

Surface Mount Transient Voltage Suppressor Diodes

SMDJ SERIES

Features

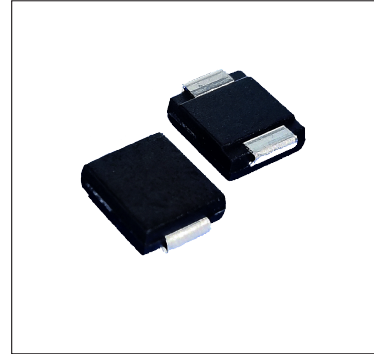
- ◆ Excellent clamping capability
- ◆ Low dynamic impedance
- ◆ Solder dip 260 °C max. 10 s, per JESD 22-B106

Mechanical Data

Case: DO-214AB (SMC) Molded plastic body

Terminals: Tin plated leads, solderable per J-STD- 002
and JESD22-B102

Mounting Position: Any



Maximum Ratings & Electrical Characteristics

Ratings at $T_A = 25^\circ\text{C}$ unless otherwise specified

PARAMETER	SYMBOL	UNIT	Max
Peak power dissipation, with a 10/1000us waveform (1) (2)	P_{PPM}	W	3000
Power dissipation, on infinite heat sink at $T_L=75^\circ\text{C}$ (2)	P_D	W	6.5
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only (3)	I_{FSM}	A	300
Operating junction and storage temperature range	T_J, T_{STG}	$^\circ\text{C}$	-55 to +150
Maximum instantaneous forward voltage at 100A for unidirectional only(4)	V_{FM}	V	3.5/5.0
Junction to ambient	$R_{\theta JA}$	$^\circ\text{C/W}$	75
Junction to lead	$R_{\theta JL}$	$^\circ\text{C/W}$	15

Notes:

- (1) Non-repetitive current pulse, per Fig. 3 and derated above $T_A = 25^\circ\text{C}$ per Fig.2.
- (2) Mounted on 0.31 x 0.31" (8.0 x 8.0 mm) copper pads to each terminal
- (3) Measured on 8.3ms single half sine-wave or equivalent square wave,duty cycle=4 pulses per minute maximum.
- (4) $V_F=3.5\text{V}$ Max for devices of $V_{BR}\leq 220\text{v}$, and $V_F=5.0\text{v}$ Max for devices of $V_{BR}> 220\text{v}$.
- (5) Mounted on minimum recommended pad layout.

