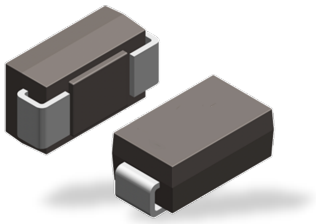
3000W Surface Mount Transient Voltage Suppressor

FEATURES

- Glass passivated chip
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- 3000W peak pulse power capability with a 10/1000 us waveform by 0.01% duty cycle
- High temperature soldering guaranteed: 260℃/10 seconds
- RoHS compliant
- Halogen free

SMC
(DO-214AB)



RoHS COMPLIANT

HALOGEN FREE

MECHANICAL DATA

- Case: SMC(DO-214AB)
- Case material: molding compound meets UL 94V-0 flammability rating
- Polarity: color band denotes cathode end

MAXIMUM RATINGS

T_A=25℃ unless otherwise noted

Parameter	Symbol	Value	Unit
Peak Power Dissipation With a 10/1000 us Waveform	P_{Pk}	3000	W
Peak Forward Surge Current(1) (8.3 ms single half sine-wave Superimposed on Rated Load unidirectional only)	I_{FSM}	300	A
Maximum Instantaneous Forward Voltage (2) at 100A for unidirectional only	V_F	3.5/5.0	V
Operating Junction Temperature Range	T_J	-55 to +150	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃

(1) Duty cycle= 4 pulse per minute maximum;

(2) V_F<3.5V for single die parts and V_F<5.0V for dual die parts.

ELECTRICAL CHARACTERISTICS

T_A=25℃ unless otherwise noted

Part No.		Marking Code		Reverse Standoff Voltage V_{RWM}	Breakdown Voltage V_{BR}@I_T		Test Current I_T	Max. Clamping Voltage V_C@I_{PP}	Max. Peak Pulse Current I_{PP}	Max. Reverse Leakage I_R@V_R
Uni.	Bi.	Uni.	Bi.	(V)	Min.(V)	Max.(V)	(mA)	(V)	(A)	(uA)
SMDJ5.0A	SMDJ5.0CA	RDE	DDE	5.0	6.40	7.00	10	9.2	326.1	800
SMDJ6.0A	SMDJ6.0CA	RDG	DDG	6.0	6.67	7.37	10	10.3	291.3	800
SMDJ6.5A	SMDJ6.5CA	RDK	DDK	6.5	7.22	7.98	10	11.2	267.9	500
SMDJ7.0A	SMDJ7.0CA	PDM	DDM	7.0	7.78	8.60	10	12.0	250.0	200
SMDJ7.5A	SMDJ7.5CA	PDP	DDP	7.5	8.33	9.21	1	12.9	232.6	100
SMDJ8.0A	SMDJ8.0CA	PDR	DDR	8.0	8.89	9.83	1	13.6	220.6	50
SMDJ8.5A	SMDJ8.5CA	PDT	DDT	8.5	9.44	10.40	1	14.4	208.3	20
SMDJ9.0A	SMDJ9.0CA	PDV	DDV	9.0	10.00	11.10	1	15.4	194.8	10
SMDJ10A	SMDJ10CA	PDX	DDX	10.0	11.10	12.30	1	17.0	176.5	5
SMDJ11A	SMDJ11CA	PDZ	DDZ	11.0	12.20	13.50	1	18.2	164.8	2
SMDJ12A	SMDJ12CA	PEE	DEE	12.0	13.30	14.70	1	19.9	150.8	2
SMDJ13A	SMDJ13CA	PEG	DEG	13.0	14.40	15.90	1	21.5	139.5	2
SMDJ14A	SMDJ14CA	PEK	DEK	14.0	15.60	17.20	1	23.2	129.3	2
SMDJ15A	SMDJ15CA	PEM	DEM	15.0	16.70	18.50	1	24.4	123.0	2
SMDJ16A	SMDJ16CA	PEP	DEP	16.0	17.80	19.70	1	26.0	115.4	2
SMDJ17A	SMDJ17CA	PER	DER	17.0	18.90	20.90	1	27.6	108.7	2
SMDJ18A	SMDJ18CA	PET	DET	18.0	20.00	22.10	1	29.2	102.7	2
SMDJ20A	SMDJ20CA	PEV	DEV	20.0	22.20	24.50	1	32.4	92.6	2
SMDJ22A	SMDJ22CA	PEX	DEX	22.0	24.40	26.90	1	35.5	84.5	2
SMDJ24A	SMDJ24CA	PEZ	DEZ	24.0	26.70	29.50	1	38.9	77.1	2
SMDJ26A	SMDJ26CA	PFE	DFE	26.0	28.90	31.90	1	42.1	71.3	2
SMDJ28A	SMDJ28CA	PFG	DFG	28.0	31.10	34.40	1	45.4	66.1	2
SMDJ30A	SMDJ30CA	PFK	DFK	30.0	33.30	36.80	1	48.4	62.0	2
SMDJ33A	SMDJ33CA	PFM	DFM	33.0	36.70	40.60	1	53.3	56.3	2
SMDJ36A	SMDJ36CA	PFP	DFP	36.0	40.00	44.20	1	58.1	51.6	2
SMDJ40A	SMDJ40CA	PFR	DFR	40.0	44.40	49.10	1	64.5	46.5	2
SMDJ43A	SMDJ43CA	PFT	DFT	43.0	47.80	52.80	1	69.4	43.2	2
SMDJ45A	SMDJ45CA	PFV	DFV	45.0	50.00	55.30	1	72.7	41.3	2
SMDJ48A	SMDJ48CA	PFX	DFX	48.0	53.30	58.90	1	77.4	38.8	2
SMDJ51A	SMDJ51CA	PFZ	DFZ	51.0	56.70	62.70	1	82.4	36.4	2

