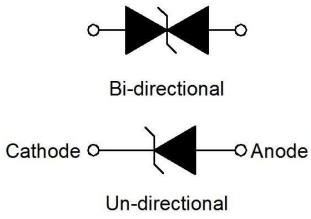
1500W Transient Voltage Suppressor

Parameter	Value	Unit
P_{PP}	1500	W
V_{RWM}	5~75	V
T_j	-55 to +125	°C



SMB / DO-214AA

Features

- For surface mounted applications
- Excellent clamping capability
- 1500W peak pulse power capability with a 10/1000μs waveform
- Low profile package and low inductance
- Typical I_R less than 1uA above 10V
- Fast response time: typically less than 1.0ps from 0V to V_{BR} min

Applications

- Computer System
- Domestic Appliance
- Video Input

Maximum Rated Values (at T_j = 25°C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 10/1000μs waveform	P_{PP}	1500	W
Steady state power dissipation at T_L=75℃	$P_{M(AV)}$	5.0	W
Operating junction temperature range	T_j	-55 to +125	°C
Storage temperature range	T_{stg}	-55 to +150	°C

Electrical Characteristics (at Tj = 25°C unless otherwise specified)

Part Number		VR	IR@VR	VBR@IT		IT	VC@IPP	IPP①
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
1.5SMBJ5.0A	1.5SMBJ5.0CA	5.0	800	6.40	7.00	10	9.2	163.05
1.5SMBJ6.0A	1.5SMBJ6.0CA	6.0	800	6.67	7.37	10	10.3	145.64
1.5SMBJ 6.5A	1.5SMBJ6.5CA	6.5	500	7.22	7.98	10	11.2	133.93
1.5SMBJ7.0 A	1.5SMBJ7.0CA	7.0	200	7.78	8.60	10	12.0	125.00
1.5SMBJ 7.5A	1.5SMBJ7.5CA	7.5	100	8.33	9.21	1	12.9	116.28
1.5SMBJ 8.0A	1.5SMBJ8.0CA	8.0	50	8.89	9.83	1	13.6	110.30
1.5SMBJ8.5 A	1.5SMBJ8.5CA	8.5	20	9.44	10.40	1	14.4	104.17
1.5SMBJ9.0 A	1.5SMBJ9.0CA	9.0	10	10.00	11.10	1	15.4	97.41
1.5SMBJ10A	1.5SMBJ10CA	10.0	5	11.10	12.30	1	17.0	88.24
1.5SMBJ11A	1.5SMBJ11CA	11.0	1	12.20	13.50	1	18.2	82.42

1.5SMBJ12A	1.5SMBJ12CA	12.0	1	13.30	14.70	1	19.9	75.38
1.5SMBJ13A	1.5SMBJ13CA	13.0	1	14.40	15.90	1	21.5	69.77
1.5SMBJ14A	1.5SMBJ14CA	14.0	1	15.60	17.20	1	23.2	64.66
1.5SMBJ15A	1.5SMBJ15CA	15.0	1	16.70	18.50	1	24.4	61.48
1.5SMBJ16A	1.5SMBJ16CA	16.0	1	17.80	19.70	1	26.0	57.70
1.5SMBJ17A	1.5SMBJ17CA	17.0	1	18.90	20.90	1	27.6	54.35
1.5SMBJ18A	1.5SMBJ18CA	18.0	1	20.00	22.10	1	29.2	51.37
1.5SMBJ20A	1.5SMBJ20CA	20.0	1	22.20	24.50	1	32.4	46.30
1.5SMBJ22A	1.5SMBJ22CA	22.0	1	24.40	26.90	1	35.5	42.26
1.5SMBJ24A	1.5SMBJ24CA	24.0	1	26.70	29.50	1	38.9	38.57
1.5SMBJ26A	1.5SMBJ26CA	26.0	1	28.90	31.90	1	42.1	35.63
1.5SMBJ28A	1.5SMBJ28CA	28.0	1	31.10	34.40	1	45.4	33.04
1.5SMBJ30A	1.5SMBJ30CA	30.0	1	33.30	36.80	1	48.4	31.00
1.5SMBJ33A	1.5SMBJ33CA	33.0	1	36.70	40.60	1	53.3	28.15
1.5SMBJ36A	1.5SMBJ36CA	36.0	1	40.00	44.20	1	58.1	25.82
1.5SMBJ40A	1.5SMBJ40CA	40.0	1	44.40	49.10	1	64.5	23.26
1.5SMBJ43A	1.5SMBJ43CA	43.0	1	47.80	52.80	1	69.4	21.62
1.5SMBJ45A	1.5SMBJ45CA	45.0	1	50.00	55.30	1	72.7	20.64
1.5SMBJ48A	1.5SMBJ48CA	48.0	1	53.30	58.90	1	77.4	19.38
1.5SMBJ51A	1.5SMBJ51CA	51.0	1	56.70	62.70	1	82.4	18.21
1.5SMBJ54A	1.5SMBJ54CA	54.0	1	60.00	66.30	1	87.1	17.23
1.5SMBJ58A	1.5SMBJ58CA	58.0	1	64.40	71.20	1	93.6	16.03
1.5SMBJ60A	1.5SMBJ60CA	60.0	1	66.70	73.70	1	96.8	15.50
1.5SMBJ64A	1.5SMBJ64CA	64.0	1	71.10	78.60	1	103.0	14.57
1.5SMBJ70A	1.5SMBJ70CA	70.0	1	77.80	86.00	1	113.0	13.28
1.5SMBJ75A	1.5SMBJ75CA	75.0	1	83.30	92.10	1	121.0	12.40

