Surface Mount Transient Voltage Suppressor Rectifiers

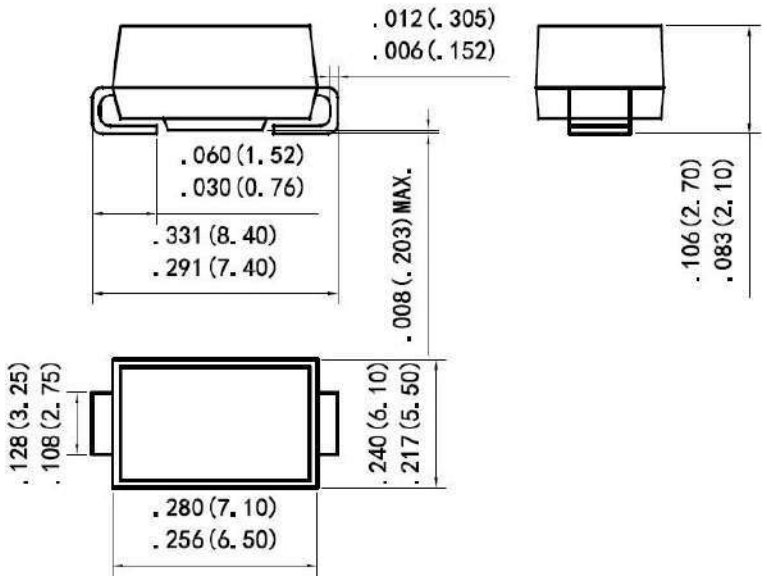
Features:

- Glass passivated chip
- 5000 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard

Mechanical Data:

- Case: DO-214AB/(SMC) Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

DO-214AB/(SMC)



Unit: inch (mm)

Maximum Ratings & Characteristics Ratings at 25℃ ambient temperature unless otherwise specified.

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform(1)	P_{PP}	5000	W
Peak pulse current wih a 10/1000 us waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at TL = 75 °C	P_D	6.5	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only(2)	I_{FSM}	300	A
Maximum instantaneous forward voltage at 100 A for unidirectional only(3)	V_F	3.5/6.5	V
Operating junction and storage temperature range	T_J , T_{STG}	-55 to +150	℃

Note:

1)Non-repetitive current pulse per Fig.5 and derated above TA= 25 °C per Fig.1 ;

2)Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum ;