ELECTRICAL CHARACTERISTICS

T_A=25℃ unless otherwise noted

Part No.		Marking Code		Reverse Standoff Voltage V_{RWM}	Breakdown Voltage V_{BR}@I_T		Test Current I_T	Max. Clamping Voltage V_C@I_{PP}	Max. Peak Pulse Current I_{PP}	Max. Reverse Leakage I_R@V_R
Uni.	Bi.	Uni.	Bi.	(V)	Min.(V)	Max.(V)	(mA)	(V)	(A)	(uA)
SMDJ54A	SMDJ54CA	RGE	DGE	54.0	60.00	66.30	1	87.1	34.4	2
SMDJ58A	SMDJ58CA	PGG	DGG	58.0	64.40	71.20	1	93.6	32.1	2
SMDJ60A	SMDJ60CA	PGK	DGK	60.0	66.70	73.70	1	96.8	31.0	2
SMDJ64A	SMDJ64CA	PGM	DGM	64.0	71.10	78.60	1	103.0	29.1	2
SMDJ70A	SMDJ70CA	PGP	DGP	70.0	77.80	86.00	1	113.0	26.5	2
SMDJ75A	SMDJ75CA	PGR	DGR	75.0	83.30	92.10	1	121.0	24.8	2
SMDJ78A	SMDJ78CA	PGT	DGT	78.0	86.70	95.80	1	126.0	23.8	2
SMDJ85A	SMDJ85CA	PGV	DGV	85.0	94.40	104.00	1	137.0	21.9	2
SMDJ90A	SMDJ90CA	PGX	DGX	90.0	100.00	111.00	1	146.0	20.5	2
SMDJ100A	SMDJ100CA	PGZ	DGZ	100.0	111.00	123.00	1	162.0	18.5	2
SMDJ110A	SMDJ110CA	PHE	DHE	110.0	122.00	135.00	1	177.0	16.9	2
SMDJ120A	SMDJ120CA	PHG	DHG	120.0	133.00	147.00	1	193.0	15.5	2
SMDJ130A	SMDJ130CA	PHK	DHK	130.0	144.00	159.00	1	209.0	14.4	2
SMDJ150A	SMDJ150CA	PHM	DHM	150.0	167.00	185.00	1	243.0	12.3	2
SMDJ160A	SMDJ160CA	PHP	DHP	160.0	178.00	197.00	1	259.0	11.6	2
SMDJ170A	SMDJ170CA	PHR	DHR	170.0	189.00	209.00	1	275.0	10.9	2
SMDJ180A	SMDJ180CA	PHT	DHT	180.0	200.00	221.00	1	292.0	13.7	2
SMDJ200A	SMDJ200CA	PHV	DHV	200.0	224.00	247.00	1	324.0	12.4	2
SMDJ220A	SMDJ220CA	PKE	DKE	220.0	244.00	270.00	1	356.0	11.3	2
SMDJ250A	SMDJ250CA	PKG	DKG	250.0	279.00	309.00	1	405.0	9.9	2
SMDJ300A	SMDJ300CA	PKI	DKI	300.0	335.00	371.00	1	486.0	8.3	2
SMDJ350A	SMDJ350CA	PKJ	DKJ	350.0	391.00	432.00	1	567.0	7.1	2
SMDJ400A	SMDJ400CA	PKL	DKL	400.0	447.00	494.00	1	648.0	6.2	2
SMDJ440A	SMDJ440CA	PKN	DKN	440.0	492.00	543.00	1	713.0	5.7	2

For bidirectional type having VR of 10 volts and less, the IR limit is double.