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ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part No.		Peak Power Dissipation 10/1000 μ sec(W)	Reverse Stand-Off Voltage $V_{RWM}(V)$	Breakdown Voltage $V_{BR}(V)$ Min @ I_T	Breakdown Voltage $V_{BR}(V)$ Max @ I_T	Test Current I_T (mA)	Max Clamping Voltage $V_C(V)$ @ I_{PP}	Peak Pulse Current $I_{PP}(A)$	Reverse Leakage $I_R(\mu A)$ @ V_{RWM}
SMDJ5.0A	SMDJ5.0CA	3000	5.0	6.40	7.00	10	9.20	326.09	1000
SMDJ6.0A	SMDJ6.0CA	3000	6.0	6.67	7.37	10	10.30	291.26	1000
SMDJ6.5A	SMDJ6.5CA	3000	6.5	7.22	7.98	10	11.20	267.86	500
SMDJ7.0A	SMDJ7.0CA	3000	7.0	7.78	8.60	10	12.00	250.00	200
SMDJ7.5A	SMDJ7.5CA	3000	7.5	8.33	9.21	1	12.90	232.56	100
SMDJ8.0A	SMDJ8.0CA	3000	8.0	8.89	9.83	1	13.60	220.59	50
SMDJ8.5A	SMDJ8.5CA	3000	8.5	9.44	10.40	1	14.40	208.33	25
SMDJ9.0A	SMDJ9.0CA	3000	9.0	10.00	11.10	1	15.40	194.81	10
SMDJ10A	SMDJ10CA	3000	10.0	11.10	12.30	1	17.00	176.47	5
SMDJ11A	SMDJ11CA	3000	11.0	12.20	13.50	1	18.20	164.84	5
SMDJ12A	SMDJ12CA	3000	12.0	13.30	14.70	1	19.90	150.75	5
SMDJ13A	SMDJ13CA	3000	13.0	14.40	15.90	1	21.50	139.53	5
SMDJ14A	SMDJ14CA	3000	14.0	15.60	17.20	1	23.20	129.31	5
SMDJ15A	SMDJ15CA	3000	15.0	16.70	18.50	1	24.40	122.95	5
SMDJ16A	SMDJ16CA	3000	16.0	17.80	19.70	1	26.00	115.38	5
SMDJ17A	SMDJ17CA	3000	17.0	18.90	20.90	1	27.60	108.70	5
SMDJ18A	SMDJ18CA	3000	18.0	20.00	22.10	1	29.20	102.74	5
SMDJ19A	SMDJ19CA	3000	19.0	21.10	23.30	1	30.80	97.47	5
SMDJ20A	SMDJ20CA	3000	20.0	22.20	24.50	1	32.40	92.59	5
SMDJ22A	SMDJ22CA	3000	22.0	24.40	26.90	1	35.50	84.51	5
SMDJ24A	SMDJ24CA	3000	24.0	26.70	29.50	1	38.90	77.12	5
SMDJ26A	SMDJ26CA	3000	26.0	28.90	31.90	1	42.10	71.26	5
SMDJ28A	SMDJ28CA	3000	28.0	31.10	34.40	1	45.40	66.08	5
SMDJ30A	SMDJ30CA	3000	30.0	33.30	36.80	1	48.40	61.98	5
SMDJ33A	SMDJ33CA	3000	33.0	36.70	40.60	1	53.30	56.29	5
SMDJ36A	SMDJ36CA	3000	36.0	40.00	44.20	1	58.10	51.64	5
SMDJ40A	SMDJ40CA	3000	40.0	44.40	49.10	1	64.50	46.51	5
SMDJ43A	SMDJ43CA	3000	43.0	47.80	52.80	1	69.40	43.23	5
SMDJ45A	SMDJ45CA	3000	45.0	50.00	55.30	1	72.70	41.27	5
SMDJ48A	SMDJ48CA	3000	48.0	53.30	58.90	1	77.40	38.76	5
SMDJ51A	SMDJ51CA	3000	51.0	56.70	62.70	1	82.40	36.41	5
SMDJ54A	SMDJ54CA	3000	54.0	60.00	66.30	1	87.10	34.44	5
SMDJ58A	SMDJ58CA	3000	58.0	64.40	71.20	1	93.60	32.05	5
SMDJ60A	SMDJ60CA	3000	60.0	66.70	73.70	1	96.80	30.99	5
SMDJ64A	SMDJ64CA	3000	64.0	71.10	78.60	1	103.0	29.13	5
SMDJ70A	SMDJ70CA	3000	70.0	77.80	86.00	1	113.0	26.55	5
SMDJ75A	SMDJ75CA	3000	75.0	83.30	92.10	1	121.0	24.79	5
SMDJ78A	SMDJ78CA	3000	78.0	86.70	95.80	1	126.0	23.81	5
SMDJ80A	SMDJ80CA	3000	80.0	88.80	97.60	1	129.6	23.15	5
SMDJ85A	SMDJ85CA	3000	85.0	94.40	104.00	1	137.0	21.90	5
SMDJ90A	SMDJ90CA	3000	90.0	100.00	111.00	1	146.0	20.55	5
SMDJ100A	SMDJ100CA	3000	100.0	111.00	123.00	1	162.0	18.52	5
SMDJ110A	SMDJ110CA	3000	110.0	122.00	135.00	1	177.0	16.95	5
SMDJ120A	SMDJ120CA	3000	120.0	133.00	147.00	1	193.0	15.54	5
SMDJ130A	SMDJ130CA	3000	130.0	144.00	159.00	1	209.0	14.35	5
SMDJ140A	SMDJ140CA	3000	140.0	155.00	171.00	1	226.8	13.23	5
SMDJ150A	SMDJ150CA	3000	150.0	167.00	185.00	1	243.0	12.35	5
SMDJ160A	SMDJ160CA	3000	160.0	178.00	197.00	1	259.0	11.58	5
SMDJ170A	SMDJ170CA	3000	170.0	189.00	209.00	1	275.0	10.91	5
SMDJ180A	SMDJ180CA	3000	180.0	200.00	220.00	1	291.6	10.29	5
SMDJ190A	SMDJ190CA	3000	190.0	211.00	232.00	1	307.8	9.75	5
SMDJ200A	SMDJ200CA	3000	200.0	224.00	247.00	1	324.0	9.26	5
SMDJ220A	SMDJ220CA	3000	220.0	246.00	272.00	1	356.0	8.43	5
SMDJ250A	SMDJ250CA	3000	250.0	279.00	309.00	1	405.0	7.41	5
SMDJ300A	SMDJ300CA	3000	300.0	335.00	371.00	1	486.0	6.17	5
SMDJ350A	SMDJ350CA	3000	350.0	391.00	432.00	1	567.0	5.29	5
SMDJ400A	SMDJ400CA	3000	400.0	447.00	494.00	1	648.0	4.63	5
SMDJ440A	SMDJ440CA	3000	440.0	492.00	543.00	1	713.0	4.21	5

