3.0SMDJ5.0~3.0SMD170A

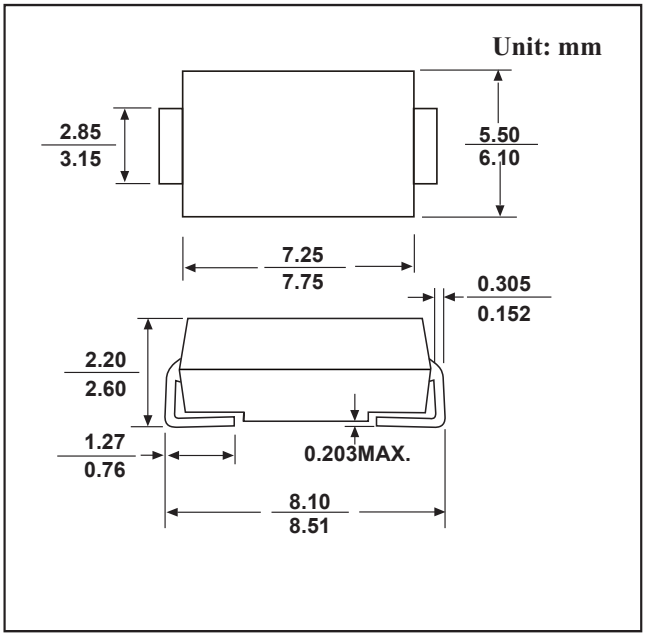
SMC TRANSIENT VOLTAGE SUPPRESSOR

FEATURES

- 3000W peak pulse capadility @10 x 1000uswaveform, repetition rate (duty cycle): 0.01%
- Optimized for LAN protection applications
- Low incremental surge resistance
- excellent clamping capability
- Fast response time: typically less than 1ps from 0 Volts to V(BR) for uni-directional and 5.0ns for bi-directional types
- High temperature soldering guaranteed: 250° C/10 seconds at terminals

MECHANICAL DATA

- Case style:SMC plastic molded
- Polarity:color band denotes positive end(cathode) except for bidirectional
- Mounting position: any



DEVICES FOR BIDIRECTIONAL APPLICATIONS

For bidirectional use C or CA suffix for types 1.5KE6.8 thru 1.5KE540(e.g. 1.5KE6.8C,1.5KE440CA)

Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Units
Peak Power Dissipation (Note 1.) @T_L = 25°C, Pulse Width = 1 ms	P_{PK}	3000	W
Forward Surge Current (Note 2.) @T_A = 25°C	I_{FSM}	200	A
Power Dissipation On Infinite Heatsink, @T_A = 50°C	$P_{M(AV)}$	5.0	W
Thermal Resistance Junction To Ambient Air (Note 3.)	$R_{\theta JA}$	75	°C/W
Thermal Resistance Junction To Leads	$R_{\theta JL}$	15	°C/W
Storage Temperature Range	T_{STG}	-55 to 150	°C
Operating Junction Temperature Range	T_J	-55 to 150	°C

1）10 X 1000 us, non–repetitive

2）1/2 sine wave (or equivalent square wave), PW = 8.3 ms, duty cycle = 4 pulses per minute maximum 3）Mounted on minimum recommended pad layout

Electrical Specification (T_A=25@25°C unless otherwise specified)