RATINGS AND CHARACTERISTIC CURVES

FIG1:Peak Pulse Power Rating Curve

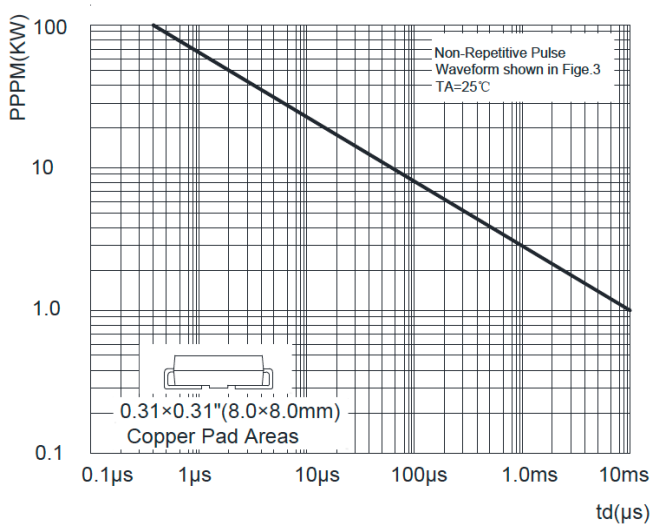


FIG2: Pulse Power or Current vs. Initial Junction Temperature

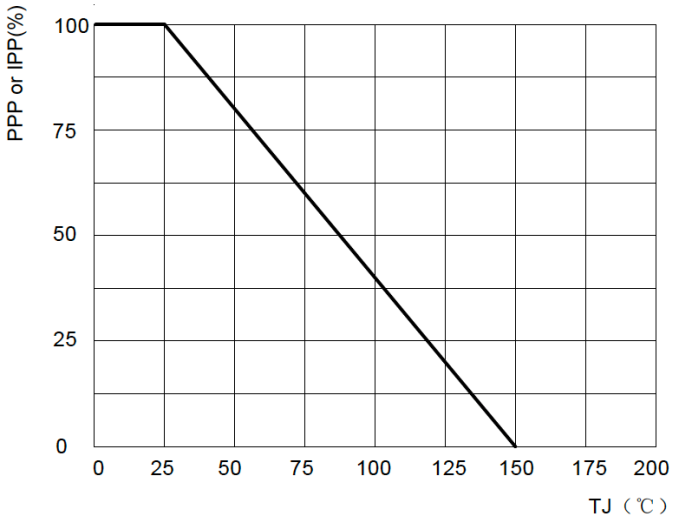


FIG3: Pulse Waveform

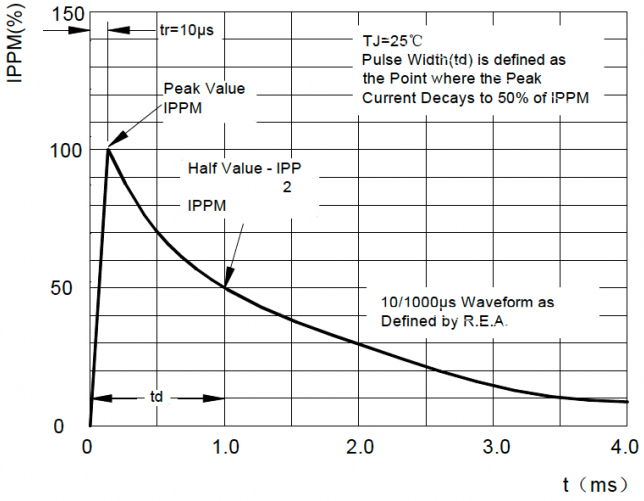


FIG4:Typical Transient Thermal Impedance

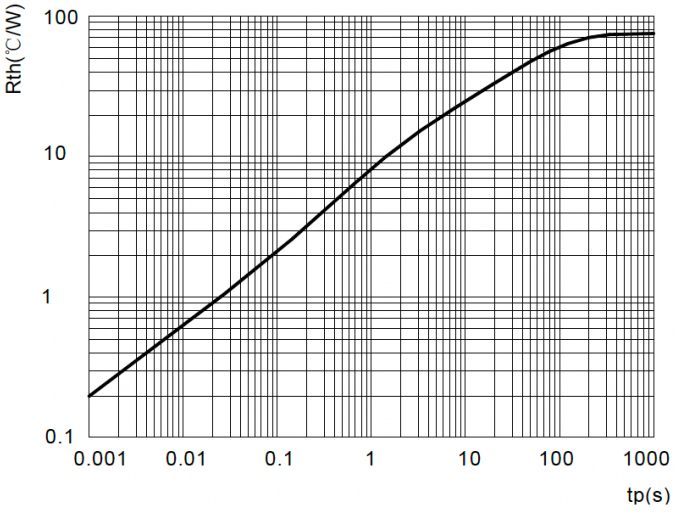


FIG5: Maximum Non-Repetitive Surge Current

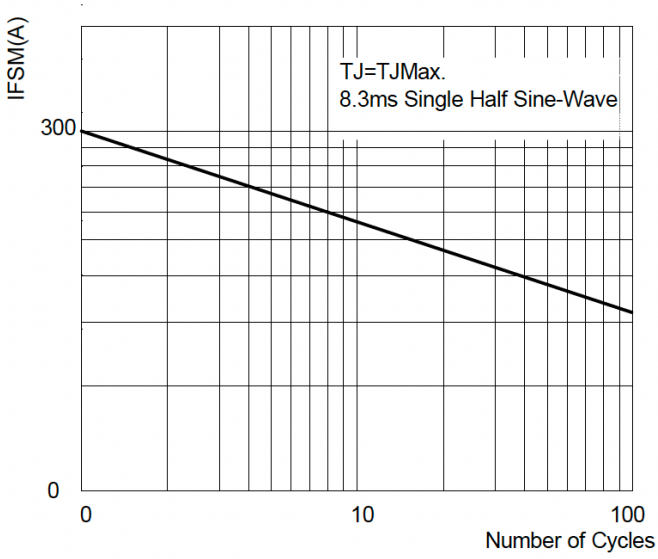
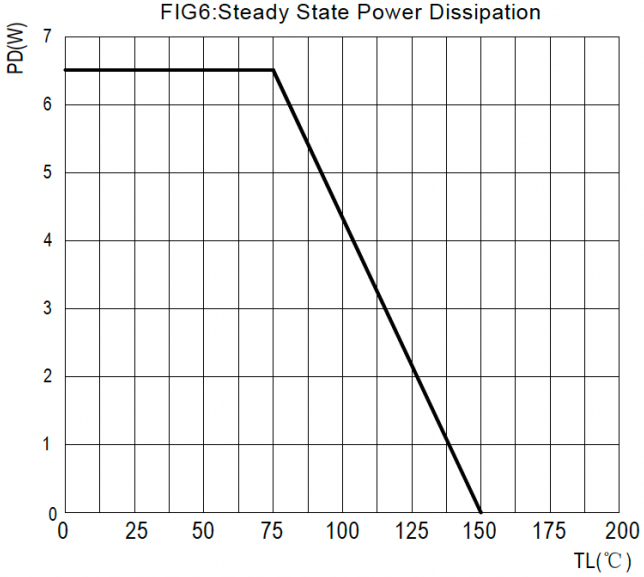
