

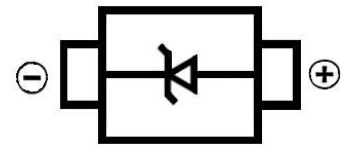
## TVS DIODE

### FEATURES

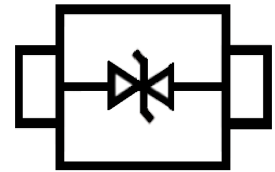
- Built-in strain relief
- Glass passivated junction
- Peak pulse power:1500W
- Breakdown voltage range:from 6.8V to 220V
- Low clamping factor
- Fast response time



SMC



Uni-polarity



Bi-polarity

### MECHANICAL DATA

- Case: SMC(DO-214AB)
- Case material: Molded Plastic. UL flammability
- Classification rating: 94V-0
- Weight: 0.21grams (approximate)

### MAXIMUM RATINGS AND CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000µs waveform (Note 1,fig.1)	P <sub>PPM</sub>	1500	W
Peak Pulse Current of on 10/1000µs waveform (Note 1,FIG.3)	I <sub>PPM</sub>	refer the table	W
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note 3)	I <sub>FSM</sub>	200	A
Operating junction,storage temperature range	T <sub>J</sub> ,T <sub>STG</sub>	-55 ~+150	°C

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C unless otherwise noted)

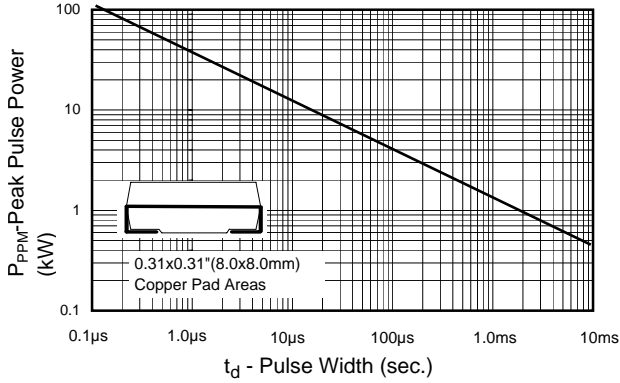
Part number (Uni)	Part number (Bi)	Marking		Breakdown voltage V <sub>BR</sub> @I <sub>T</sub>				Maximum clamping voltage @I <sub>pp</sub> V <sub>c</sub> (V)	Peak pulse current I <sub>pp</sub> (A)	Reverse leakage @ VRWM IR(mA)
		Uni	Bi	Min(V)	Nor(V)	Max(V)	I <sub>T</sub> (mA)			
SM15T6V8A	SM15T6V8CA	MDE	BDE	5.80	6.45	7.14	10	10.5	143.0	1000
SM15T7V5A	SM15T7V5CA	MDG	BDG	6.40	7.13	7.88	10	11.3	133.0	500
SM15T10A	SM15T10CA	MDP	BDP	8.55	9.50	10.50	1	14.5	103.0	10
SM15T12A	SM15T12CA	MDT	BDT	10.20	11.40	12.60	1	16.7	89.8	5
SM15T15A	SM15T15CA	MDX	BDX	12.80	14.30	15.80	1	21.2	70.8	5
SM15T18A	SM15T18CA	MEE	BEE	15.30	17.10	18.90	1	25.2	59.5	5
SM15T22A	SM15T22CA	MEK	BEK	18.80	20.90	23.10	1	30.6	49.0	5
SM15T24A	SM15T24CA	MEM	BEM	20.50	22.80	25.20	1	33.2	45.2	5
SM15T27A	SM15T27CA	MEP	BEP	23.10	25.70	28.40	1	37.5	40.0	5
SM15T30A	SM15T30CA	MER	BER	25.60	28.50	31.50	1	41.4	36.2	5
SM15T33A	SM15T33CA	MET	BET	28.20	31.40	34.70	1	45.7	32.8	5
SM15T36A	SM15T36CA	MEV	BEV	30.80	34.20	37.80	1	49.9	30.1	5
SM15T39A	SM15T39CA	MEX	BEX	33.30	37.10	41.00	1	53.9	27.8	5
SM15T68A	SM15T68CA	MFP	BFP	58.10	64.60	71.40	1	92.0	16.3	5
SM15T100A	SM15T100CA	MFX	BFX	85.50	95.00	105.00	1	137.0	11.0	5
SM15T150A	SM15T150CA	MGK	BGK	128.00	143.00	158.00	1	207.0	7.2	5
SM15T200A	SM15T200CA	MGV	BGV	171.00	190.00	210.00	1	274.0	5.5	5
SM15T220A	SM15T220CA	MGX	BGX	188.00	208.00	231.00	1	328.0	4.6	5

