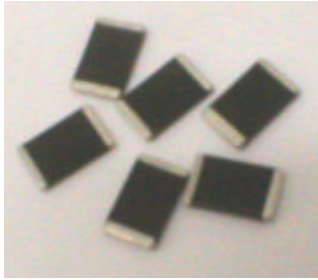


# JV 08CH SMD

## Surface Mount Metal Oxide Varistors

## Specifications



**Packaging**  
Tape and Reel  
Standard: 13 inch reel (4.000 pcs.)  
Option: 7 inch reel (1.000 pcs.)

**Material**  
Body: Ceramic (ZnO)  
Terminals: Ni/Sn plated (code "P")

**Operating Temperature**  
-55 to +125°C

**Solderability**  
acc. to IEC 60068-2-58  
235°C, 2s

**Soldering Heat Resistance**  
260°C, 10 sec. (IEC 60068-2-58)  
280°C, 5 sec. (IEC 60068-2-58)

**Response Time**  
<0.5ns

**Temperature coefficient ( $\alpha_V$ ) of clamping voltage ( $V_C$ ) @ specified test current**  
<0.01%/°C

**Power dissipation**  
0.25W max.

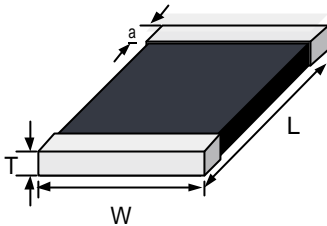
### Features

Monolayer Construction in a 5mm x 8mm Package Size.  
Leadless, Surface chip form  
Bi-directional clamping  
No derating up to 125°C ambient.  
Available with Nickel/Tin end termination

### Applications

- Surface-mount chip form intended for hybrid-circuit application
- PCs and peripherals
- Utility meters
- Proximity switches
- Consumer products
- Protection of various kinds of transistors, diodes, ICs, thyristors, triacs and semiconductors...etc.,

Dimensions



SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
T	-	0.080	-	2.03
a	0.016	0.050	0.41	1.27
L	0.311	0.335	7.90	8.51
W	0.185	0.207	4.70	5.26

