

DATA SHEET

ZINC OXIDE VARISTOR – 7 Φ SERIES

FEATURES

- ◇ Wide operating voltage (V_{1mA}) range from 8V to 1800V.
- ◇ Fast responding to transient over-voltage.
- ◇ Large absorbing transient energy capability.
- ◇ Low clamping ratio and no following-on current.

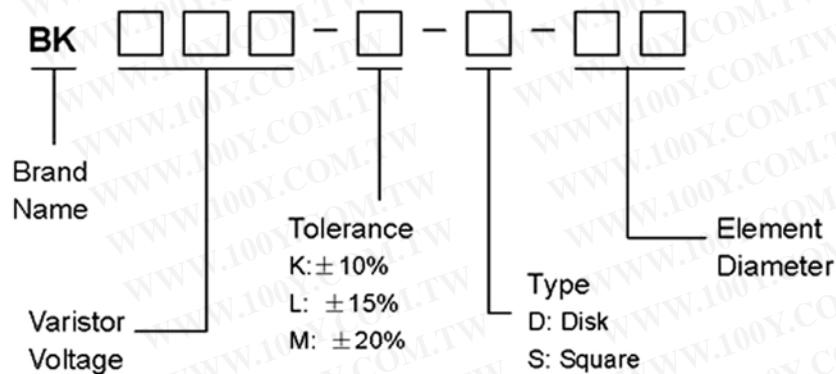


APPLICATION

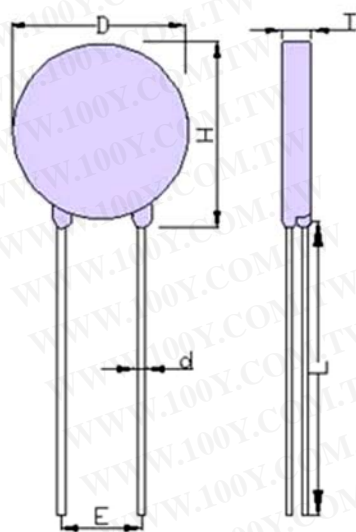
- ◇ Transistor, diode, IC, thyristor or triac semiconductor protection.
- ◇ Surge protection in consumer electronics.
- ◇ Surge protection in industrial electronics.
- ◇ Surge protection in electronic home appliances, gas and petroleum appliances.
- ◇ Relay and electromagnetic valve surge absorption.

PART NUMBER CODE

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)



PACKAGE DIMENSIONS

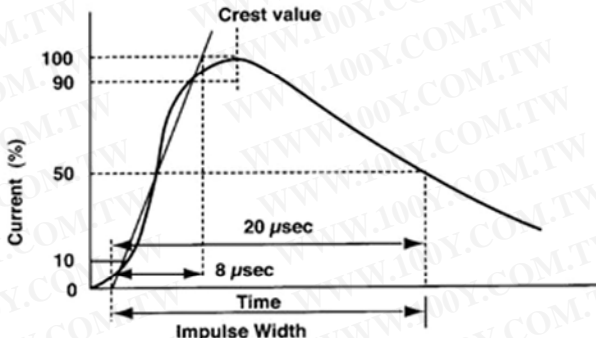


unit :mm




Part Code	T	L	D	H	d	E
	Max.	Min.	Max.	Max.	±0.05	±0.8
821K	6.9	20	9	12	0.6	5
781K	6.7	20	9	12	0.6	5
751K	6.5	20	9	12	0.6	5
681K	6.4	20	9	12	0.6	5
621K	6.4	20	9	12	0.6	5
561K	6.2	20	9	12	0.6	5
511K	5.8	20	9	12	0.6	5
471K	5.6	20	9	12	0.6	5
431K	5.3	20	9	12	0.6	5
391K	5.1	20	9	12	0.6	5
361K	5.0	20	9	12	0.6	5
331K	4.8	20	9	12	0.6	5
301K	4.7	20	9	12	0.6	5
271K	4.5	20	9	12	0.6	5
241K	4.3	20	9	12	0.6	5
221K	4.2	20	9	12	0.6	5
201K	4.1	20	9	12	0.6	5
181K	4.1	20	9	12	0.6	5
151K	4.8	20	9	12	0.6	5
121K	4.5	20	9	12	0.6	5
101K	4.3	20	9	12	0.6	5
820K	4.1	20	9	12	0.6	5
680K	5.2	20	9	12	0.6	5
560K	5.0	20	9	12	0.6	5
470K	4.9	20	9	12	0.6	5
390K	4.8	20	9	12	0.6	5
330K	4.9	20	9	12	0.6	5
270K	4.7	20	9	12	0.6	5
220K	4.6	20	9	12	0.6	5
180L	4.5	20	9	12	0.6	5