Notes :

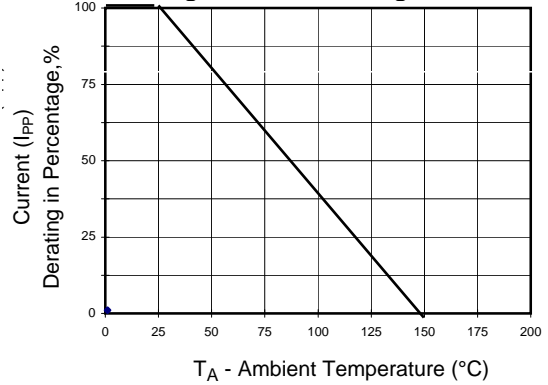
1. Non-repetitive current pulse , per Fig. 3 and derated above T<sub>A</sub> = 25°C per Fig. 2
2. Mounted on 8.0mm<sup>2</sup> copper pads to each terminal
3. 8.3ms single half sine-wave , or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

**Typical Characteristics**

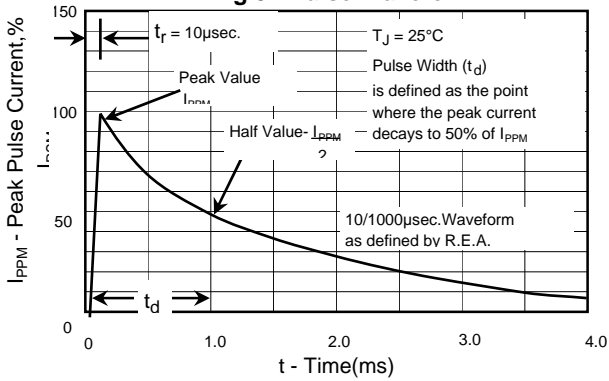
**Fig. 1 - Peak Pulse Power Rating Curve**



