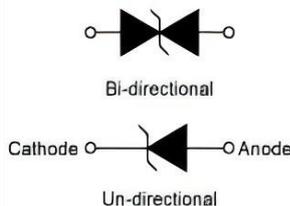


### 1500W Transient Voltage Suppressor 5.0 SMCJ Series

Parameter	Value	Unit
$P_{PP}$	1500	W
$PM(AV)$ (TL =75°C)	5.0	W
$T_j$	-55 to +125	°C



SMC/DO-214AB

FEATURES	APPLICATIONS
<ul style="list-style-type: none"> <li>■ VRWM: 5.0-440V</li> <li>■ Excellent clamping capability</li> <li>■ Typical IR less than 1uA above 9V</li> <li>■ Low profile package and low inductance</li> <li>■ 1500W peak pulse power capability with a 10/1000μs waveform.</li> <li>■ Fast response time: typically less than 1.0ps from 0V to VBR min.</li> </ul>	<ul style="list-style-type: none"> <li>■ For surface mounted applications</li> <li>■ Computer system</li> <li>■ Domestic appliance</li> <li>■ Video input</li> </ul>

### MAXIMUM RATED VALUES (at $T_J = 25\text{ °C}$ , unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak pulse power dissipation on 10/1000μs waveform	PPP	1500	W
Steady state power dissipation at TL=75°C	PM(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 $T_J = 25\text{ °C}$ unless otherwise specified)

Part Number		VR	IR@VR	VBR@IT		IT	VC@IPP	IPP <sup>①</sup>
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
SMCJ5.0A	SMCJ5.0CA	5.0	800	6.40	7.00	10	9.2	163.05
SMCJ6.0A	SMCJ6.0CA	6.0	800	6.67	7.37	10	10.3	145.64
SMCJ6.5A	SMCJ6.5CA	6.5	500	7.22	7.98	10	11.2	133.93
SMCJ7.0A	SMCJ7.0CA	7.0	200	7.78	8.60	10	12.0	125.00
SMCJ7.5A	SMCJ7.5CA	7.5	100	8.33	9.21	1	12.9	116.28
SMCJ8.0A	SMCJ8.0CA	8.0	50	8.89	9.83	1	13.6	110.30

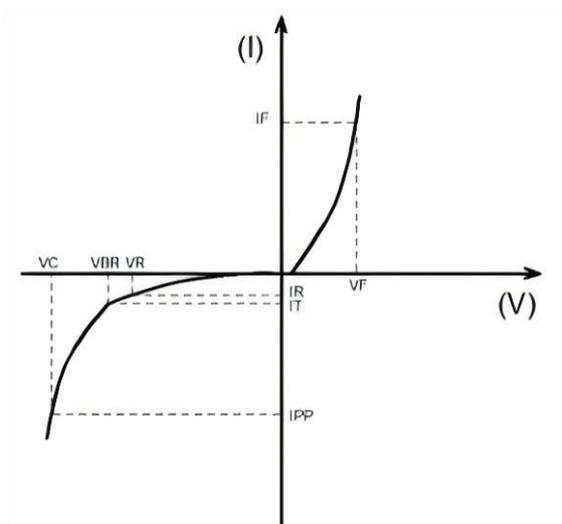
SMCJ8.5A	SMCJ8.5CA	8.5	20	9.44	10.40	1	14.4	104.17
SMCJ9.0A	SMCJ9.0CA	9.0	5	10.00	11.10	1	15.4	97.41
SMCJ10A	SMCJ10CA	10.0	1	11.10	12.30	1	17.0	88.24
SMCJ11A	SMCJ11CA	11.0	1	12.20	13.50	1	18.2	82.42
SMCJ12A	SMCJ12CA	12.0	1	13.30	14.70	1	19.9	75.38
SMCJ13A	SMCJ13CA	13.0	1	14.40	15.90	1	21.5	69.77
SMCJ14A	SMCJ14CA	14.0	1	15.60	17.20	1	23.2	64.66
SMCJ15A	SMCJ15CA	15.0	1	16.70	18.50	1	24.4	61.48
SMCJ16A	SMCJ16CA	16.0	1	17.80	19.70	1	26.0	57.70
SMCJ17A	SMCJ17CA	17.0	1	18.90	20.90	1	27.6	54.35
SMCJ18A	SMCJ18CA	18.0	1	20.00	22.10	1	29.2	51.37
SMCJ20A	SMCJ20CA	20.0	1	22.20	24.50	1	32.4	46.30
SMCJ22A	SMCJ22CA	22.0	1	24.40	26.90	1	35.5	42.26
SMCJ24A	SMCJ24CA	24.0	1	26.70	29.50	1	38.9	38.57
SMCJ26A	SMCJ26CA	26.0	1	28.90	31.90	1	42.1	35.63
SMCJ28A	SMCJ28CA	28.0	1	31.10	34.40	1	45.4	33.04
SMCJ30A	SMCJ30CA	30.0	1	33.30	36.80	1	48.4	31.00
SMCJ33A	SMCJ33CA	33.0	1	36.70	40.60	1	53.3	28.15
SMCJ36A	SMCJ36CA	36.0	1	40.00	44.20	1	58.1	25.82
SMCJ40A	SMCJ40CA	40.0	1	44.40	49.10	1	64.5	23.26
SMCJ43A	SMCJ43CA	43.0	1	47.80	52.80	1	69.4	21.62
SMCJ45A	SMCJ45CA	45.0	1	50.00	55.30	1	72.7	20.64
SMCJ48A	SMCJ48CA	48.0	1	53.30	58.90	1	77.4	19.38
SMCJ51A	SMCJ51CA	51.0	1	56.70	62.70	1	82.4	18.21
SMCJ54A	SMCJ54CA	54.0	1	60.00	66.30	1	87.1	17.23
SMCJ58A	SMCJ58CA	58.0	1	64.40	71.20	1	93.6	16.03
SMCJ60A	SMCJ60CA	60.0	1	66.70	73.70	1	96.8	15.50
SMCJ64A	SMCJ64CA	64.0	1	71.10	78.60	1	103.0	14.57
SMCJ70A	SMCJ70CA	70.0	1	77.80	86.00	1	113.0	13.28