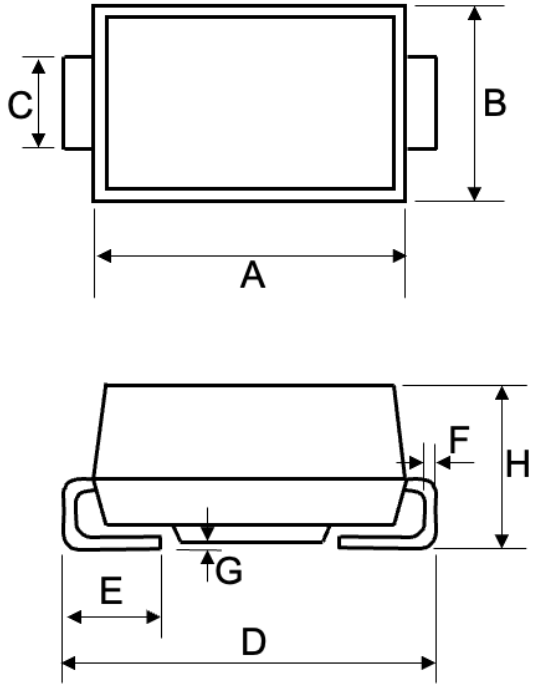


FIG6:Steady State Power Dissipation



PACKAGE OUTLINE DIMENSIONS



SMC(DO-214AB)				
DIM.	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.256	0.280	6.50	7.10
B	0.217	0.245	5.50	6.22
C	0.106	0.130	2.70	3.30
D	0.291	0.331	7.40	8.40
E	0.030	0.063	0.76	1.60
F	0.006	0.012	0.15	0.31
G	0.012max		0.30max	
H	0.079	0.116	2.00	2.95

PACKING INFORMATION

Part Number	Package	Packing Method	Reel(PCS)
SMDJxx(C)A	SMC(DO-214AB)	Reel	3,000