### Maximum Ratings (125°C)

### Specifications (25°C)

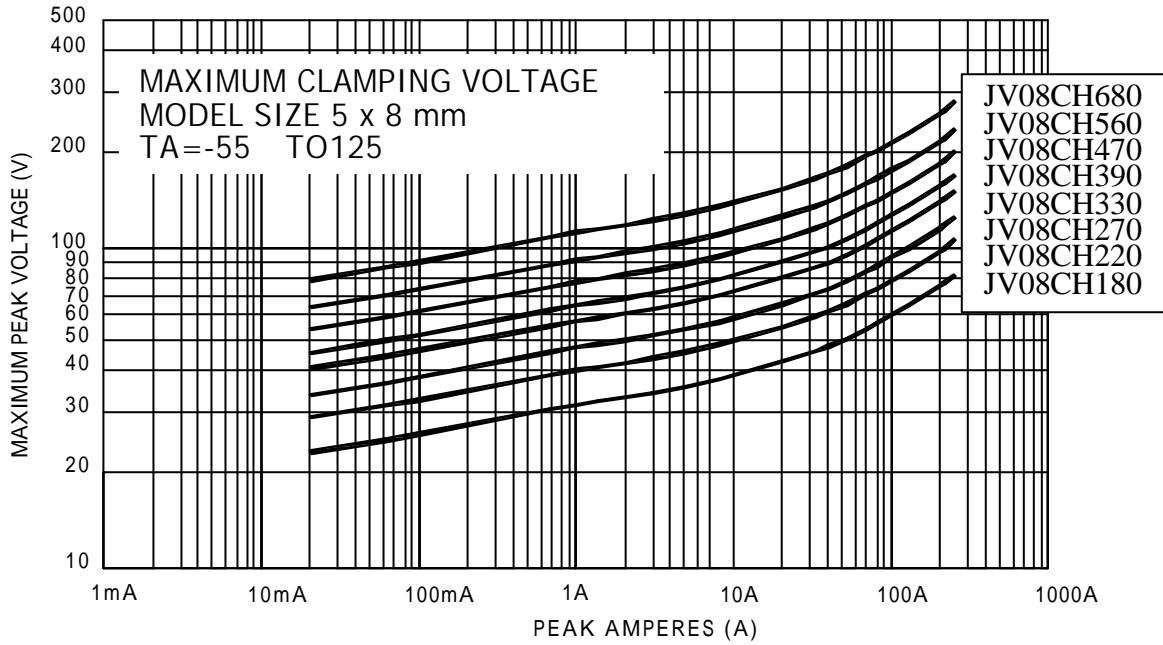
Type	max. cont. working voltage		max. non-repetitive surge current (8/20 $\mu$ s)	max. non-repetitive surge energy (10/1000 $\mu$ s)	max. clamping voltage at spec. current (8/20 $\mu$ s)	nominal voltage at 1mA (DC) test current		typ. capacitance		typ. inductance
	$V_{MDCI}$ (V)	$V_{MACI}$ (V)	$I_{TM}$ (A)	$W_{TM}$ (J)	$V_C$ (V@A)	$V_{NDCImin.}$ (V)	$V_{NDCImax.}$ (V)	1KHz $C_{typ.}$ (pF)	1MHz $C_{typ.}$ (pF)	$L_{typ.}$ (nH)
JV08CH180	14,0	11,0	250	0,80	36,0 @ 5	16,0	20,0	3805	3100	3,0
JV08CH220	18,0	14,0	250	0,80	46,0 @ 5	18,7	26,0	1835	1600	3,0
JV08CH270	22,0	17,0	250	1,00	54,0 @ 5	23,0	31,0	1590	1350	3,0
JV08CH330	26,0	20,0	250	1,20	67,0 @ 5	30,0	36,0	1250	1070	3,0
JV08CH390	31,0	25,0	250	1,50	75,0 @ 5	35,0	43,0	1050	900	3,0
JV08CH470	38,0	30,0	250	1,80	89,0 @ 5	42,0	52,0	970	820	3,0
JV08CH560	45,0	35,0	250	2,30	106 @ 5	50,0	62,0	838	710	3,0
JV08CH680	56,0	40,0	250	3,00	135 @ 5	62,0	74,0	800	680	3,0
JV08CH820	65,0	50,0	500	4,20	135 @ 10	74,0	90,0	625	530	3,0
JV08CH101	85,0	65,0	500	4,80	165 @ 10	90,0	110	565	480	3,0
JV08CH121	102	75,0	500	6,00	197 @ 10	108	132	340	300	3,0
JV08CH151	127	95,0	500	8,00	250 @ 10	135	165	270	250	3,0
JV08CH181	153	115	500	10,0	290 @ 10	162	198	230	200	3,0
JV08CH201	175	130	500	11,0	340 @ 10	184	228	200	180	3,0
JV08CH221	180	140	500	12,0	356 @ 10	198	242	180	160	3,0
JV08CH241	200	150	500	13,0	389 @ 10	216	268	165	150	3,0
JV08CH271	220	180	500	14,0	437 @ 10	245	270	130	120	3,0
JV08CH331	270	200	500	16,0	520 @ 10	300	330	110	100	3,0
JV08CH361	300	230	500	20,0	593 @ 10	324	396	110	100	3,0
JV08CH391	330	250	500	21,0	647 @ 10	351	429	100	90	3,0
JV08CH431	369	275	500	23,0	705 @ 10	387	473	100	90	3,0

