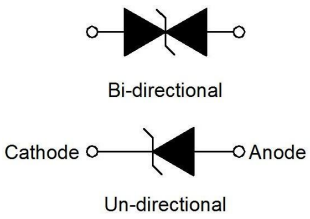
1500W Transient Voltage Suppressor

Parameter	Value	Unit
P_{PP}	1500	W
V_{RWM}	6.8~550	V
T_j	-55 to +125	°C



SMC / DO-214AB

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 12V
- 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
1.5SMC6.8A	1.5SMC6.8CA	5.8	1000	6.45	7.14	10	10.5	142.9
1.5SMC7.5A	1.5SMC7.5CA	6.4	500	7.13	7.88	10	11.3	132.8
1.5SMC8.2A	1.5SMC8.2CA	7.02	200	7.79	8.61	10	12.1	124.0
1.5SMC9.1A	1.5SMC9.1CA	7.78	50	8.65	9.50	1	13.4	112.0
1.5SMC10A	1.5SMC10CA	8.55	10	9.50	10.5	1	14.5	103.5
1.5SMC11A	1.5SMC11CA	9.4	5	10.5	11.6	1	15.6	96.16
1.5SMC12A	1.5SMC12CA	10.2	5	11.4	12.6	1	16.7	89.83
1.5SMC13A	1.5SMC13CA	11.1	1	12.4	13.7	1	18.2	82.42
1.5SMC15A	1.5SMC15CA	12.8	1	14.3	15.8	1	21.2	70.76
1.5SMC16A	1.5SMC16CA	13.6	1	15.2	16.8	1	22.5	66.67
1.5SMC18A	1.5SMC18CA	15.3	1	17.1	18.9	1	25.2	59.53

1.5SMC20A	1.5SMC20CA	17.1	1	19	21	1	27.7	54.16
1.5SMC22A	1.5SMC22CA	18.8	1	20.9	23.1	1	30.6	49.02
1.5SMC24A	1.5SMC24CA	20.5	1	22.8	25.2	1	33.2	45.19
1.5SMC27A	1.5SMC27CA	23.1	1	25.7	28.4	1	37.5	40.00
1.5SMC30A	1.5SMC30CA	25.6	1	28.5	31.5	1	41.4	36.24
1.5SMC33A	1.5SMC33CA	28.2	1	31.4	34.7	1	45.7	32.83
1.5SMC36A	1.5SMC36CA	30.8	1	34.2	37.8	1	49.9	30.07
1.5SMC39A	1.5SMC39CA	33.3	1	37.1	41	1	53.9	27.83
1.5SMC43A	1.5SMC43CA	36.8	1	40.9	45.2	1	59.3	25.30
1.5SMC47A	1.5SMC47CA	40.2	1	44.7	49.4	1	64.8	23.15
1.5SMC51A	1.5SMC51CA	43.6	1	48.5	53.6	1	70.1	21.40
1.5SMC56A	1.5SMC56CA	47.8	1	53.2	58.8	1	77	19.49
1.5SMC62A	1.5SMC62CA	53	1	58.9	65.1	1	85	17.65
1.5SMC68A	1.5SMC68CA	58.1	1	64.6	71.4	1	92	16.31
1.5SMC75A	1.5SMC75CA	64.1	1	71.3	78.8	1	103	14.57
1.5SMC82A	1.5SMC82CA	70.1	1	77.9	86.1	1	113	13.28
1.5SMC91A	1.5SMC91CA	77.8	1	86.5	95.5	1	125	12.00
1.5SMC100A	1.5SMC100CA	84	1	95	105	1	137	10.95
1.5SMC110A	1.5SMC110CA	94	1	105	116	1	152	9.87
1.5SMC120A	1.5SMC120CA	102	1	114	126	1	165	9.10
1.5SMC130A	1.5SMC130CA	111	1	124	137	1	179	8.38
1.5SMC150A	1.5SMC150CA	128	1	143	158	1	207	7.25
1.5SMC160A	1.5SMC160CA	136	1	152	168	1	219	6.85
1.5SMC170A	1.5SMC170CA	145	1	162	179	1	234	6.42
1.5SMC180A	1.5SMC180CA	154	1	171	189	1	246	6.10
1.5SMC200A	1.5SMC200CA	171	1	190	210	1	274	5.48
1.5SMC220A	1.5SMC220CA	185	1	209	231	1	328	4.58
1.5SMC250A	1.5SMC250CA	214	1	237	263	1	344	4.37
1.5SMC300A	1.5SMC300CA	256	1	285	315	1	414	3.63
1.5SMC350A	1.5SMC350CA	300	1	332	368	1	482	3.12
1.5SMC400A	1.5SMC400CA	342	1	380	420	1	548	2.74
1.5SMC440A	1.5SMC440CA	376	1	418	462	1	602	2.50
1.5SMC480A	1.5SMC480CA	408	1	456	504	1	658	2.28
1.5SMC510A	1.5SMC510CA	434	1	485	535	1	698	2.15
1.5SMC520A	1.5SMC520CA	444	1	494	546	1	711	2.11
1.5SMC530A	1.5SMC530CA	450	1	504	557	1	725	2.07
1.5SMC540A	1.5SMC540CA	459	1	513	567	1	740	2.03
1.5SMC550A	1.5SMC550CA	467	1	523	578	1	760	1.98
1.5SMC600A	1.5SMC600CA	510	2	570	630	1	828	1.82

