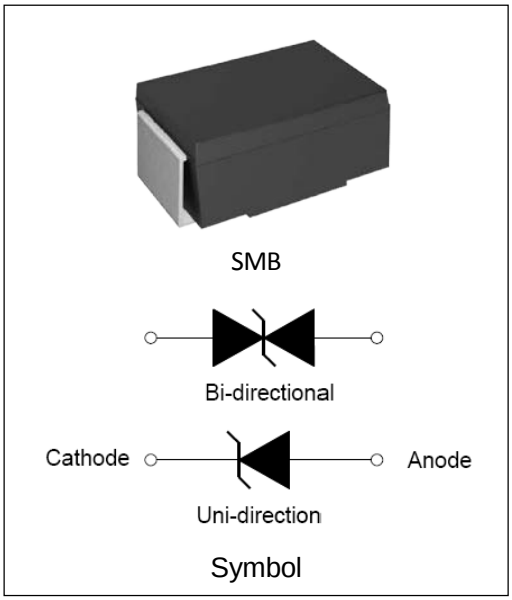
DESCRIPTION:

TVS diodes can be used in a wide range ofapplications which like consumer electronic products, automotive industries, munitions, telecommunications, aerospace industries, and intelligent control systems.



FEATURES:

- ✧ Glass passivated or planner junction
- ✧ Excellent clamping capability
- ✧ Repetition rate (duty cycle): 0.01%
- ✧ Typical I_R less than 1μA above 10V.
- ✧ Low profile package and low inductance
- ✧ 1500W Peak Pulse power capability at 10×1000μs waveform.
- ✧ Fast response time: typically less than 1.0ps from 0V to V_{BR} min.
- ✧ High temperature soldering: 260℃/10s at terminals.
- ✧ Plastic package has Underwriters Laboratory Flammability 94V-0.
- ✧ For surface mounted applications in order to optimize board space

ABSOLUTE MAXIMUM RATINGS (T_A=25ºC, RH=45%-75%, unless otherwisenoted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-55 to +150	℃
Operating junction temperature range	T_j	-55 to +150	℃
Steady state power dissipation at T_L=75℃	$P_{M(AV)}$	5.0	W
Peak pulse power dissipation on 10/1000μs waveform	P_{PP}	1500	W
Maximum Instantaneous Forward Voltage at 50A for Unidirectional	V_F	5.0	V

ELECTRICAL CHARACTERISTICS(T_A=25℃)

Part Number		V_R	I_R@ V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP}①
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
1.5SMBJ5.0A	1.5SMBJ5.0CA	5.0	200	6.40	7.00	10	9.2	163.0
1.5SMBJ6.0A	1.5SMBJ6.0CA	6.0	200	6.67	7.37	10	10.3	145.6
1.5SMBJ6.5A	1.5SMBJ6.5CA	6.5	100	7.22	7.98	10	11.2	134.0
1.5SMBJ7.0A	1.5SMBJ7.0CA	7.0	80	7.78	8.60	10	12.0	125.0
1.5SMBJ7.5A	1.5SMBJ7.5CA	7.5	50	8.33	9.21	1	12.9	116.3
1.5SMBJ8.0A	1.5SMBJ8.0CA	8.0	20	8.89	9.83	1	13.6	110.3
1.5SMBJ8.5A	1.5SMBJ8.5CA	8.5	10	9.44	10.40	1	14.4	104.2
1.5SMBJ9.0A	1.5SMBJ9.0CA	9.0	5	10.00	11.10	1	15.4	97.4
1.5SMBJ10A	1.5SMBJ10CA	10	2	11.10	12.30	1	17.0	88.2
1.5SMBJ11A	1.5SMBJ11CA	11	1	12.20	13.50	1	18.2	82.4
1.5SMBJ12A	1.5SMBJ12CA	12	1	13.30	14.70	1	19.9	75.4
1.5SMBJ13A	1.5SMBJ13CA	13	1	14.40	15.90	1	21.5	69.8
1.5SMBJ14A	1.5SMBJ14CA	14	1	15.60	17.20	1	23.2	64.7
1.5SMBJ15A	1.5SMBJ15CA	15	1	16.70	18.50	1	24.4	61.5
1.5SMBJ16A	1.5SMBJ16CA	16	1	17.80	19.70	1	26.0	57.7
1.5SMBJ17A	1.5SMBJ17CA	17	1	18.90	20.90	1	27.6	54.4
1.5SMBJ18A	1.5SMBJ18CA	18	1	20.00	22.10	1	29.2	51.4
1.5SMBJ20A	1.5SMBJ20CA	20	1	22.20	24.50	1	32.4	46.3
1.5SMBJ22A	1.5SMBJ22CA	22	1	24.40	26.90	1	35.5	42.3
1.5SMBJ24A	1.5SMBJ24CA	24	1	26.70	29.50	1	38.9	38.6
1.5SMBJ26A	1.5SMBJ26CA	26	1	28.90	31.90	1	42.1	35.6
1.5SMBJ28A	1.5SMBJ28CA	28	1	31.10	34.40	1	45.4	33.1
1.5SMBJ30A	1.5SMBJ30CA	30	1	33.30	36.80	1	48.4	31.0
1.5SMBJ33A	1.5SMBJ33CA	33	1	36.70	40.60	1	53.3	28.2
1.5SMBJ36A	1.5SMBJ36CA	36	1	40.00	44.20	1	58.1	25.8
1.5SMBJ40A	1.5SMBJ40CA	40	1	44.40	49.10	1	64.5	23.3
1.5SMBJ43A	1.5SMBJ43CA	43	1	47.80	52.80	1	69.4	21.6
1.5SMBJ45A	1.5SMBJ45CA	45	1	50.00	55.30	1	72.7	20.6
1.5SMBJ48A	1.5SMBJ48CA	48	1	53.30	58.90	1	77.4	19.4
1.5SMBJ51A	1.5SMBJ51CA	51	1	56.70	62.70	1	82.4	18.2