3)VF<3.5V for devices of VBR<200V and VF<6.5V for devices of VBR>201V。

Part Number		Device Marking Code		Reverse Stand-off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Max. Clamping Voltage @ I_{PP}	Max. Peak Pulse Current	Max. Reverse Leakage @ V_{RWM}
UNI-POLAR	BI-POLAR	UNI	BI	V_{RWM}(V)	Min.(V)	Max.(V)	I_T(mA)	$V_{C\ MAX.}$(V)	I_{PP}(A)	I_R(uA)
5.0SMDJ5.0A	5.0SMDJ5.0CA	5PDE	5BDE	5.0	6.40	7.00	10	9.2	543.5	800
5.0SMDJ6.0A	5.0SMDJ6.0CA	5PDG	5BDG	6.0	6.67	7.37	10	10.3	485.5	800
5.0SMDJ6.5A	5.0SMDJ6.5CA	5PDK	5BDK	6.5	7.22	7.98	10	11.2	446.5	800
5.0SMDJ7.0A	5.0SMDJ7.0CA	5PDM	5BDM	7.0	7.78	8.60	10	12.0	416.7	800
5.0SMDJ7.5A	5.0SMDJ7.5CA	5PDP	5BDP	7.5	8.33	9.21	1	12.9	387.7	800
5.0SMDJ8.0A	5.0SMDJ8.0CA	5PDR	5BDR	8.0	8.89	9.83	1	13.6	367.7	800
5.0SMDJ8.5A	5.0SMDJ8.5CA	5PDT	5BDT	8.5	9.44	10.40	1	14.4	347.2	800
5.0SMDJ9.0A	5.0SMDJ9.0CA	5PDV	5BDV	9.0	10.00	11.10	1	15.4	324.7	800
5.0SMDJ10A	5.0SMDJ10CA	5PDX	5BDX	10.0	11.10	12.30	1	17.0	294.2	800
5.0SMDJ11A	5.0SMDJ11CA	5PEN	5BEN	11.0	12.20	13.50	10	18.2	277.5	800
5.0SMDJ12A	5.0SMDJ12CA	5PEP	5BEP	12.0	13.30	14.70	10	19.9	253.8	800
5.0SMDJ13A	5.0SMDJ13CA	5PEQ	5BEQ	13.0	14.40	15.90	10	21.5	234.9	500
5.0SMDJ14A	5.0SMDJ14CA	5PER	5BER	14.0	15.60	17.20	10	23.2	217.7	200
5.0SMDJ15A	5.0SMDJ15CA	5PES	5BES	15.0	16.70	18.50	1	24.4	207.0	100
5.0SMDJ16A	5.0SMDJ16CA	5PET	5BET	16.0	17.80	19.70	1	26.0	194.2	50
5.0SMDJ17A	5.0SMDJ17CA	5PEU	5BEU	17.0	18.90	20.90	1	27.6	183.0	20
5.0SMDJ18A	5.0SMDJ18CA	5PEV	5BEV	18.0	20.00	22.10	1	29.2	172.9	10
5.0SMDJ20A	5.0SMDJ20CA	5PEW	5BEW	20.0	22.20	24.50	1	32.4	155.9	5
5.0SMDJ22A	5.0SMDJ22CA	5PEX	5BEX	22.0	24.40	26.90	1	35.5	142.3	5
5.0SMDJ24A	5.0SMDJ24CA	5PEZ	5BEZ	24.0	26.70	29.50	1	38.9	129.8	5
5.0SMDJ26A	5.0SMDJ26CA	5PFE	5BFE	26.0	28.90	31.90	1	42.1	120.0	5
5.0SMDJ28A	5.0SMDJ28CA	5PFG	5BFG	28.0	31.10	34.40	1	45.4	111.2	5
5.0SMDJ30A	5.0SMDJ30CA	5PFK	5BFK	30.0	33.30	36.80	1	48.4	104.3	5
5.0SMDJ33A	5.0SMDJ33CA	5PFM	5BFM	33.0	36.70	40.60	1	53.3	94.75	5
5.0SMDJ36A	5.0SMDJ36CA	5PFP	5BFP	36.0	40.00	44.20	1	58.1	86.92	5
5.0SMDJ40A	5.0SMDJ40CA	5PFR	5BFR	40.0	44.40	49.10	1	64.5	78.29	5