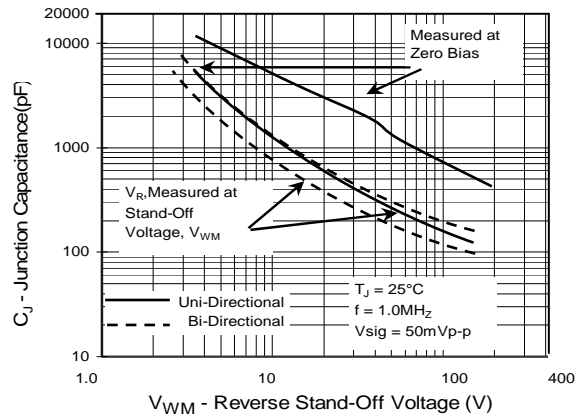
**Fig.2 - Pulse Derating Curve**



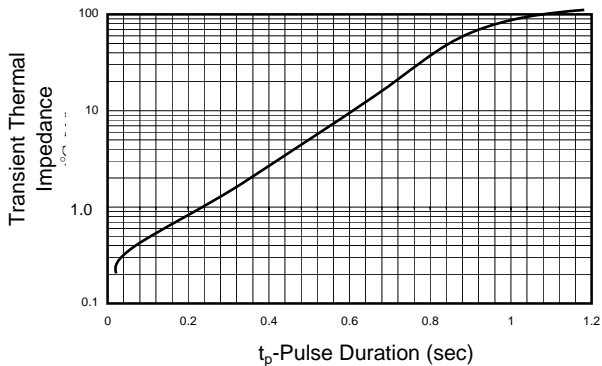
**Fig.3 - Pulse Waveform**



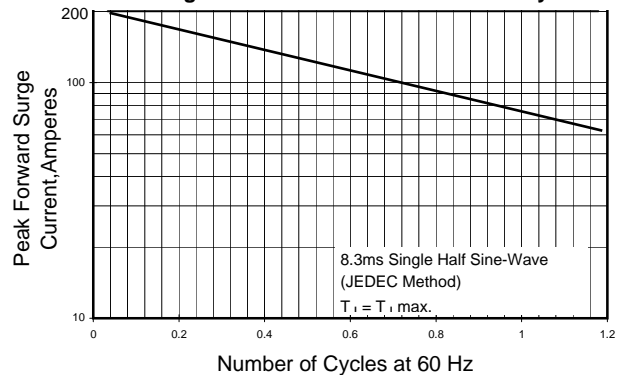
**Fig.4 - Typical Junction Capacitance Uni-Directional**



**Fig. 5 - Typ. Transient Thermal Impedance**

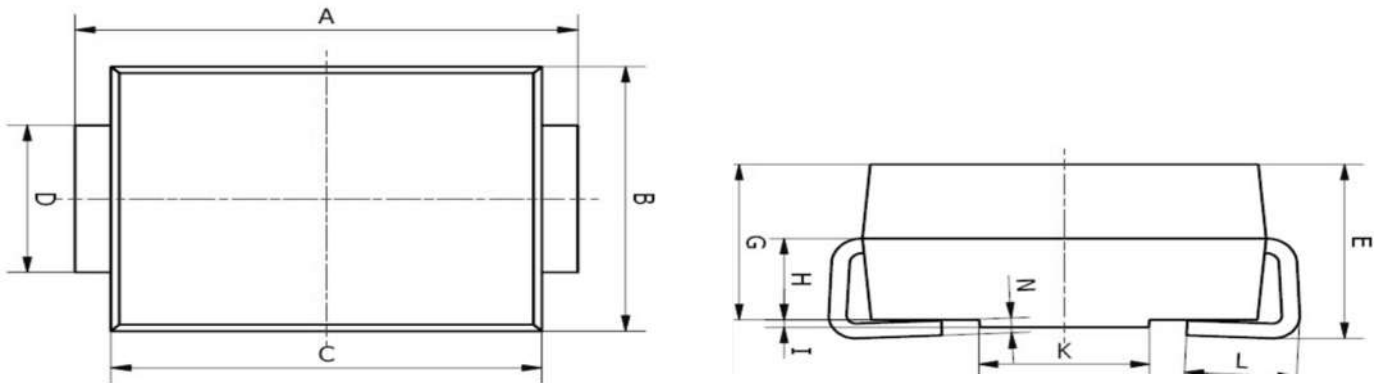


**Fig.6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Use Only**



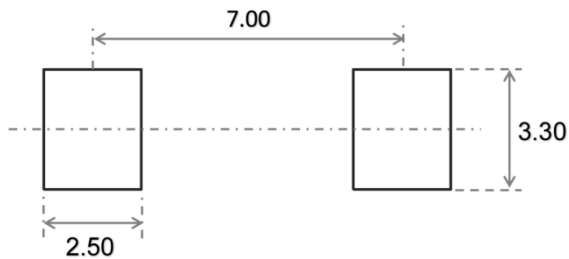
## TVS DIODE

### SMC Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	7.75	8.13	0.305	0.320
B	5.59	6.22	0.220	0.245
C	6.60	7.11	0.260	0.280
D	2.75	3.25	0.108	0.128
E	2.25	2.82	0.089	0.111
G	2.00	2.62	0.079	0.103
H	1.26	1.56	0.050	0.061
I	0.05	0.15	0.002	0.006
K	4.30	6.00	0.169	0.236
L	1.25	1.75	0.049	0.069
N	0.10	0.30	0.004	0.012