Ratings And V-I Characteristics Curves (at T_j=25°C, unless otherwise noted)

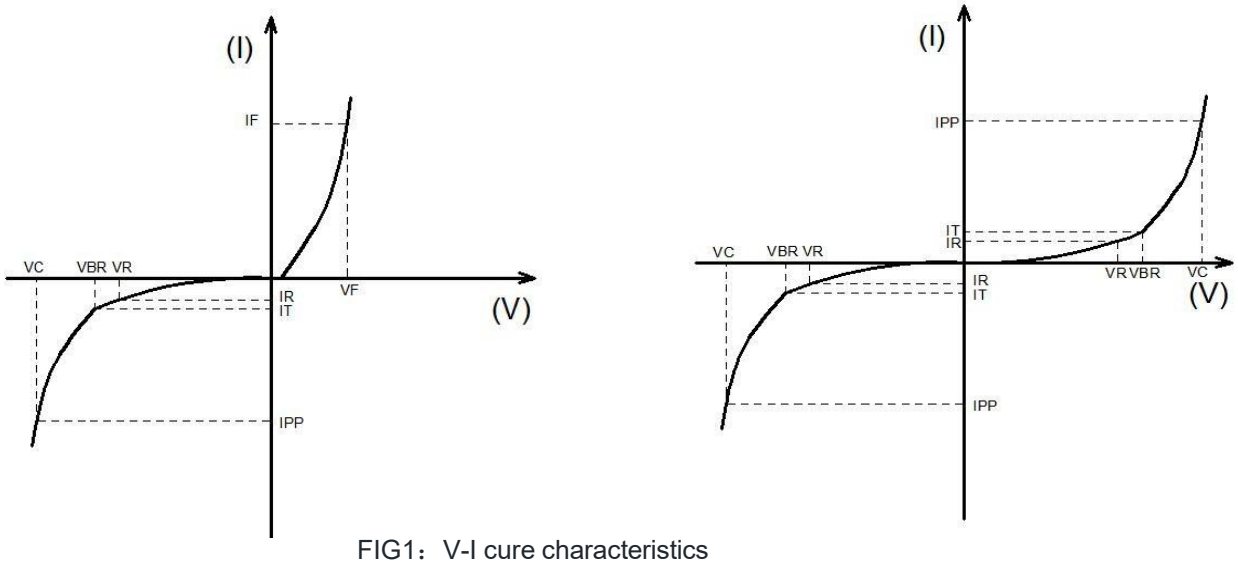


FIG1：V-I cure characteristics

Symbol	Parameter
I_F	Mean Forward Current
V_F	Maximum Forward Voltage @I_F
V_R	Peak Reverse Working Voltage
T_R	Reverse Leakage Current @ V_R
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}