Part Number		Dice Scale (A)	Scale (B)	Scale (C)	Reverse stand-off Voltage	Breakdown voltage		Test Current	Reverse Leakage		Max Clamp Voltage	Peak Pulse Current
						VBR@IT		IT	IR@VRW		Vc@Ipp	Ipp
					VRW	Min	Max		UNI	MBI		
UNI	BI	mil	mil	um	V^M	V	V	mA	uA	uA	V	A
1.5SMCJ10A	1.5SMCJ10CA	110±2	91±1	330±30	10.0	11.100	12.300	1	1	1	17.0	88.2
1.5SMCJ11A	1.5SMCJ11CA	110±2	91±1	330±30	11.0	12.200	13.500	1	1	1	18.2	82.4
1.5SMCJ12A	1.5SMCJ12CA	110±2	91±1	330±30	12.0	13.300	14.700	1	1	1	19.9	75.4
1.5SMCJ13A	1.5SMCJ13CA	110±2	91±1	330±30	13.0	14.400	15.900	1	1	1	21.5	69.8
1.5SMCJ14A	1.5SMCJ14CA	110±2	91±1	330±30	14.0	15.600	17.200	1	1	1	23.2	64.7
1.5SMCJ15A	1.5SMCJ15CA	110±2	91±1	330±30	15.0	16.700	18.500	1	1	1	24.4	61.5
1.5SMCJ16A	1.5SMCJ16CA	110±2	91±1	330±30	16.0	17.800	19.700	1	1	1	26.0	57.7
1.5SMCJ17A	1.5SMCJ17CA	110±2	91±1	330±30	17.0	18.900	20.900	1	1	1	27.6	54.3
1.5SMCJ18A	1.5SMCJ18CA	110±2	91±1	330±30	18.0	20.000	22.100	1	1	1	29.2	51.4
1.5SMCJ20A	1.5SMCJ20CA	110±2	91±1	330±30	20.0	22.200	24.500	1	1	1	32.4	46.3
1.5SMCJ22A	1.5SMCJ22CA	110±2	91±1	330±30	22.0	24.400	26.900	1	1	1	35.5	42.3
1.5SMCJ24A	1.5SMCJ24CA	110±2	91±1	330±30	24.0	26.700	29.500	1	1	1	38.9	38.6
1.5SMCJ26A	1.5SMCJ26CA	110±2	91±1	330±30	26.0	28.900	31.900	1	1	1	42.1	35.6
1.5SMCJ28A	1.5SMCJ28CA	110±2	91±1	330±30	28.0	31.100	34.400	1	1	1	45.4	33.0
1.5SMCJ30A	1.5SMCJ30CA	110±2	91±1	330±30	30.0	33.300	36.800	1	1	1	48.4	31.0
1.5SMCJ33A	1.5SMCJ33CA	110±2	91±1	330±30	33.0	36.700	40.600	1	1	1	53.3	28.1
1.5SMCJ36A	1.5SMCJ36CA	110±2	91±1	330±30	36.0	40.000	44.200	1	1	1	58.1	25.8
1.5SMCJ40A	1.5SMCJ40CA	110±2	91±1	330±30	40.0	44.400	49.100	1	1	1	64.5	23.3
1.5SMCJ43A	1.5SMCJ43CA	110±2	91±1	330±30	43.0	47.800	52.800	1	1	1	69.4	21.6
1.5SMCJ45A	1.5SMCJ45CA	110±2	91±1	330±30	45.0	50.000	55.300	1	1	1	72.7	20.6
1.5SMCJ48A	1.5SMCJ48CA	110±2	91±1	330±30	48.0	53.300	58.900	1	1	1	77.4	19.4
1.5SMCJ51A	1.5SMCJ51CA	110±2	91±1	330±30	51.0	56.700	62.700	1	1	1	82.4	18.2
1.5SMCJ54A	1.5SMCJ54CA	110±2	91±1	330±30	54.0	60.000	66.300	1	1	1	87.1	17.2
1.5SMCJ58A	1.5SMCJ58CA	110±2	91±1	330±30	58.0	64.400	71.200	1	1	1	93.6	16.0
1.5SMCJ60A	1.5SMCJ60CA	110±2	91±1	330±30	60.0	66.700	73.700	1	1	1	96.8	15.5
1.5SMCJ64A	1.5SMCJ64CA	110±2	91±1	330±30	64.0	71.100	78.600	1	1	1	103.0	14.6
1.5SMCJ70A	1.5SMCJ70CA	110±2	91±1	330±30	70.0	77.800	86.000	1	1	1	113.0	13.3
1.5SMCJ75A	1.5SMCJ75CA	110±2	91±1	330±30	75.0	83.300	92.100	1	1	1	121.0	12.4
1.5SMCJ78A	1.5SMCJ78CA	110±2	91±1	330±30	78.0	86.700	95.800	1	1	1	126.0	11.9
1.5SMCJ85A	1.5SMCJ85CA	110±2	91±1	330±30	85.0	94.400	104.000	1	1	1	137.0	10.9
1.5SMCJ90A	1.5SMCJ90CA	120±2	101±1	330±30	90.0	100.000	111.000	1	1	1	146.0	10.3
1.5SMCJ100A	1.5SMCJ100CA	120±2	101±1	330±30	100.0	111.000	123.000	1	1	1	162.0	9.3
1.5SMCJ110A	1.5SMCJ110CA	120±2	101±1	330±30	110.0	122.000	135.000	1	1	1	177.0	8.5
1.5SMCJ120A	1.5SMCJ120CA	120±2	101±1	330±30	120.0	133.000	147.000	1	1	1	193.0	7.8
1.5SMCJ250A	1.5SMCJ250CA	160±2	134±1	330±30	250.0	279.000	309.000	1	1	1	405.0	3.7
1.5SMCJ300A	1.5SMCJ300CA	160±2	134±1	330±30	300.0	335.000	371.000	1	1	1	486.0	3.1
1.5SMCJ350A	1.5SMCJ350CA	160±2	134±1	330±30	350.0	391.000	432.000	1	1	1	567.0	2.6
1.5SMCJ400A	1.5SMCJ400CA	160±2	134±1	330±30	400.0	447.000	494.000	1	1	1	648.0	2.3