Order Information

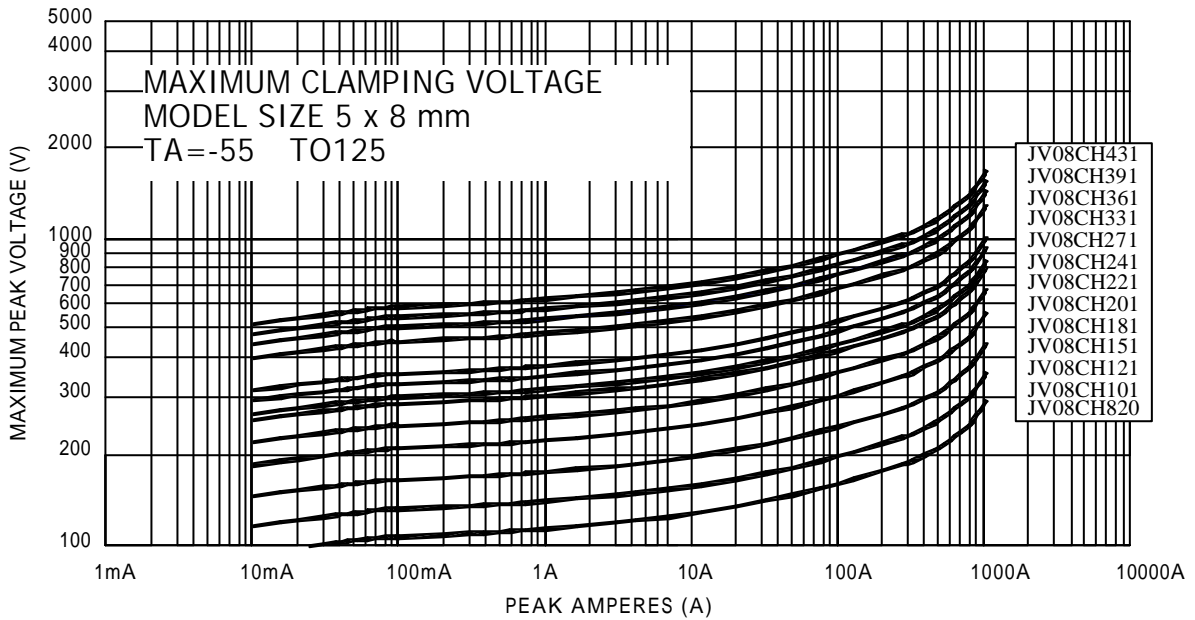
Qty.	Order-Number	Type	Terminal Code	Packaging
		JV 08CH361	P	T