Typical Characteristics

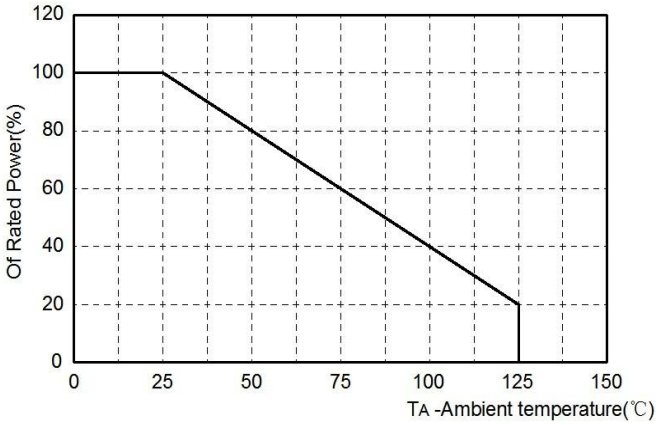


FIG2：Pulse Derating Curve

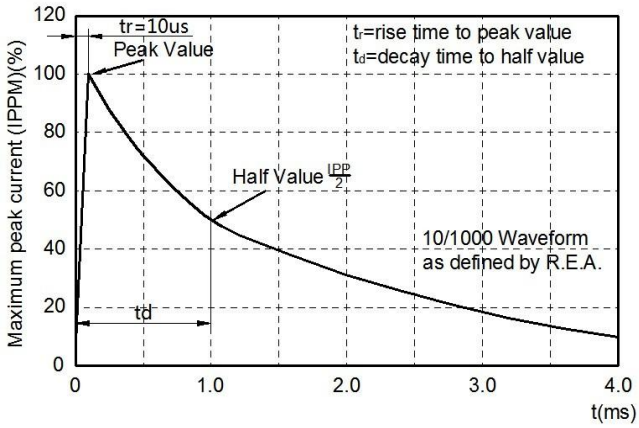


FIG3：Pulse Waveform

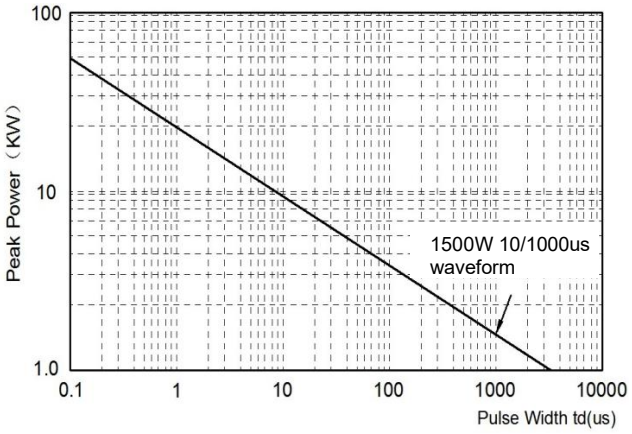


FIG4：Peak Pulse Power Rating Curve

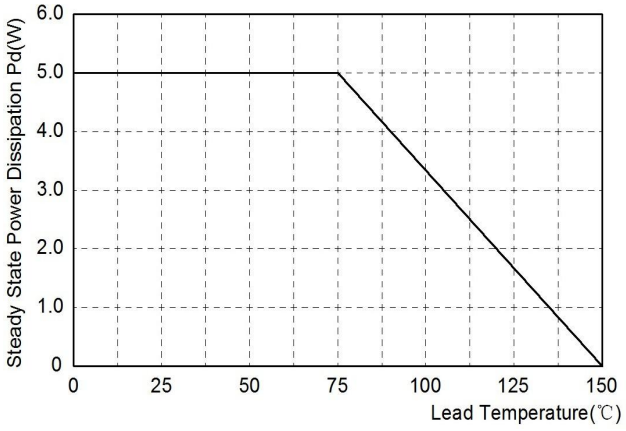
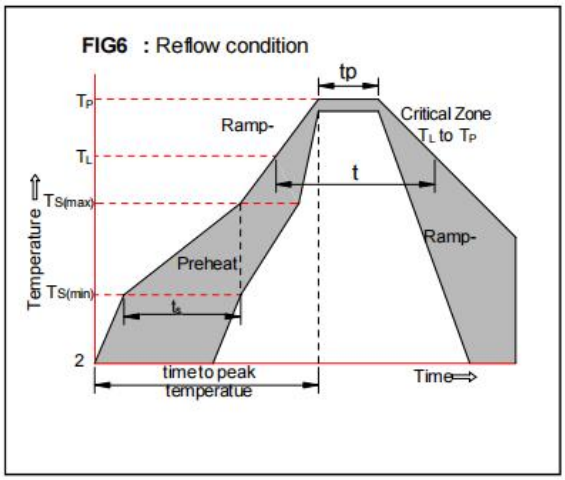


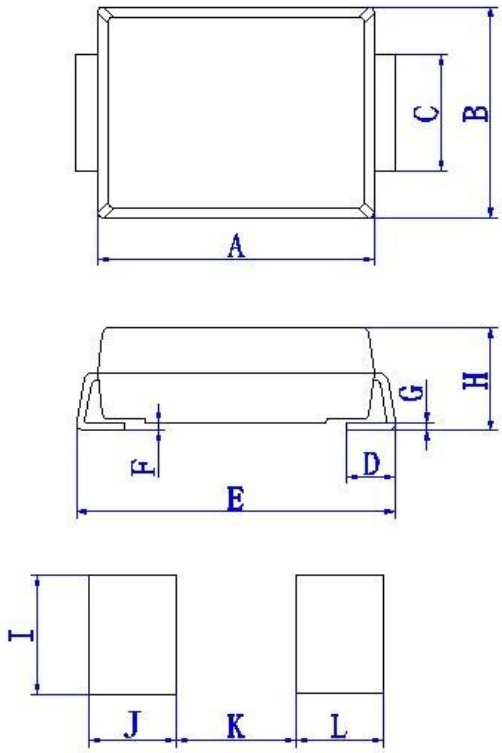
FIG5：Steady State Power Dissipation

Soldering parameters

Reflow Condition		Pb-Free assembly (see as bellow)
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 Outlines SMB / DO-214AA



Ref.(mm)	Millimeters	
	Min.	Max.
A	4.22	4.70
B	3.4	3.94
C	1.9	2.1
D	0.90	1.42
E	5.21	5.59
F	0	0.23
G	0.15	0.25
H	1.95	2.60
I	2.30	-
J	1.50	-
K	-	2.80

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