

DATA SHEET

ZINC OXIDE VARISTOR – 14 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.

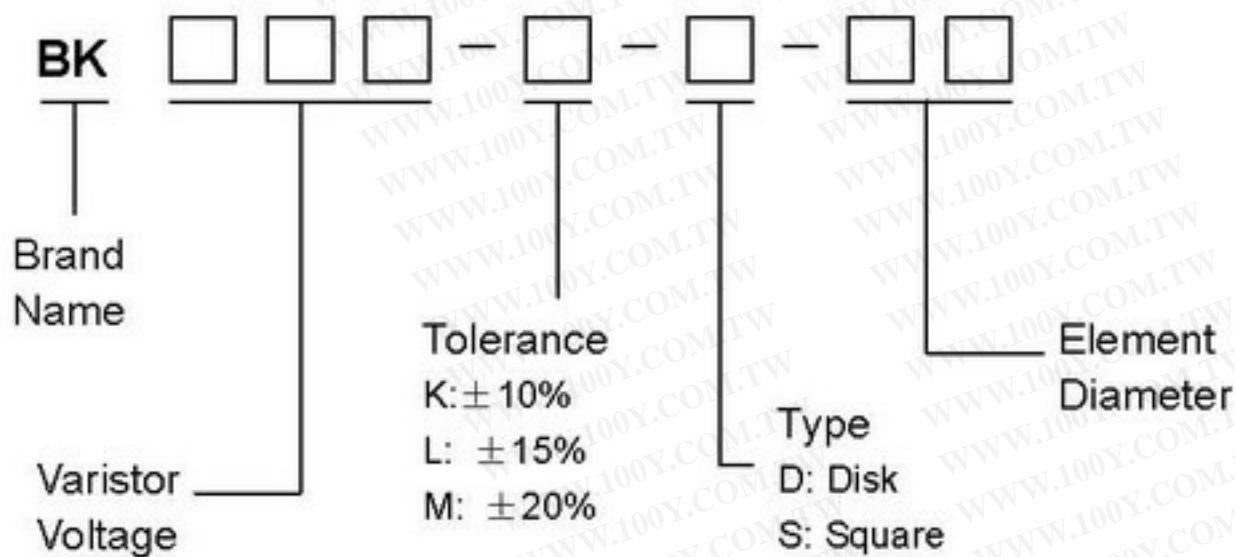
勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)



APPLICATION

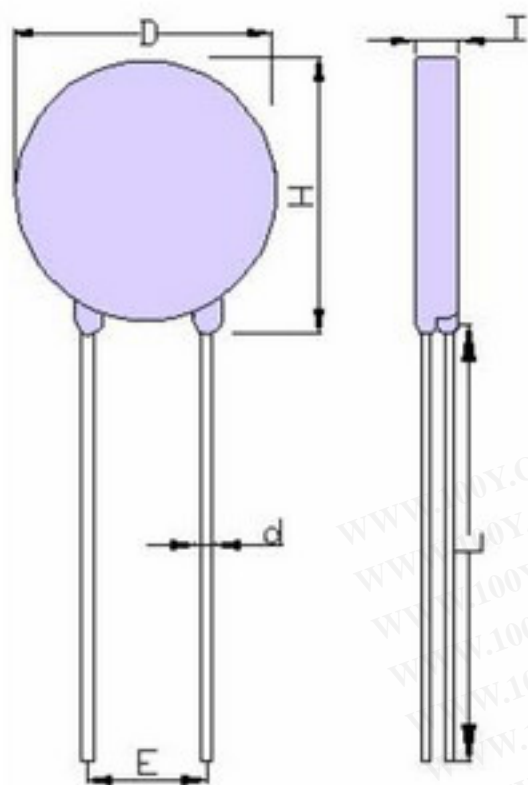
- ✧ Transistor, diode, IC, thyristor or triac semiconductor protection.
- ✧ Surge protection in consumer electronics.
- ✧ Surge protection in industrial electronics.
- ✧ Surge protection in electronic home appliances, gas and petroleum appliances.
- ✧ Relay and electromagnetic valve surge absorption.