ELECTRICAL CHARACTERISTICS (T_A=25℃, continued)

Part Number		V_R	I_R@ V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP}①
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
1.5SMBJ54A	1.5SMBJ54CA	54	1	60.00	66.30	1	87.1	17.2
1.5SMBJ58A	1.5SMBJ58CA	58	1	64.40	71.20	1	93.6	16.1
1.5SMBJ60A	1.5SMBJ60CA	60	1	66.70	73.70	1	96.8	15.5
1.5SMBJ64A	1.5SMBJ64CA	64	1	71.10	78.60	1	103.0	14.6
1.5SMBJ70A	1.5SMBJ70CA	70	1	77.80	86.00	1	113.0	13.3
1.5SMBJ75A	1.5SMBJ75CA	75	1	83.30	92.10	1	121.0	12.4
1.5SMBJ78A	1.5SMBJ78CA	78	1	86.70	95.80	1	126.0	11.9
1.5SMBJ85A	1.5SMBJ85CA	85	1	94.40	104.0	1	137.0	11.0
1.5SMBJ90A	1.5SMBJ90CA	90	1	100.0	111.0	1	146.0	10.3
1.5SMBJ100A	1.5SMBJ100CA	100	1	111.0	123.0	1	162.0	9.3
1.5SMBJ110A	1.5SMBJ110CA	110	1	122.0	135.0	1	177.0	8.5
1.5SMBJ120A	1.5SMBJ120CA	120	1	133.0	147.0	1	193.0	7.8
1.5SMBJ130A	1.5SMBJ130CA	130	1	144.0	159.0	1	209.0	7.2
1.5SMBJ150A	1.5SMBJ150CA	150	1	167.0	185.0	1	243.0	6.2
1.5SMBJ160A	1.5SMBJ160CA	160	1	178.0	197.0	1	259.0	5.8
1.5SMBJ170A	1.5SMBJ170CA	170	1	189.0	209.0	1	275.0	5.5
1.5SMBJ180A	1.5SMBJ180CA	180	1	201.0	222.0	1	292.0	5.2
1.5SMBJ190A	1.5SMBJ190CA	190	1	211.0	234.0	1	307.0	4.9
1.5SMBJ200A	1.5SMBJ200CA	200	1	224.0	247.0	1	324.0	4.7

①Surge waveform: 10/1000μs

V_R： Stand-off Voltage -- Maximum voltage that can be applied V_{BR}：
Breakdown Voltage

V_C： Clamping Voltage -- Peak voltage measured across the suppressor at a specified Ipp I_R：
Reverse LeakageCurrent

ORDERING INFORMATION

1.5SMBJ xx C A

- 1.5SMBJ: 1500W SMB Series
- xx: V_R Voltage
- C: Bi-directional
- A: 5% V_{BR} Voltage tolerance

RATINGS AND V-I CHARACTERISTICS CURVES (T_A=25ºC, unless otherwise noted)

FIG.1:V- I curve characteristics (Uni-directional)

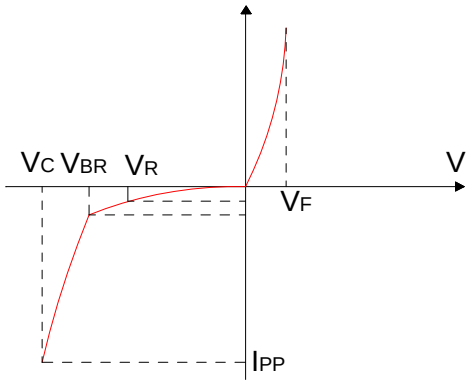


FIG.2:V- I curve characteristics (Bi-directional)