RATINGS AND CHARACTERISTIC CURVES

DDIAGRAM 1: Current-voltage characteristics

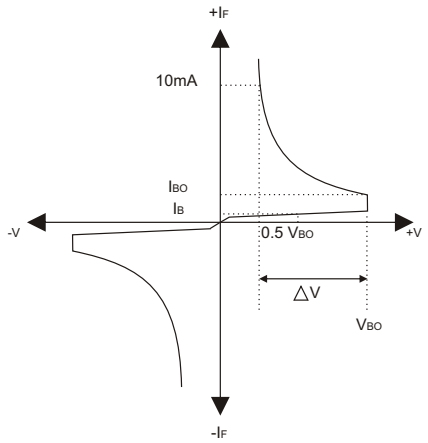


DIAGRAM 2: Test circuit for output voltage

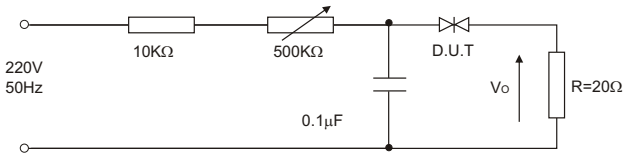


DIAGRAM 3: Test circuit see diagram2 adjust R for P = 0 .5 A I

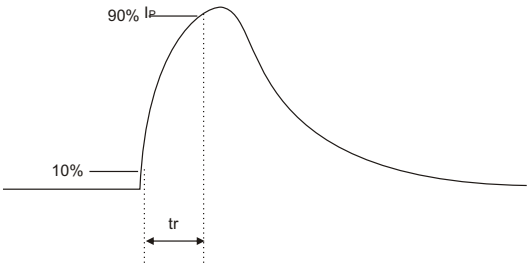


FIG.1-Power dissipation versus ambie nt temperature (maximum values) P

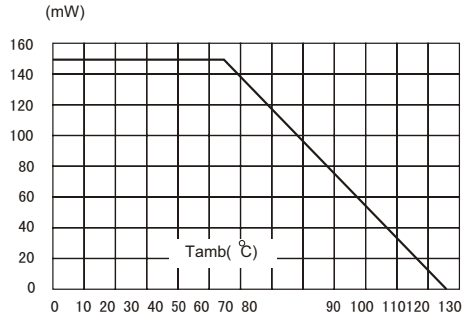


FIG.2-Relative variation of VBO versus juncti on temperature(typical values)

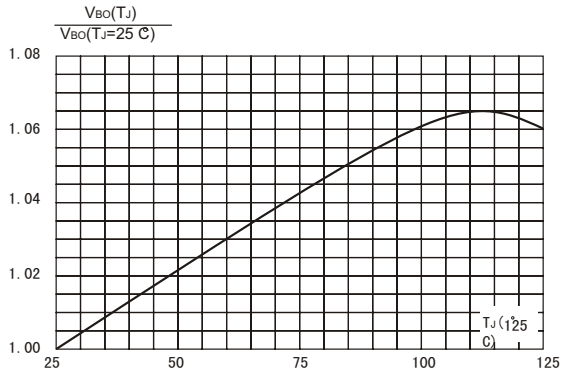
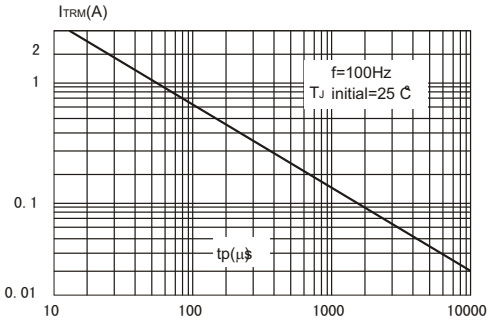


FIG.3-Peak pulse current versus pulse durati on (maximum values)