PART NUMBER CODE



PACKAGE DIMENSIONS

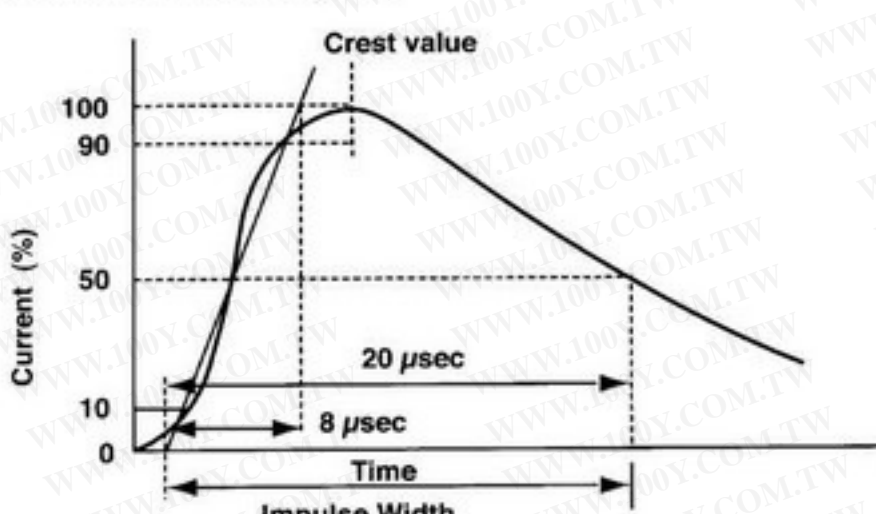
unit :mm






Part Code	T	L	D	H	d	E
	Max.	Min.	Max.	Max.	± 0.05	± 0.8
182K	12.5	20	17	20	0.8	7.5
152K	11.0	20	17	20	0.8	7.5
112K	8.5	20	17	20	0.8	7.5
102K	8.3	20	17	20	0.8	7.5
911K	8.1	20	17	20	0.8	7.5
821K	7.9	20	17	20	0.8	7.5
781K	7.7	20	17	20	0.8	7.5
751K	7.5	20	17	20	0.8	7.5
681K	7.1	20	17	20	0.8	7.5
621K	7.1	20	17	20	0.8	7.5
561K	6.7	20	17	20	0.8	7.5
511K	6.4	20	17	20	0.8	7.5
471K	6.1	20	17	20	0.8	7.5
431K	5.9	20	17	20	0.8	7.5
391K	5.7	20	17	20	0.8	7.5
361K	5.5	20	17	20	0.8	7.5
331K	5.3	20	17	20	0.8	7.5
301K	5.1	20	17	20	0.8	7.5
271K	5.0	20	17	20	0.8	7.5
241K	4.8	20	17	20	0.8	7.5
221K	4.7	20	17	20	0.8	7.5
201K	4.5	20	17	20	0.8	7.5
181K	4.5	20	17	20	0.8	7.5
151K	5.2	20	17	20	0.8	7.5
121K	4.9	20	17	20	0.8	7.5
101K	4.7	20	17	20	0.8	7.5
820K	4.5	20	17	20	0.8	7.5
680K	5.3	20	17	20	0.8	7.5
560K	5.1	20	17	20	0.8	7.5
470K	5.0	20	17	20	0.8	7.5
390K	4.9	20	17	20	0.8	7.5
330K	5.0	20	17	20	0.8	7.5
270K	4.8	20	17	20	0.8	7.5
220K	4.7	20	17	20	0.8	7.5
180L	4.6	20	17	20	0.8	7.5

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ELECTRICAL RATINGS

Item	Test Condition/Description	Requirement																									
Varistor Voltage	The voltage between two terminals with the specified measuring current 1mA.DC applied is call Vb.																										
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 Vb 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="525 1929 1638 2611"> <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.)	$\frac{\Delta V_b}{V_b} \leq \pm 10\%$
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	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 _{50A} (V)	  
	ACrms (V)	DC (V)		1 time (A)	2 times				
182KD14	1000	1465	336.0	4500	2500	0.6	1800(1620-1980)	2970	
152KD14	750	1300	266.0				1500(1350-1650)	2475	
112KD14	680	895	217.0				1100(990-1210)	1815	•
102KD14	625	825	217.0				1000(900-1100)	1650	•
911KD14	550	745	217.0				910(819-1001)	1500	•
821KD14	510	670	203.0				820(738-902)	1355	•
781KD14	485	640	203.0				780(702-858)	1290	•
751KD14	460	615	203.0				750(675-825)	1240	•
681KD14	420	560	168.0				680(612-748)	1120	•
621KD14	385	505	168.0				620(558-682)	1025	•
561KD14	350	460	149.8				560(504-616)	920	•
511KD14	320	415	149.8				510(459-561)	845	•
471KD14	300	385	149.8				470(423-517)	775	•
431KD14	275	350	145.6				430(387-473)	710	•
391KD14	250	320	134.4				390(351-429)	650	•
361KD14	230	300	123.2				360(324-396)	595	•
331KD14	210	275	112.0				330(297-363)	550	•
301KD14	190	250	103.2				300(270-330)	505	•
271KD14	175	225	93.8				270(243-297)	455	•
241KD14	150	200	82.6				240(216-264)	395	•
221KD14	140	180	79.8				220(198-242)	360	•
201KD14	130	170	79.8				200(180-220)	330	•
181KD14	115	150	58.8				180(162-198)	300	•
151KD14	95	125	51.8				150(135-165)	250	•
121KD14	75	100	40.6				120(108-132)	200	•
101KD14	60	85	33.6				100(90-110)	165	•
820KD14	50	65	29.4				82(74-90)	135	•
680KD14	40	56	23.8				68(61-75)	*135	•
560KD14	35	45	19.6				56(50-62)	*110	•
470KD14	30	38	16.8				47(42-52)	*93	•
390KD14	25	31	13.2				39(35-43)	*77	•
330KD14	20	26	12.3				33(30-36)	*65	•
270KD14	17	22	9.7				27(24-30)	*53	•
220KD14	14	18	7.6				22(20-24)	*43	•
180LD14	10	14	6.6	18(15-21)	*38	•			
120MD14	7	9	4.2	12(9.6-14.4)	*25	•			

* 680K-180L Max. Clamping Voltage testing current 10A.