5.0SMDJ43A	5.0SMDJ43CA	5PFT	5BFT	43.0	47.80	52.80	1	69.4	72.77	5
5.0SMDJ45A	5.0SMDJ45CA	5PFV	5BFV	45.0	50.00	55.30	1	72.7	69.46	5
5.0SMDJ48A	5.0SMDJ48CA	5PFX	5BFX	48.0	53.30	58.90	1	77.4	65.25	5
5.0SMDJ51A	5.0SMDJ51CA	5PFZ	5BFZ	51.0	56.70	62.70	1	82.4	61.29	5
5.0SMDJ54A	5.0SMDJ54CA	5PGE	5BGE	54.0	60.00	66.30	1	87.1	57.98	5
5.0SMDJ58A	5.0SMDJ58CA	5PGG	5BGG	58.0	64.40	71.20	1	93.6	53.95	5
5.0SMDJ60A	5.0SMDJ60CA	5PGK	5BGK	60.0	66.70	73.70	1	96.8	52.17	5
5.0SMDJ64A	5.0SMDJ64CA	5PGM	5BGM	64.0	71.10	78.60	1	103.0	49.03	5
5.0SMDJ70A	5.0SMDJ70CA	5PGP	5BGP	70.0	77.80	86.00	1	113.0	44.69	5
5.0SMDJ75A	5.0SMDJ75CA	5PGR	5BGR	75.0	83.30	92.10	1	121.0	41.74	5
5.0SMDJ78A	5.0SMDJ78CA	5PGT	5BGT	78.0	86.70	95.80	1	126.0	40.08	5
5.0SMDJ85A	5.0SMDJ85CA	5PGV	5BGV	85.0	94.40	104.00	1	137.0	36.86	5
5.0SMDJ90A	5.0SMDJ90CA	5PGX	5BGX	90.0	100.00	111.00	1	146.0	34.59	5
5.0SMDJ100A	5.0SMDJ100CA	5PGZ	5BGZ	100.0	111.00	123.00	1	162.0	31.17	5
5.0SMDJ110A	5.0SMDJ110CA	5PHE	5BHE	110.0	122.00	135.00	1	177.0	28.53	5
5.0SMDJ120A	5.0SMDJ120CA	5PHG	5BHG	120.0	133.00	147.00	1	193.0	26.17	5
5.0SMDJ130A	5.0SMDJ130CA	5PHK	5BHK	130.0	144.00	159.00	1	209.0	24.16	5
5.0SMDJ150A	5.0SMDJ150CA	5PHM	5BHM	150.0	167.00	185.00	1	243.0	20.78	5
5.0SMDJ160A	5.0SMDJ160CA	5PHP	5BHP	160.0	178.00	197.00	1	259.0	19.50	5
5.0SMDJ170A	5.0SMDJ170CA	5PHR	5BHR	170.0	189.0	209.0	1	275.0	18.36	5
5.0SMDJ180A	5.0SMDJ180CA	5PHT	5BHT	180.0	200.0	220.0	1	291.6	17.32	5
5.0SMDJ190A	5.0SMDJ190CA	5PHV	5DHV	190.0	211.0	232.0	1	307.8	16.41	5
5.0SMDJ200A	5.0SMDJ200CA	5PHX	5DHX	200.0	224.0	247.0	1	324.0	15.59	5
5.0SMDJ210A	5.0SMDJ210CA	5PHZ	5DHZ	210.0	231.0	268.0	1	340.0	14.85	5
5.0SMDJ220A	5.0SMDJ220CA	5PIE	5DIE	220.0	246.0	272.0	1	356.0	14.19	5
5.0SMDJ250A	5.0SMDJ250CA	5PIG	5DIG	250.0	279.0	309.0	1	405.0	12.47	5
5.0SMDJ300A	5.0SMDJ300CA	5PIK	5DIK	300.0	335.0	371.0	1	486.0	10.39	5
5.0SMDJ350A	5.0SMDJ350CA	5PIM	5DIM	350.0	391.0	432.0	1	567.0	8.91	5
5.0SMDJ400A	5.0SMDJ400CA	5PIP	5DIP	400.0	447.0	494.0	1	648.0	7.79	5
5.0SMDJ440A	5.0SMDJ440CA	5PIR	5DIR	440.0	492.0	543.0	1	713.0	7.00	5