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

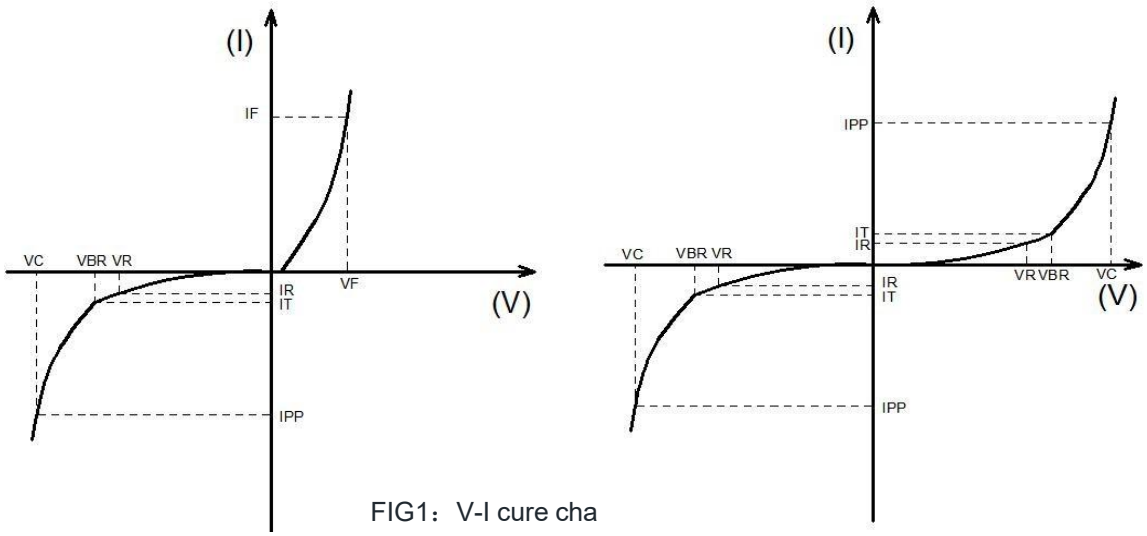


FIG1：V-I cure cha

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

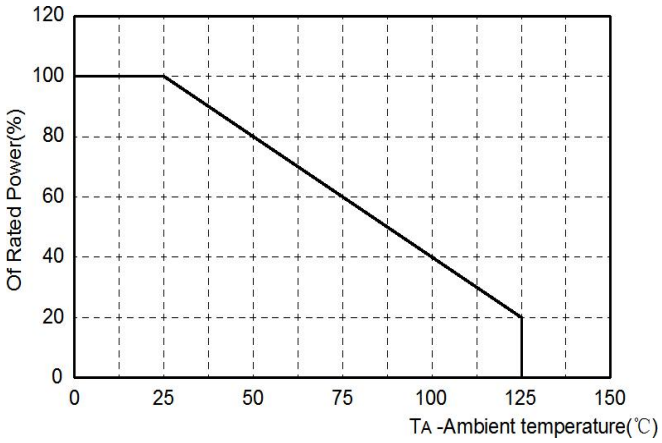


FIG2：Pulse Derating Curve

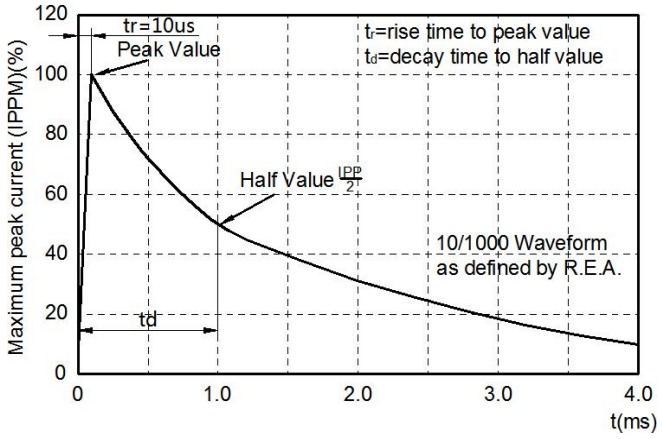


FIG3：Pulse Waveform

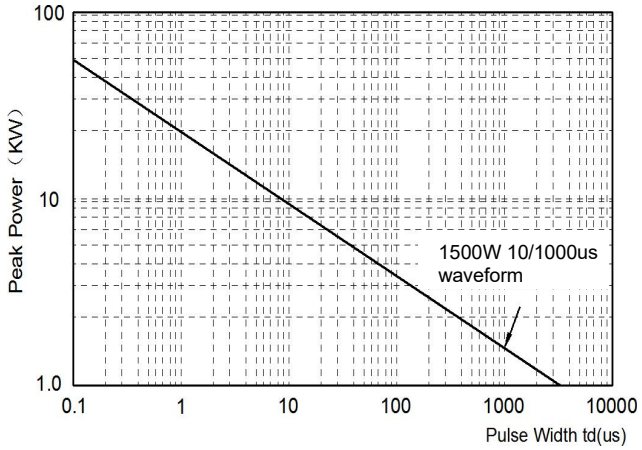


FIG4：Peak Pulse Power Rating Curve

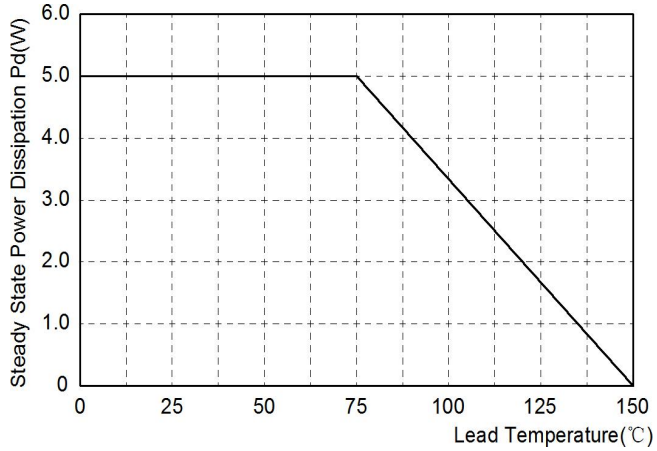