Specifications are subject to change without notice

## JV 08CH SMD

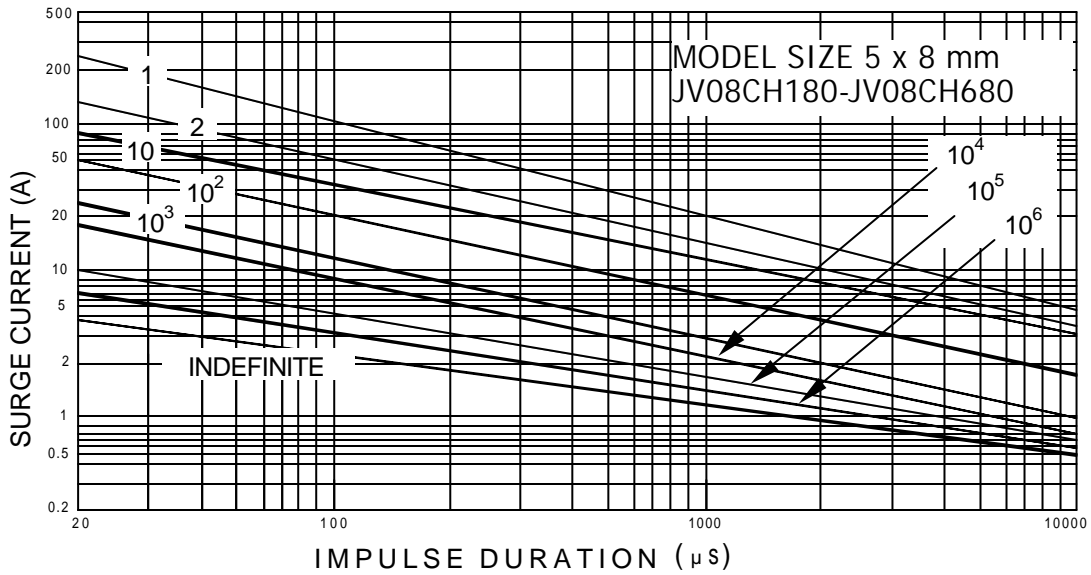


Transient V/I Characteristics Curves: **JV08CH180- JV08CH680**

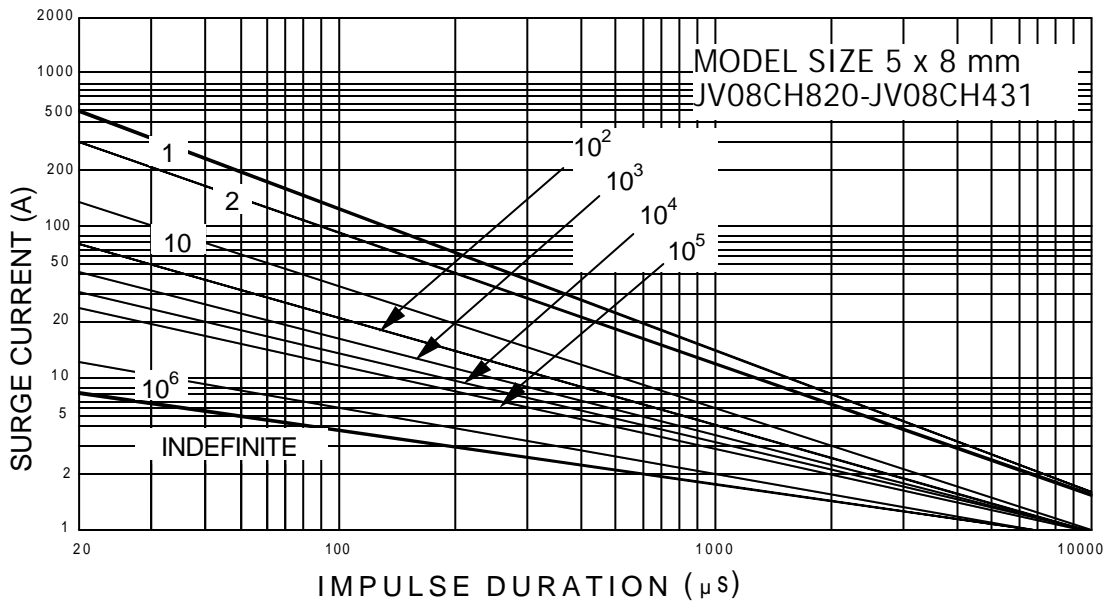


Transient V/I Characteristics Curves: **JV08CH820- JV08CH431**

## JV 08CH SMD



**Pulse Rating Curves:** **JV08CH180- JV08CH680**



**Pulse Rating Curves:** **JV08CH820- JV08CH431**

## JV 08CH SMD

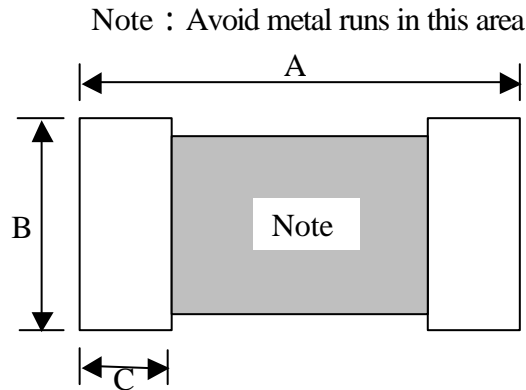
### Absolute Maximum Ratings

	CH SERIES	UNITS
<b>Continuous:</b>		
Steady State Applied Voltage:		
AC Voltage Range ( $V_{M(AC)RMS}$ ) .....	11 to 275	V
DC Voltage Range ( $V_{M(DC)}$ ) .....	14 to 369	V
<b>Transient:</b>		
Peak Pulse Current ( $I_{TM}$ )		
For 8/20 $\mu$ s Current Wave (See Figure2) .....	250 to 500	A
Single Pulse Energy Range		
For 10/1000 $\mu$ s Current Wave ( $W_{TM}$ ) .....	0.8 to 23	J
Operating Ambient Temperature Range( $T_A$ ) .....	-55 to 125	
Storage Temperature Range ( $T_{STG}$ ) .....	-55 to 150	
Temperature Coefficient (av) of Clamping Voltage ( $V_C$ ) at Specified Test Current ....	< 0.01	% /

### Standard Shipping Quantities

Tape and reel is the standard packaging method of the CH series. There are 1,000 pcs /reel/7 inch.  
Less than 100 pieces sample quantity, the units are shipped bulk pack.

