

## Metal Oxide Varistor (MOV) Data Sheet

### Features

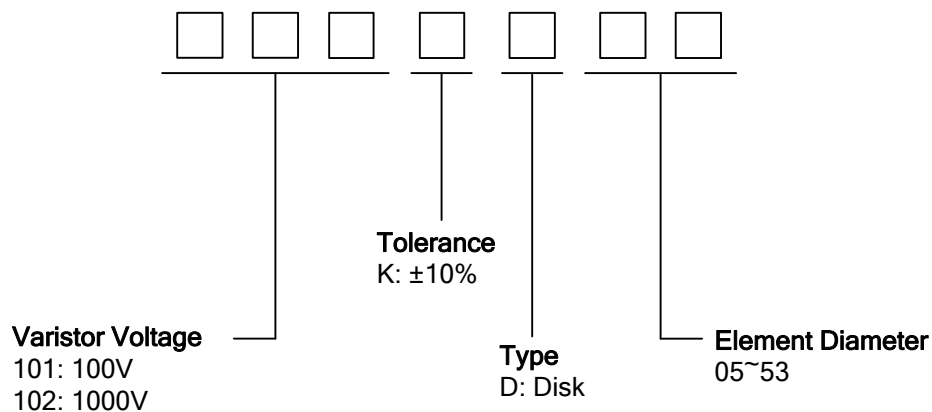
- Wide operating voltage ( $V_{1mA}$ ) range from 100V to 1600V
- Fast responding to transient over-voltage
- Large absorbing transient energy capability
- Low clamping ratio and no follow-on current
- Meets MSL level 1, per J-STD-020
- Operating Temperature :  $-40^{\circ}\text{C} \sim +105^{\circ}\text{C}$
- Storage Temperature :  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$
- Safety certification: UL: E327997  
CSA: 246579



### Applications

- 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



**Dimensions**

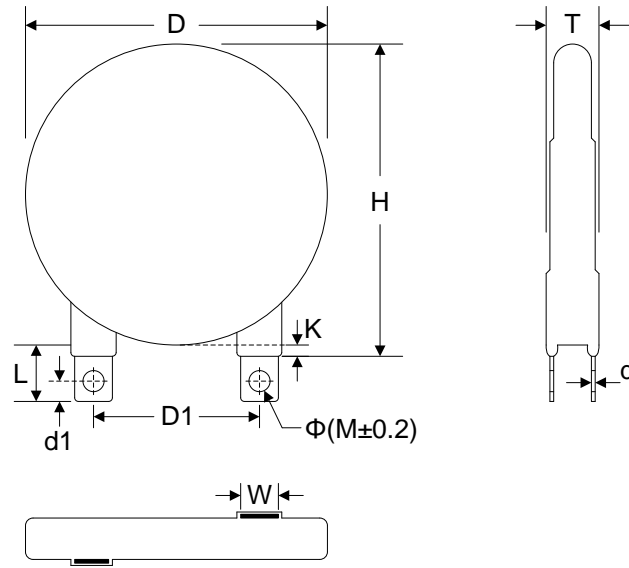


TABLE 1	
Unit: mm	
Symbol	Dimension
H(max.)	40.0
L(min.)	14.5
D(max.)	36.0
D1( $\pm 1.0$ )	25.4
T(max.)	TABLE 2
d( $\pm 0.25$ )	0.5
d1( $\pm 0.3$ )	3.7
K(max.)	3.2
W( $\pm 0.5$ )	7.0
$\Phi M(\pm 0.2)$	3.2

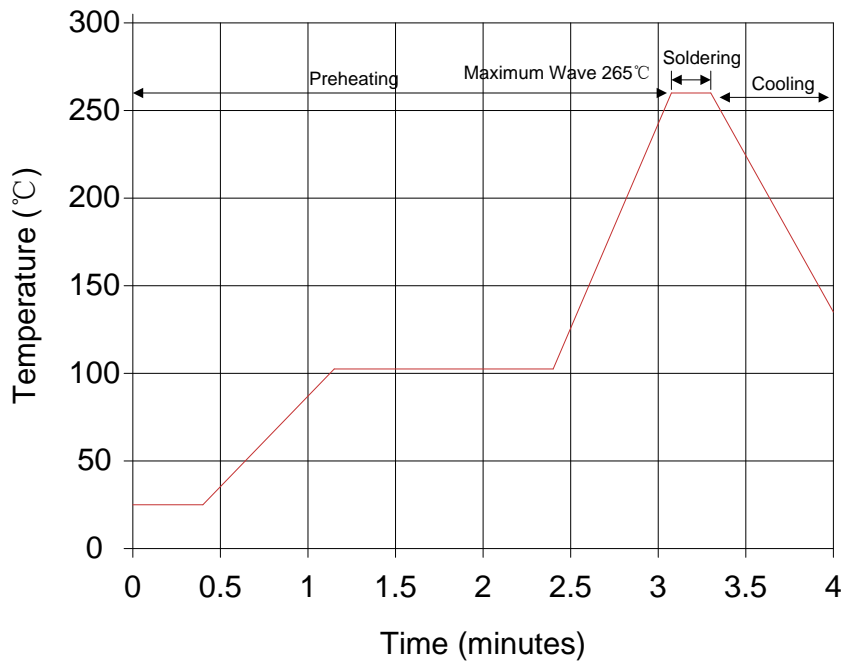
TABLE 2			
Unit: mm			
Model	T(max.)	Model	T(max.)
101K	5.8	511K	8.0
121K	6.0	561K	8.5
151K	6.3	621K	8.7
181K	6.1	681K	9.0
201K	6.2	751K	9.4
221K	6.3	781K	9.6
241K	6.4	821K	9.8
271K	6.6	911K	10.4
301K	6.8	951K	10.6
331K	6.9	102K	11.2
361K	7.1	112K	11.8
391K	7.3	122K	12.3
431K	7.5	142K	13.3
471K	7.8	162K	14.3

