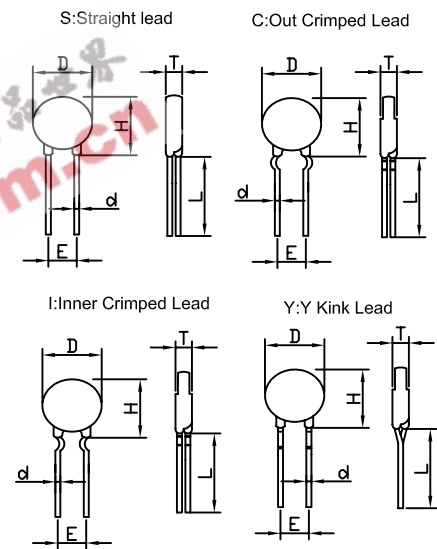
- Operating Ambient Temperature Range: -55°C to +85°C
- Storage Temperature Range: -55°C to +125°C
- Temperature Coefficient ( $\alpha V$ ) of Clamping Voltage ( $V_C$ ) at Specified Test Current: <0.05%/°C
- Varistor voltage temperature coefficient:

$$\frac{V_b \text{ at } 25^\circ\text{C} - V_b \text{ at } 85^\circ\text{C}}{V_b \text{ at } 25^\circ\text{C}} \times \frac{1}{60} \times (100/^\circ\text{C})$$



CURRENT, ENERGY AND POWER DERATING CURVE

Note : \* 'X' can be S, C, I or Y .  
 'S' denotes straight lead  
 'C' denotes out crimped lead  
 'I' denotes inner crimped lead  
 'Y' denotes kink lead



L: 20mm Min.

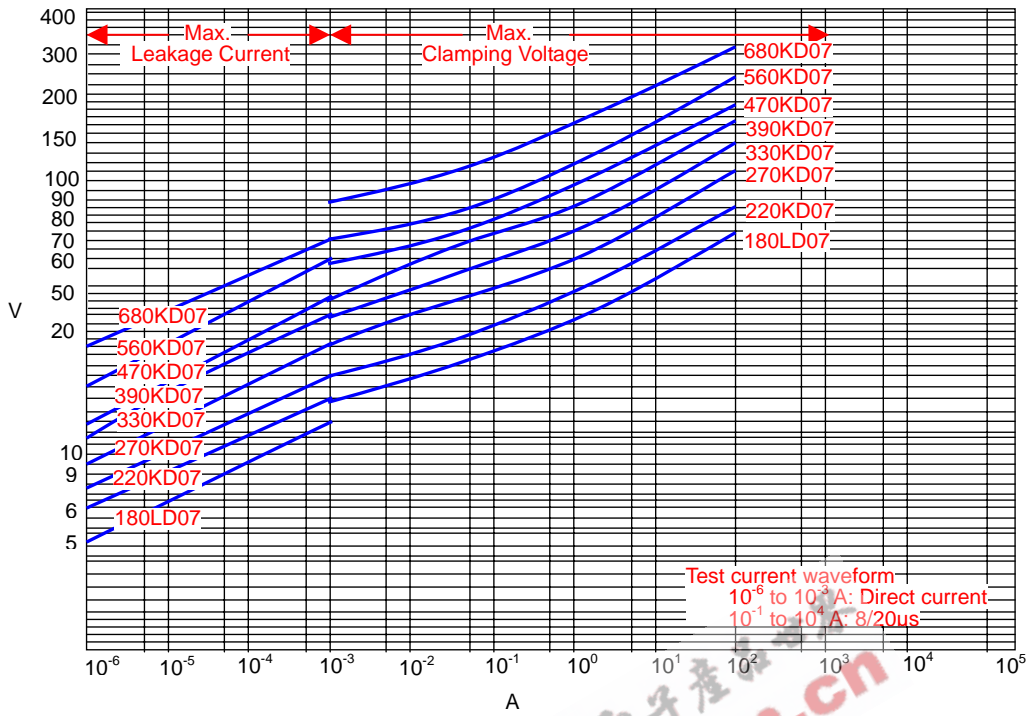
DIMENSIONS				Unit: mm	
Size	D max	H max		D± 0.05	E± 1.0
Lead	All	S	C/I/Y	All	All
05D	7.5	11	13	0.6	5
07D	9	13	15	0.6	5
10D	12.5	18	19.5	0.6	5
				0.8	7.5
14D	16.5	22	23	0.8	7.5
				1	10
20D	23	28	30	0.8	7.5
				1	10