Ratings and Characteristics Curves (TA=25℃ unless otherwise noted)

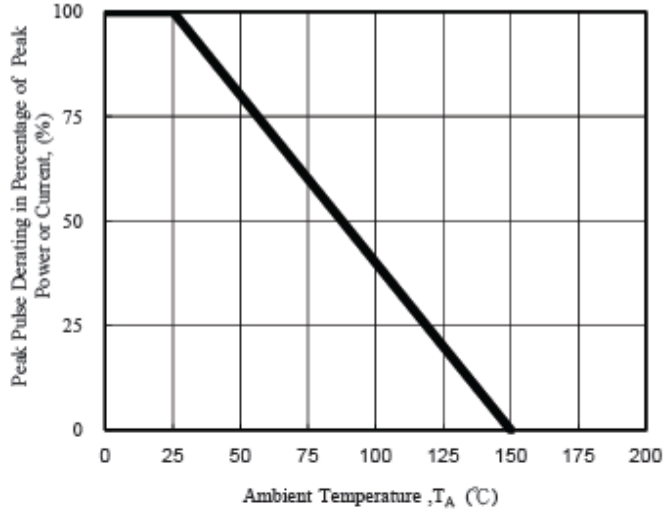


Fig. 1 - Pulse Derating Curve

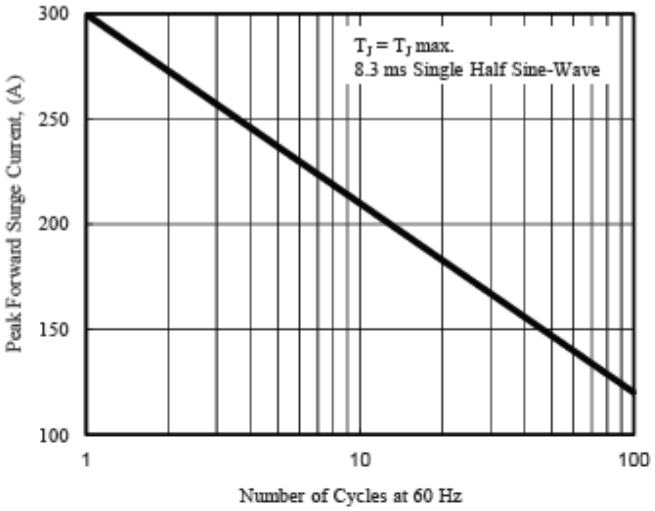


Fig. 2 - Maximum Non-Repetitive Surge Current

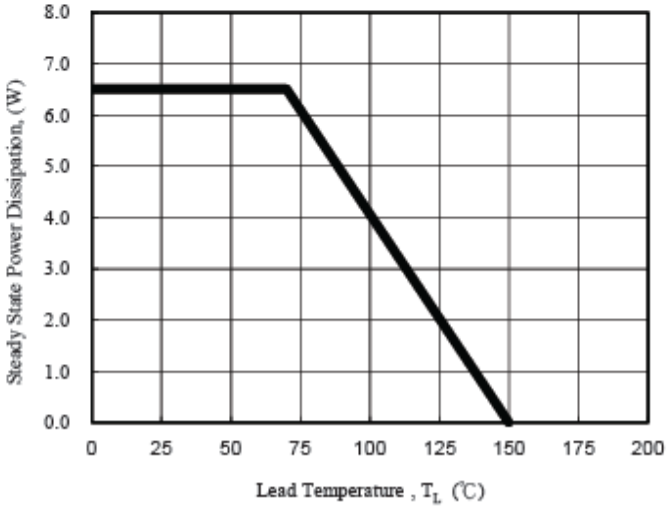