## Electrical characteristics

Part Number	Maximum Allowable Voltage		Varistor Voltage	Maximum Clamping Voltage		Withstanding Surge Current	Maximum Energy (10/1000μs)	Typical Capacitance (Reference)
	V <sub>AC</sub> (V)	V <sub>DC</sub> (V)	V <sub>1mA</sub> (V)	I <sub>P</sub> (A)	V <sub>C</sub> (V)	I (A)	(J)	@1KHz (pf)
101KD32	60	85	100(90~110)	200	165	25000	170	6100
121KD32	75	100	120(108~132)	200	200	25000	200	5600
151KD32	95	125	150(135~165)	200	250	25000	225	5400
181KD32	115	150	180(162~198)	200	300	25000	240	5350
201KD32	130	170	200(180~220)	200	340	25000	250	5200
221KD32	140	180	220(198~242)	200	360	25000	270	5150
241KD32	150	200	240(216~264)	200	395	25000	290	5100
271KD32	175	225	270(243~297)	200	455	25000	300	4800
301KD32	190	250	300(270~330)	200	500	25000	330	4550
331KD32	210	275	330(297~363)	200	550	25000	360	4300
361KD32	230	300	360(324~396)	200	595	25000	380	3900
391KD32	250	320	390(351~429)	200	650	25000	400	3200
431KD32	275	350	430(387~473)	200	710	25000	430	3100
471KD32	300	385	470(423~517)	200	775	25000	460	2800
511KD32	320	415	510(459~561)	200	845	25000	510	2700
561KD32	350	460	560(504~616)	200	925	25000	540	2550
621KD32	385	505	620(558~682)	200	1025	25000	570	2400
681KD32	420	560	680(612~748)	200	1120	25000	600	2200
751KD32	460	615	750(675~825)	200	1240	25000	620	2000
781KD32	485	640	780(702~858)	200	1290	25000	660	1900
821KD32	510	670	820(738~902)	200	1355	25000	700	1800
911KD32	550	745	910(819~1001)	200	1500	25000	750	1300
951KD32	575	765	950(855~1045)	200	1570	25000	780	1200
102KD32	625	825	1000(900~1100)	200	1650	25000	810	1100
112KD32	680	895	1100(990~1210)	200	1815	25000	910	1000
122KD32	750	990	1200(1080~1320)	200	1980	25000	960	920
142KD32	880	1140	1400(1260~1540)	200	2310	25000	1020	800
162KD32	1000	1280	1600(1440~1760)	200	2640	25000	1080	700

**Soldering Recommendation**

Lead-free Wave Soldering Recommendation

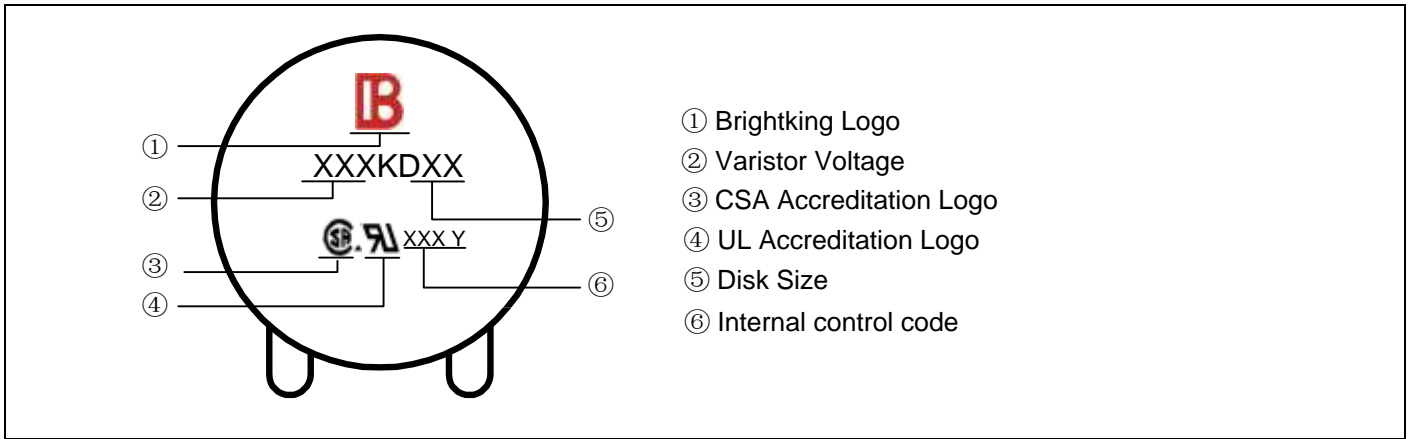


Item	Conditions
Peak Temperature	265°C
Dipping Time	10 seconds (max.)
Soldering	1 time

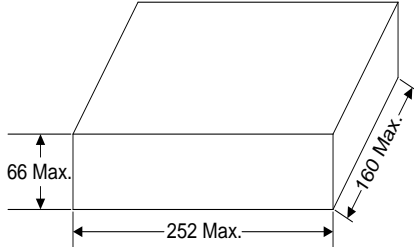
Recommendation Reworking Conditions with Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	360°C (max.)
Soldering Time	3 seconds (max.)
Distance from Varistor	2mm (min.)

**Marking code**



**Quantity**

Packaging Dimensions (Unit: mm)	Quantity
Bulk 	60pcs/box (101K~511K)
	32pcs/box (561K~162K)