### SMC Suggested Pad Layout



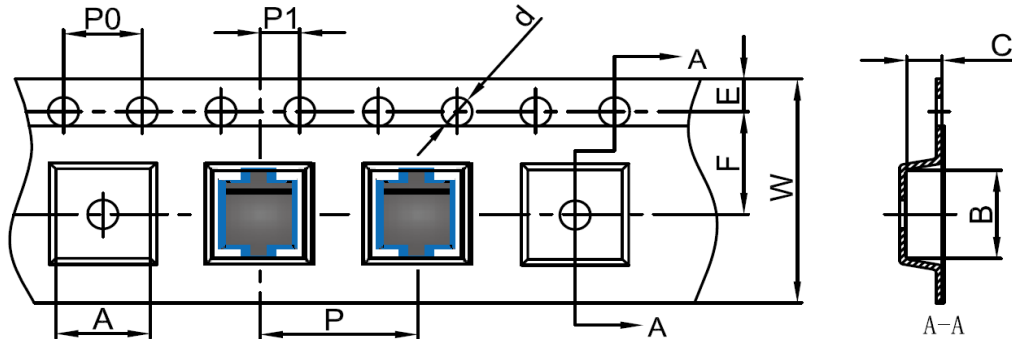
#### Note:

1. Controlling dimension: in millimeters
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purposes only

TVS DIODE

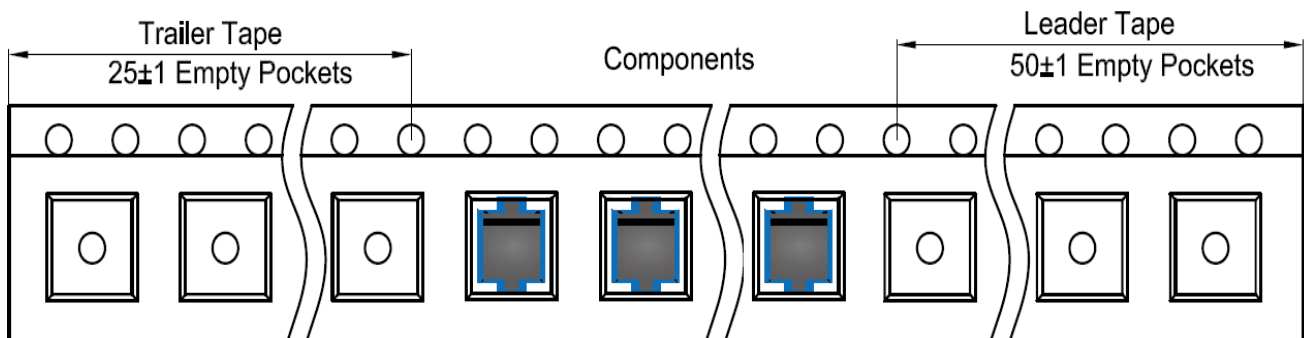
## SMC Tape and Reel

### SMC Embossed Carrier Tape

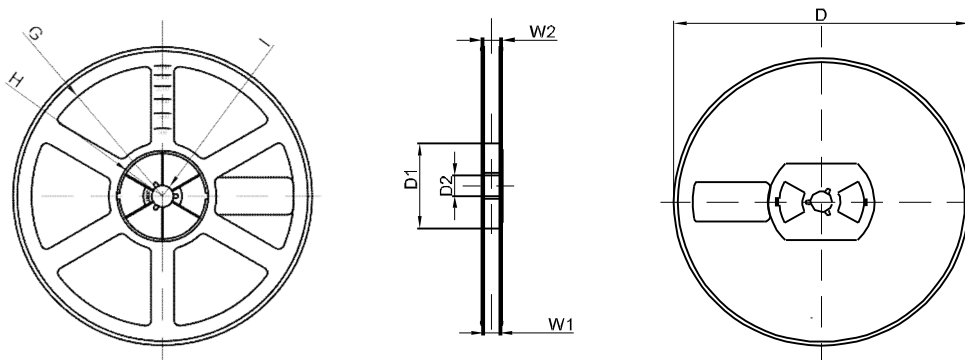


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SMC	6.3	8.25	2.90	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

### SMC Tape Leader and Trailer



### SMC Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13" DIA	Ø330	100	21	R165	R50	R6.50	16.4	21.00
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1