**Notes:**

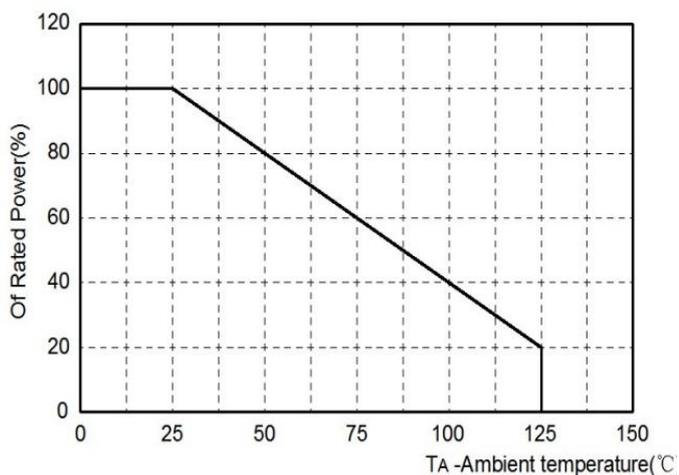
- ① Surge waveform: 10/1000 $\mu$ s
- VR: Stand-off Voltage -- Maximum voltage that can be applied
- VBR: Breakdown Voltage
- VC: Clamping Voltage -- Peak voltage measured across the suppressor at a specified Ipp
- IR: Reverse Leakage Current