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

ELECTRICAL RATINGS

Item	Test Condition/Description	Requirement																									
Varistor Voltage	The voltage between two terminals with the specified measuring current 1mA.DC applied is call V _b .																										
Maximum Allowable Voltage	The recommended maximum sine wave voltage (RMS) or the maximum DC voltage can be applied continuously.																										
Maximum Clamping Voltage	<p>The maximum voltage between two terminals with the specification standard impulse current. Applied waveform: 8/20μsec.</p> 	To meet the specified value																									
Rated Wattage	The maximum average power that can be applied within the specified ambient temperature.																										
Energy	The maximum energy within the varistor voltage change of ±10% when one impulse of 10/1000μsec. or 2 msec. is applied.																										
Withstanding Surge Current	The maximum current within the varistor voltage change of ±10% with the standard impulse current (8/20μsec.) applied one time.																										
Varistor Voltage Temp. Coefficient	$\frac{V_b \text{ at } 20^\circ\text{C} - V_b \text{ at } 70^\circ\text{C}}{V_b \text{ at } 20^\circ\text{C}} \times \frac{1}{50} \times 100 (\% ^\circ\text{C})$	+0.05% / °C max																									
Surge Life	<p>The change of V_b shall be measured after the impulse listed below is applied 10,000 times continuously with the interval of ten seconds at room temperature.</p> <table border="1" data-bbox="438 1400 1204 1870"> <tbody> <tr> <td rowspan="2">5Φ series</td> <td>180L to 680K</td> <td>10A (8/20μsec.)</td> </tr> <tr> <td>820K to 751K</td> <td>20A (8/20μsec.)</td> </tr> <tr> <td rowspan="2">7Φ series</td> <td>180L to 680K</td> <td>25A (8/20μsec.)</td> </tr> <tr> <td>820K to 821K</td> <td>50A (8/20μsec.)</td> </tr> <tr> <td rowspan="2">10Φ series</td> <td>180L to 680K</td> <td>50A (8/20μsec.)</td> </tr> <tr> <td>820K to 182K</td> <td>100A (8/20μsec.)</td> </tr> <tr> <td rowspan="2">14Φ series</td> <td>180L to 680K</td> <td>75A (8/20μsec.)</td> </tr> <tr> <td>820K to 182K</td> <td>150A (8/20μsec.)</td> </tr> <tr> <td rowspan="2">20Φ series</td> <td>180L to 680K</td> <td>100A (8/20μsec.)</td> </tr> <tr> <td>820K to 182K</td> <td>200A (8/20μsec.)</td> </tr> </tbody> </table>	5Φ series	180L to 680K	10A (8/20μsec.)	820K to 751K	20A (8/20μsec.)	7Φ series	180L to 680K	25A (8/20μsec.)	820K to 821K	50A (8/20μsec.)	10Φ series	180L to 680K	50A (8/20μsec.)	820K to 182K	100A (8/20μsec.)	14Φ series	180L to 680K	75A (8/20μsec.)	820K to 182K	150A (8/20μsec.)	20Φ series	180L to 680K	100A (8/20μsec.)	820K to 182K	200A (8/20μsec.)	$\frac{\Delta V_b}{V_b} \leq \pm 10\%$
5Φ series	180L to 680K		10A (8/20μsec.)																								
	820K to 751K	20A (8/20μsec.)																									
7Φ series	180L to 680K	25A (8/20μsec.)																									
	820K to 821K	50A (8/20μsec.)																									
10Φ series	180L to 680K	50A (8/20μsec.)																									
	820K to 182K	100A (8/20μsec.)																									
14Φ series	180L to 680K	75A (8/20μsec.)																									
	820K to 182K	150A (8/20μsec.)																									
20Φ series	180L to 680K	100A (8/20μsec.)																									
	820K to 182K	200A (8/20μsec.)																									

ELECTRICAL CHARACTERISTIC

Part Number	Maximum Allowable Voltage		Maximum Energy 10/1000μs (J)	Withstanding Surge Current 8/20μs		Rated Wattage (W)	Varistor Voltage V _{1mA} (V)	Maximum Clamping Voltage V _{10A} (V)	Certification		
	ACrms (V)	DC (V)		1 time (A)	2 times						
821KD07	510	670	67.2	1200	600	0.25	820(738-902)	1355	•	•	•
781KD07	485	640	67.2				780(702-858)	1290	•	•	•
751KD07	460	615	67.2				750(675-825)	1240	•	•	•
681KD07	420	560	61.6				680(612-748)	1120	•	•	•
621KD07	385	505	61.6				620(558-682)	1025	•	•	•
561KD07	350	460	56.0				560(504-616)	920	•	•	•
511KD07	320	415	56.0				510(459-561)	845	•	•	•
471KD07	300	385	56.0				470(423-517)	775	•	•	•
431KD07	275	350	50.4				430(387-473)	710	•	•	•
391KD07	250	320	46.2				390(351-429)	650	•	•	•
361KD07	230	300	42.0				360(324-396)	595	•	•	•
331KD07	210	275	37.8				330(297-363)	550	•	•	•
301KD07	190	250	35.0				300(270-330)	505	•	•	•
271KD07	175	225	32.2				270(243-297)	455	•	•	•
241KD07	150	200	28.0				240(216-264)	395	•	•	•
221KD07	140	180	28.0				220(198-242)	360	•	•	•
201KD07	130	170	25.2				200(180-220)	330	•	•	•
181KD07	115	150	18.2				180(162-198)	300	•	•	•
151KD07	95	125	16.8				150(135-165)	250	•	•	•
121KD07	75	100	14.0				120(108-132)	200	•	•	•
101KD07	60	85	11.6	100(90-110)	165	•	•	•			
820KD07	50	65	9.8	82(74-90)	135	•	•	•			
680KD07	40	56	7.3	68(61-75)	*135	•	•				
560KD07	35	45	6.2	56(50-62)	*110	•	•				
470KD07	30	38	5.0	47(42-52)	*93	•	•				
390KD07	25	31	4.2	39(35-43)	*77	•	•				
330KD07	20	26	3.5	33(30-36)	*65	•	•				
270KD07	17	22	2.8	27(24-30)	*53	•	•				
220KD07	14	18	2.4	22(20-24)	*43	•	•				
180LD07	10	14	2.1	18(15-21)	*38	•	•				
120MD07	7	9	1.2	12(9.6-14.4)	*25	•	•				
8R0MD07	5	6	0.8	8(6.4-9.6)	*17	•	•				

* 680K-180L Max. Clamping Voltage testing current 2.5A.

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)