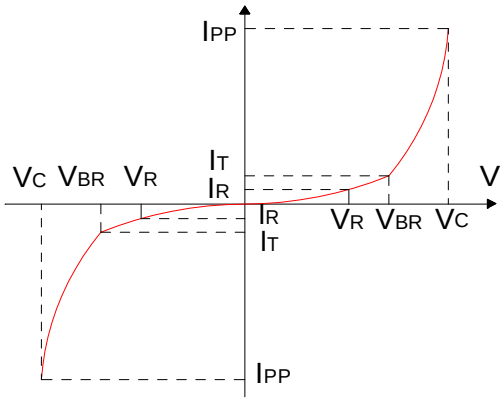


FIG.3: Pulse waveform

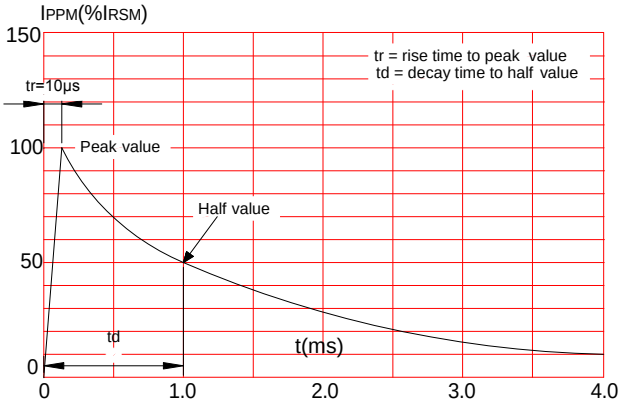
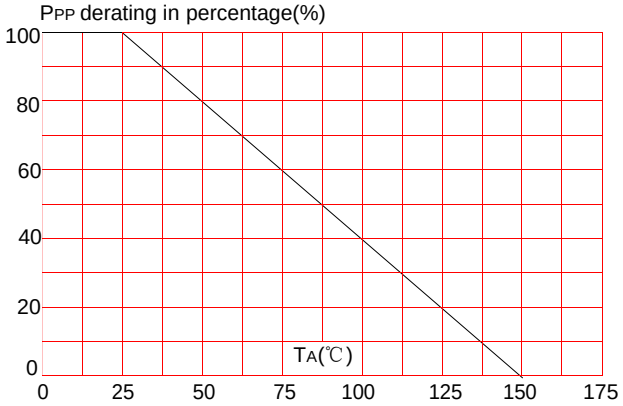
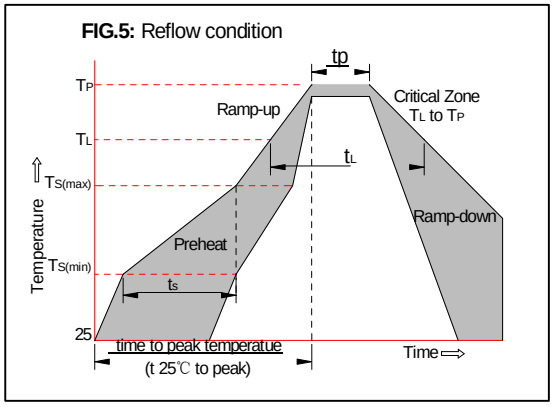


FIG.4: Pulse derating curve

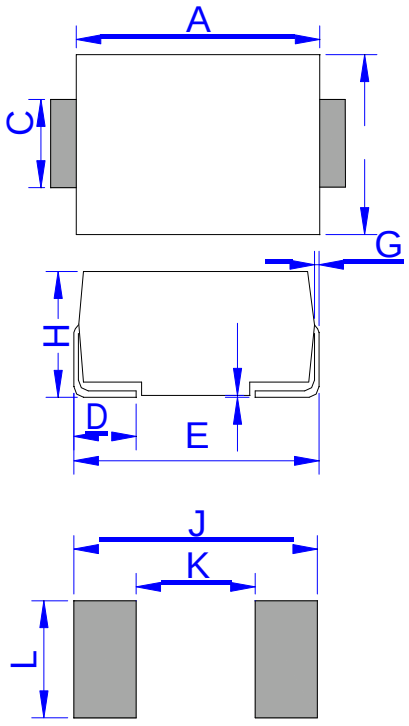


SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see FIG.5)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquid us)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃



PACKAGE MECHANICAL DATA



DO-214AA (SMB)

Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.75	0.167	0.187
B	3.30	3.94	0.130	0.155
C	1.85	2.21	0.073	0.087
D	0.76	1.52	0.030	0.060
E	5.08	5.59	0.200	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.11	2.44	0.083	0.096
J	6.80		0.270	
K		2.60		0.100
L	2.40		0.090	