Fig. 3 - Steady State Power Derating Curve

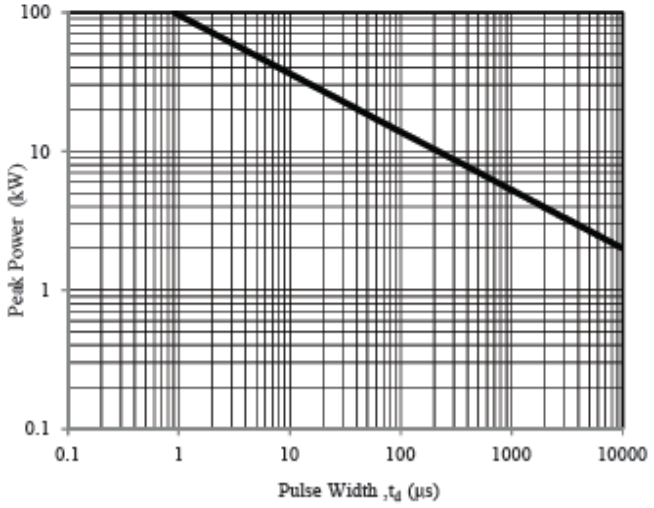


Fig. 4 - Peak Pulse Power Rating Curve

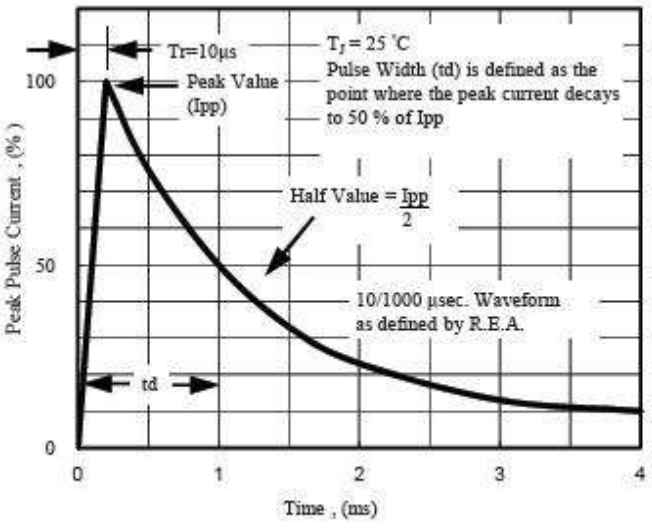


Fig. 5 - Pulse Waveform

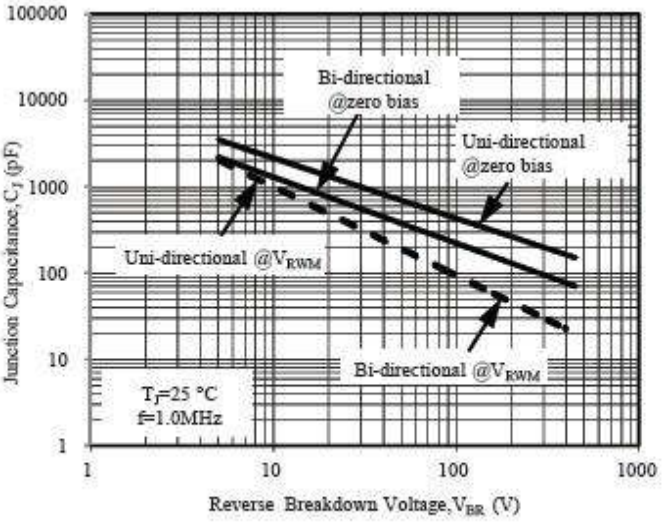
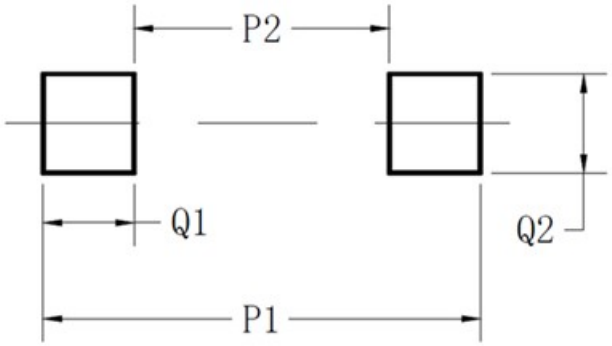