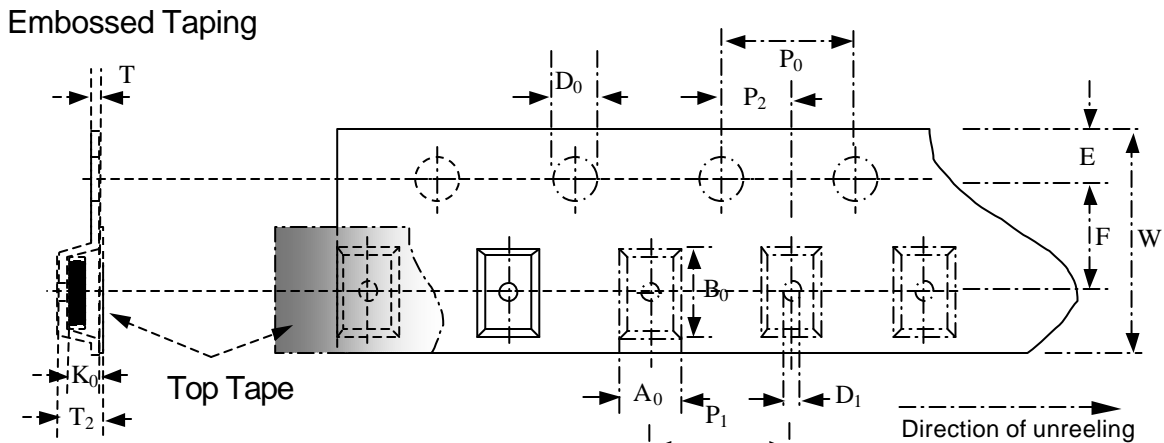
### Recommended Pad Outline



SYMBOL	INCHES	MILLIMETERS
<b>A</b>	0.402	10.21
<b>B</b>	0.216	5.50
<b>C</b>	0.087	2.21

## JV 08CH SMD

### Tape and Reel Specifications



Tape in accordance can be supplied to IEC publication 286-3

Symbol	DIMENSIONS (mm)											
	A <sub>0</sub>	B <sub>0</sub>	W	F	E	P <sub>1</sub>	P <sub>2</sub>	P <sub>0</sub>	D <sub>0</sub>	T	T <sub>2</sub>	D <sub>1</sub>
Type	±0.1	±0.1	±0.3	±0.1	±0.1	±0.1	±0.1	±0.1	+0.1 -0	Max.	Max.	Min.
08CH	5.5	8.5	16	7.5	1.75	8.0	2.0	4.0	1.5	1.0	3.0	1.5

**K<sub>0</sub>** : Depth of Cavity: Dependent Chip Size to Minimize Rotation

### Precautions to the user for CH-series Surface mount MOV:

- Soldering recommendation:
  - Material: 62/36/2 Sn/Pb/Ag or equivalent
  - Reflow temperature/time: 230 max. /10 sec. max.
  - Flux: non-activated
- When mounting surface mount varistor on the PC board, the improper soldering temperature and time out of the limits may reduce the adhesive strength of their terminals.
- Put the proper volume of solder ( the height of fillet ) on PC board for installing surface mount varistors, because it directly affects the installed varistors. The design of copper pad patterns and dimensions should be set, so that the proper volume of solder can provide.
- Do not use solvents such as thinner and acetone, which dissolve or make the exterior covering of varistor deteriorate. Ultrasonic cleaning shall be so set that the vibration can not travel the assembly boards.
- For surface mount CH series MOV, use flux with a halogen content of less than 0.2 wt. Do not use strong acid flux.
- Store varistors at temperature of -10 to +40 and relative humidity of less than 75 % . Avoid storing in environment of rapid changes in temperature, direct sunlight, corrosive, gas or dust, and store with the varistors packaged.