RATINGS AND CHARACTERISTIC CURVES

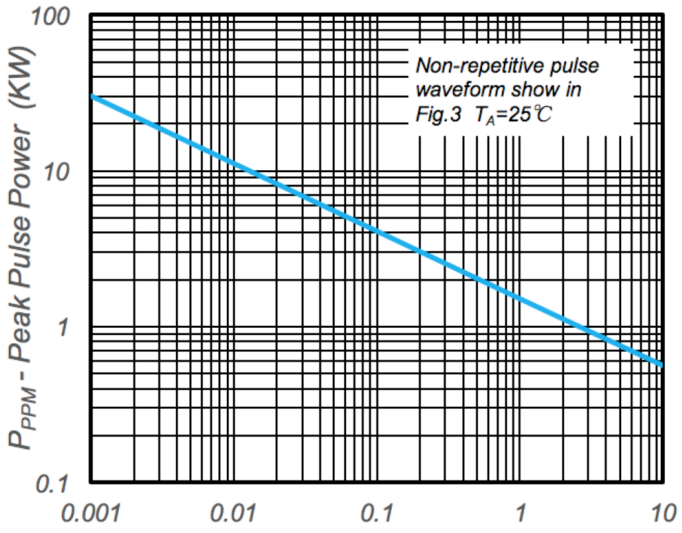


Fig.1 - Peak Pulse Power Rating

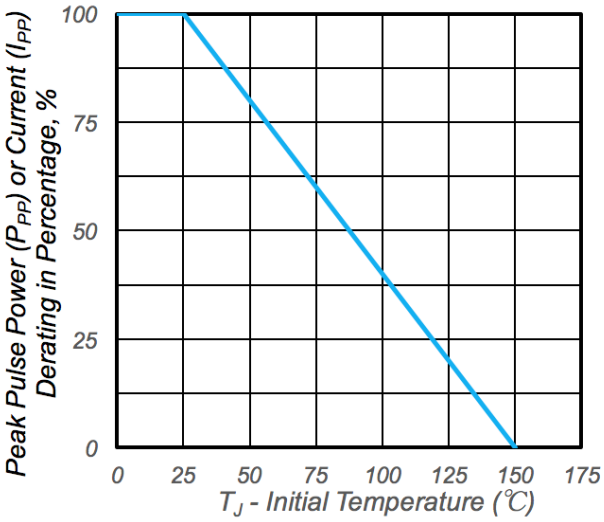


Fig.2 - Pulse Derating Cure

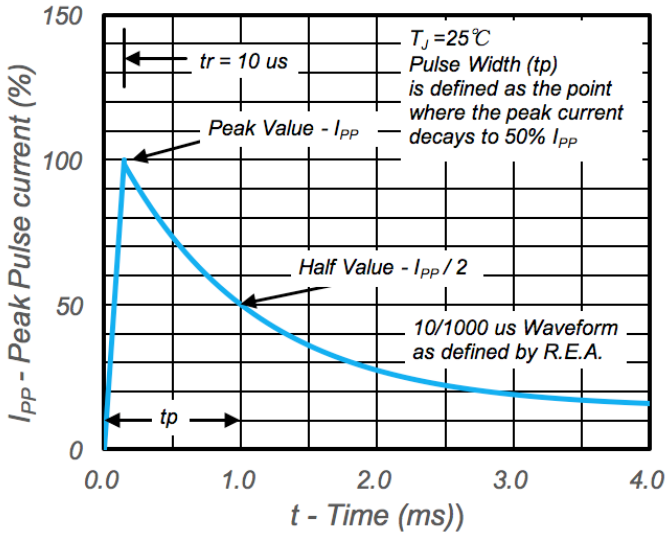


Fig.3 – Pulse Waveform

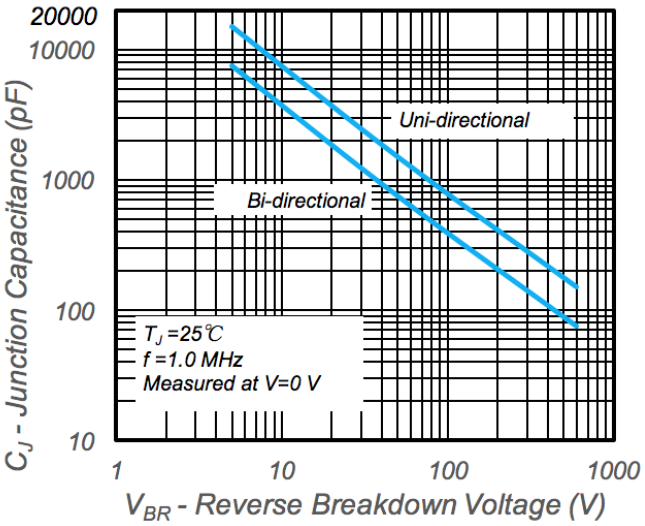


Fig.4 - Typical Junction Capacitance