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

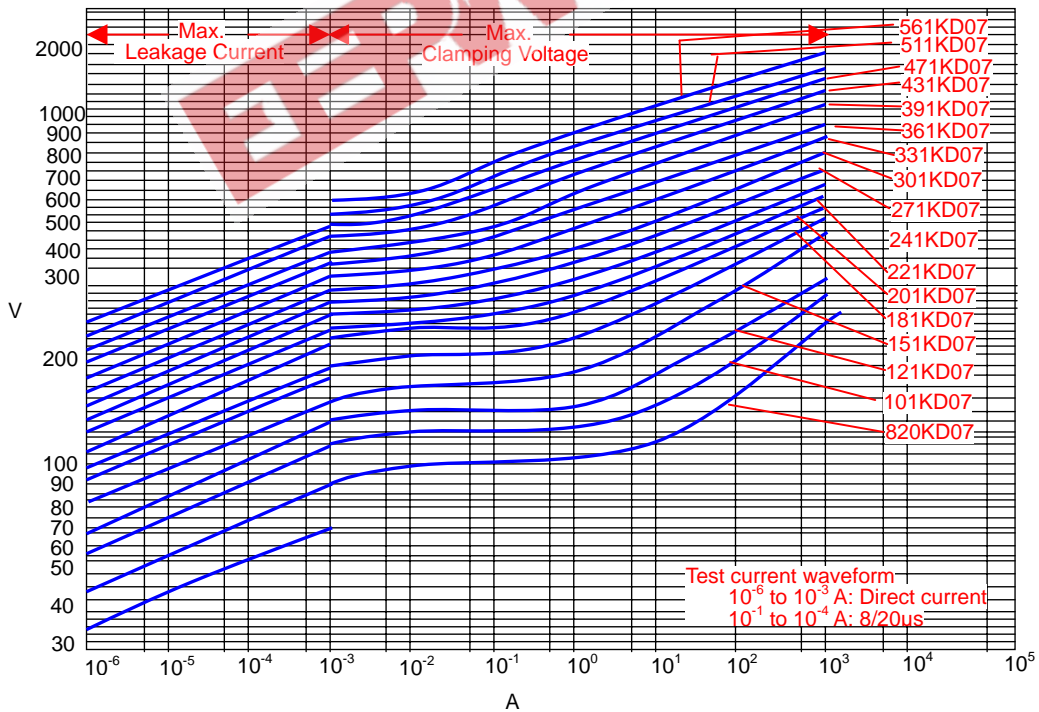
Part Number	Maximum Allowable Voltage		Maximum Energy	Withstanding Surge Current		Rated Wattage (W)	Varistor Voltage	Maximum Clamping Voltage
	ACrms	DC	10/1000us	1 time	2 times		V1mA	V10A
	(V)	(V)	(J)	(A)		(V)	(V)	
821KD07NX	510	670	47.0	1200	600	0.25	820(738-902)	1355
781KD07NX	485	640	46.0				780(702-858)	1290
751KD07NX	460	615	45.0				750(675-825)	1240
681KD07NX	420	560	43.0				680(612-748)	1120
621KD07NX	385	505	41.0				620(558-682)	1025
561KD07NX	350	460	39.0				560(504-616)	920
511KD07NX	320	418	37.0				510(459-561)	842
471KD07NX	300	385	35.0				470(423-517)	775
431KD07NX	275	350	33.0				430(387-473)	710
391KD07NX	250	320	30.0				390(351-429)	650
361KD07NX	230	300	26.0				360(324-396)	595
331KD07NX	210	275	23.0				330(297-363)	550
301KD07NX	195	250	21.0				300(270-330)	505
271KD07NX	175	225	19.8				270(243-297)	455
241KD07NX	150	200	16.8				240(216-264)	395
221KD07NX	140	180	15.5				220(198-242)	360
201KD07NX	130	170	14.3				200(185-225)	340
181KD07NX	115	150	13.0				180(162-198)	300
151KD07NX	95	125	11.0				150(135-165)	250
121KD07NX	75	100	8.0				120(108-132)	200
101KD07NX	60	85	7.0	100(90-110)	165			
820KD07NX	50	65	5.5	82(74-90)	135			
680KD07NX	40	56	4.3	250	125	0.02	68(61-75)	*135
560KD07NX	35	45	3.5				56(50-62)	*110
470KD07NX	30	38	3.0				47(42-52)	*93
390KD07NX	25	31	2.4				39(35-43)	*77
330KD07NX	20	26	2.2				33(30-36)	*65
270KD07NX	17	22	1.7				27(24-30)	*53
220KD07NX	14	18	1.4				22(20-24)	*43
180LD07NX	11	14	1.2				18(15-21)	*36
120MD07NX	6	8	1.0	125	60	0.02	12(9.6-14.4)	*30
8R0MD07NX	4	5.5	0.8				8(6.4-9.6)	*20