Fig. 6 - Typical Junction Capacitance

SMC Suggested pad layout

Suggested pad layout

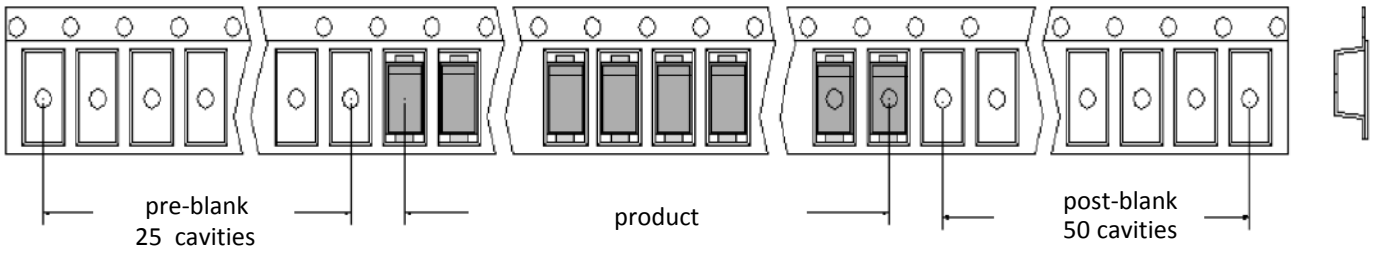


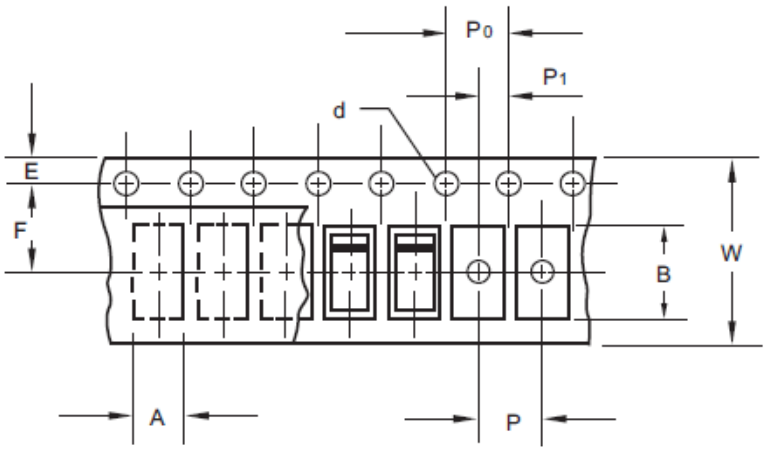
Dimensions in millimeters

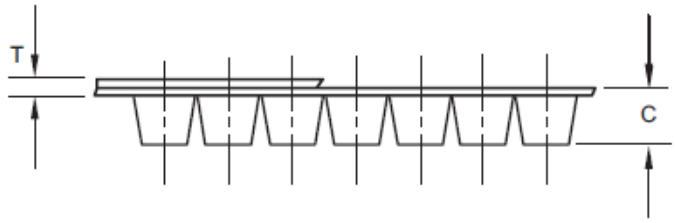
Dim	DO-214AB(SMC)
P1	9.9
P2	3.84
Q1	3.03
Q2	3.82

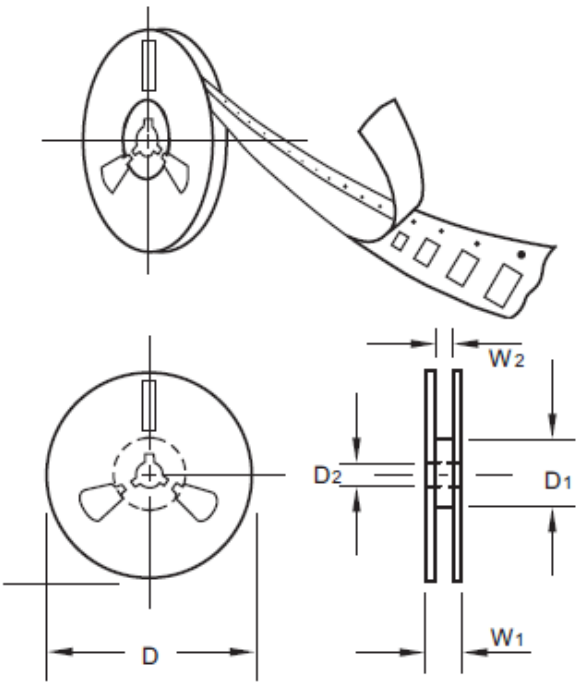
PACKAGING SPECIFICATION OF SMC PRODUCT

1Packing









REF	mm
A	6.00±0.10
B	8.31±0.10
C	2.54±0.10
d	1.55±0.10
D	178/330.0±1.0
D1	54/75±1.0
D2	17±1.0
E	1.75±0.10
F	7.50±0.10
P	8.00±0.10
P0	4.00±0.10
P1	2.00±0.10
T	0.25±0.10
W	16.10±0.20
W1	22.7±1.5
W2	18.1±1.0