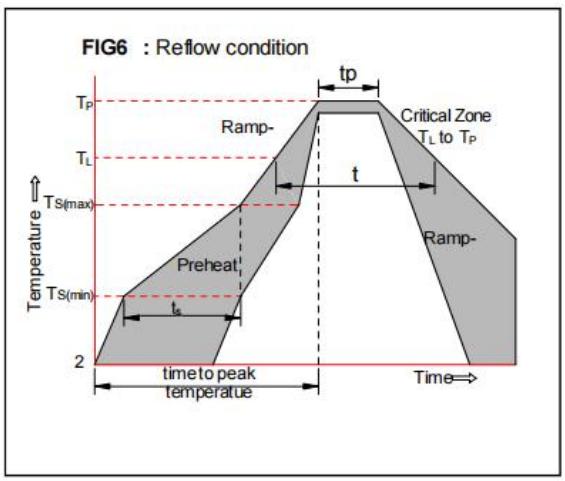


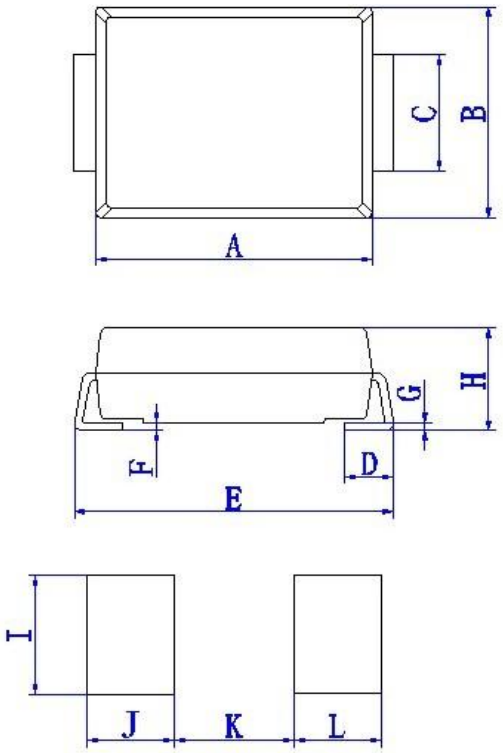
FIG5：Steady State Power Dissipation

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 SMC / DO-214AB



Ref.(mm)	Millimeters	
	Min.	Max.
A	6.60	7.11
B	5.59	6.20
C	2.75	3.20
D	0.76	1.52
E	7.71	8.13
F	0.051	0.203
G	0.15	0.25
H	2.06	2.75
I	3.30	-
J	1.30	-
K	-	5.30

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