\*680K-8R0M Max. Clamping Voltage testing current 2.5A

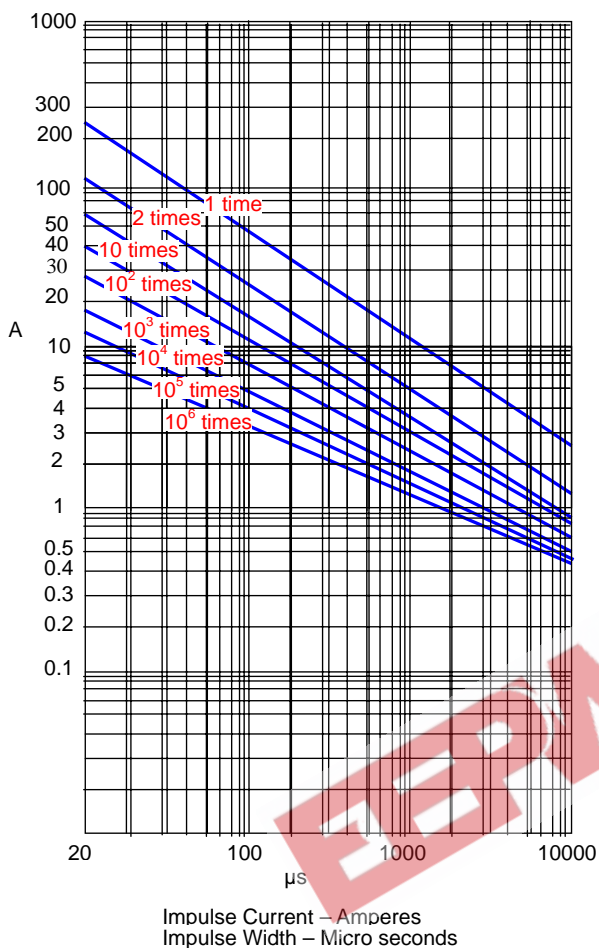
V-I Curve (180L to 680K)



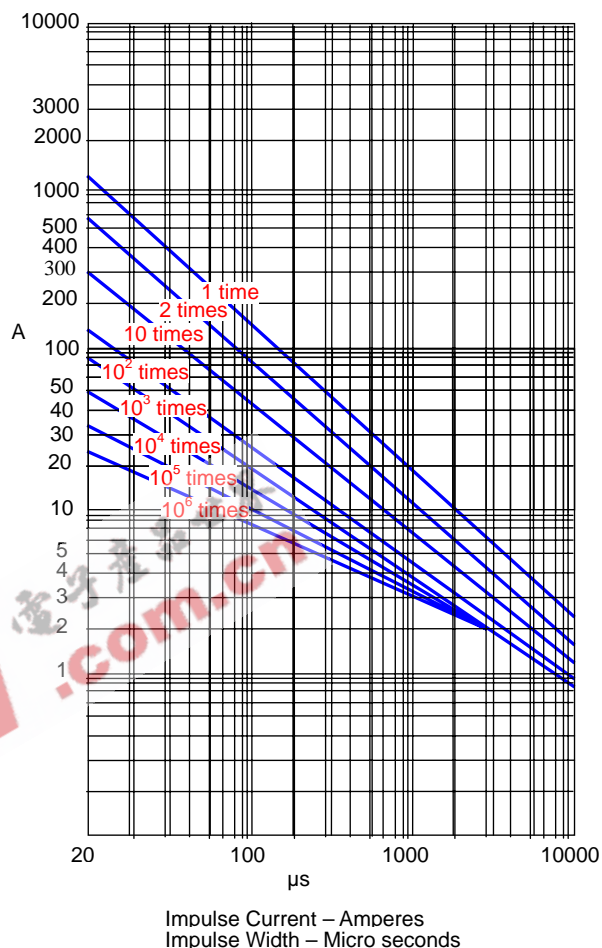
V-I Curve (820K to 561K)



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



V-I Surge Life Time Ratings  
 (820K to 821K)



Note 2.

T Thickness (max.) Unit:mm

Part Code	D05	D07	D10	D14	D20
182K			12.6	12.8	13.5
112K			10.5	10.7	11.2
102K			9.9	10.1	10.7
911K			9.4	9.6	10.1
821K		8.3	8.8	9.0	9.5
781K		8.1	8.6	8.8	9.3
751K	7.9	7.9	8.4	8.6	9.1
681K	7.5	7.5	8.0	8.2	8.7
621K	7.2	7.2	7.6	7.8	8.3
561K	6.9	6.9	7.3	7.5	8.0
511K	6.6	6.6	7.0	7.2	7.7
471K	6.4	6.4	6.8	7.0	7.5
431K	6.1	6.1	6.5	6.7	7.2
391K	5.3	5.3	5.7	5.9	6.4
361K	5.1	5.1	5.5	5.7	6.2
331K	4.9	4.9	5.3	5.5	6.0
301K	4.8	4.8	5.2	5.4	5.9
271K	4.6	4.6	5.0	5.2	5.7
241K	4.4	4.4	4.8	5.0	5.5
221K	4.3	4.3	4.7	4.9	5.4
201K	4.2	4.2	4.6	4.8	5.3
181K	4.1	4.1	4.5	4.7	5.2
151K	4.5	4.5	4.9	5.1	5.6
121K	4.1	4.1	4.5	4.6	5.3
101K	3.9	3.9	4.4	4.5	5.1
820K	3.8	3.8	4.3	4.4	4.9
680K	5.5	5.5	6.0	6.1	6.1
560K	5.0	5.0	5.5	5.6	5.6
470K	5.0	5.0	5.5	5.6	5.6
390K	4.7	4.7	5.1	5.2	5.4
330K	4.7	4.7	5.1	5.2	5.4
270K	4.7	4.7	5.1	5.2	5.4
220K	4.5	4.5	4.9	5.0	5.3
180L	4.5	4.5	4.9	5.0	5.2



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