**TYPICAL CHARACTERISTICS CURVES**

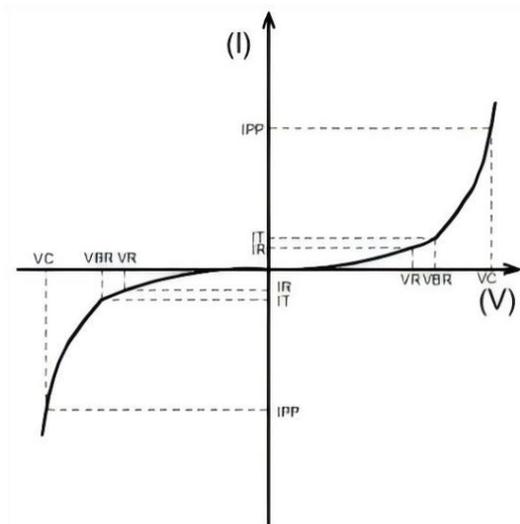
**Fig1: V-i cure characteristics**



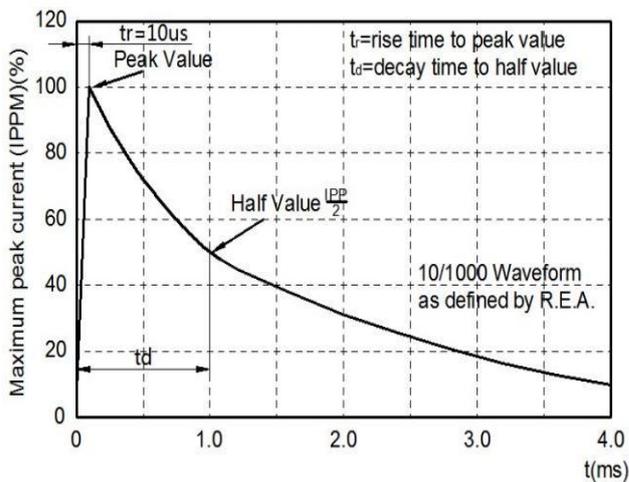
**Fig2: Pulse derating curve**



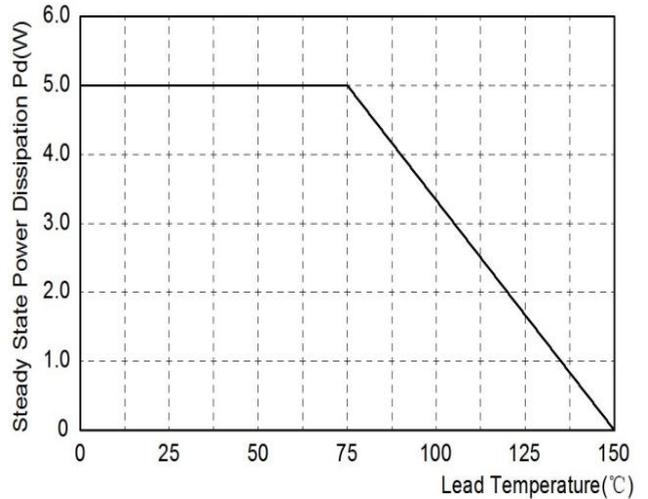
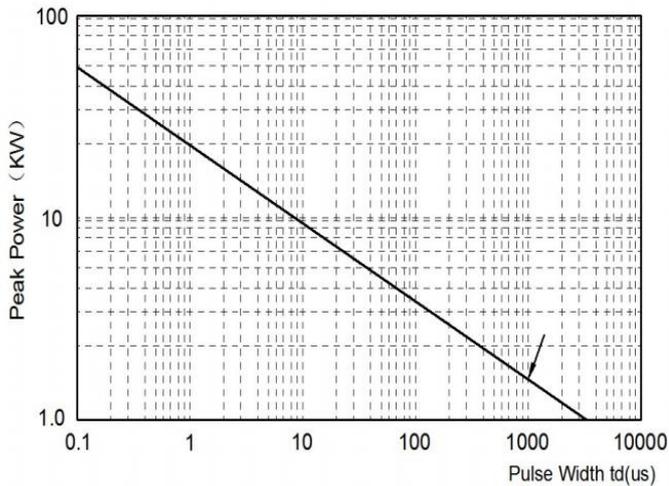
**Fig4: Peak Pulse Power Rating Curve**



**Fig3: Pulse waveform**

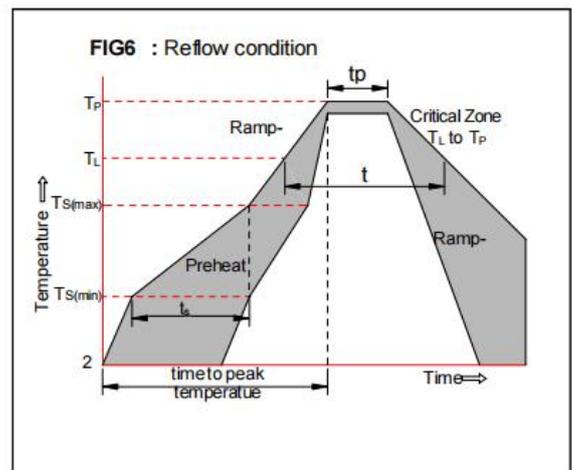


**Fig5: Steady State Power Dissipation**

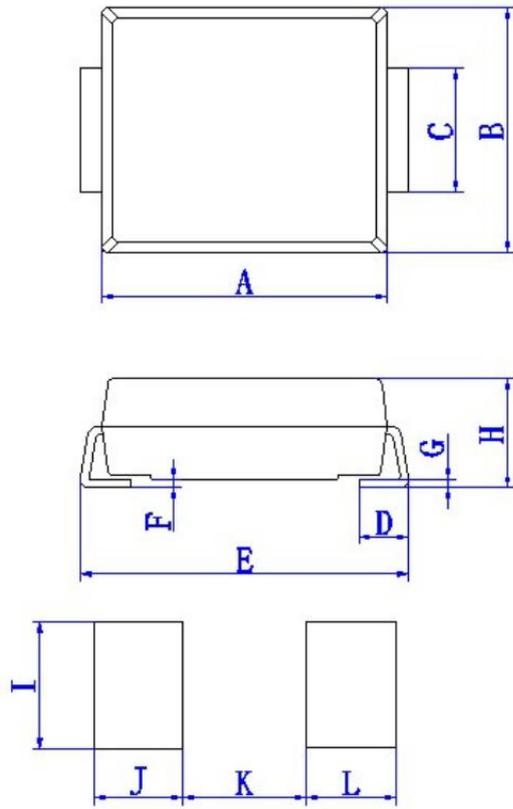


### Soldering parameters

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



### PACKAGE OUTLINES



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
L	1.30	

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