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Typical Characteristics

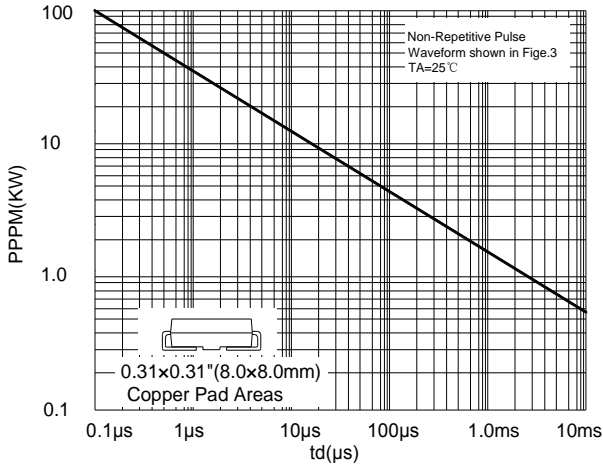


FIG1: Peak Pulse Power Rating Curve

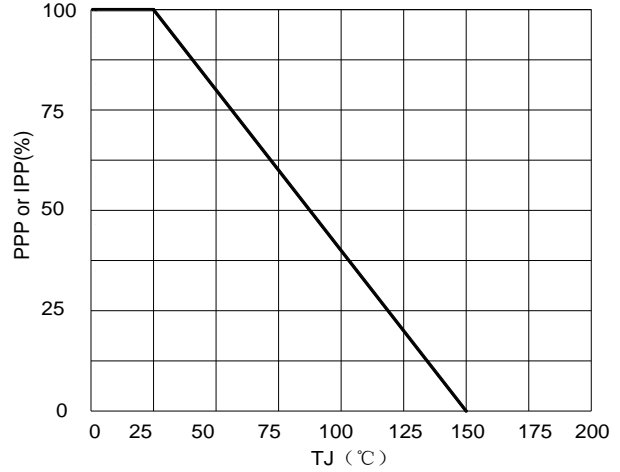


FIG2: Pulse Power or Current vs. Initial Junction Temperature

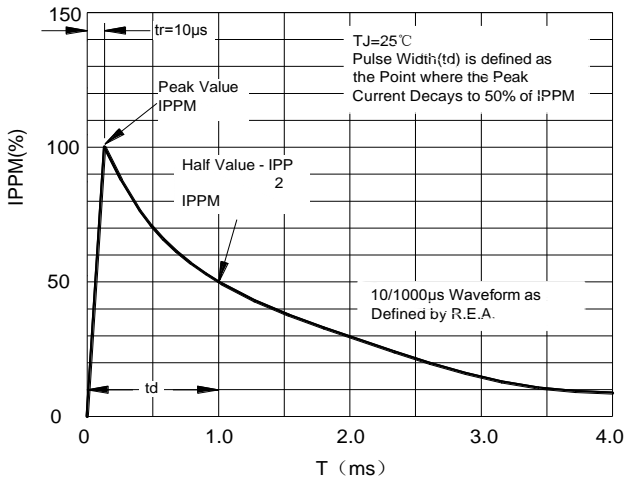


FIG3: Pulse Waveform

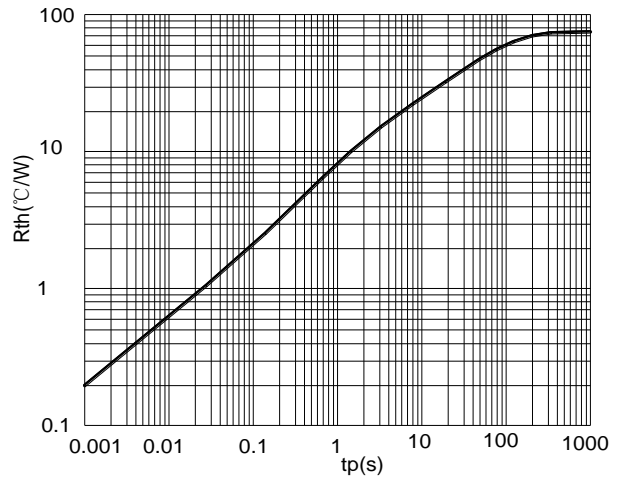


FIG4: Typical Transient Thermal Impedance

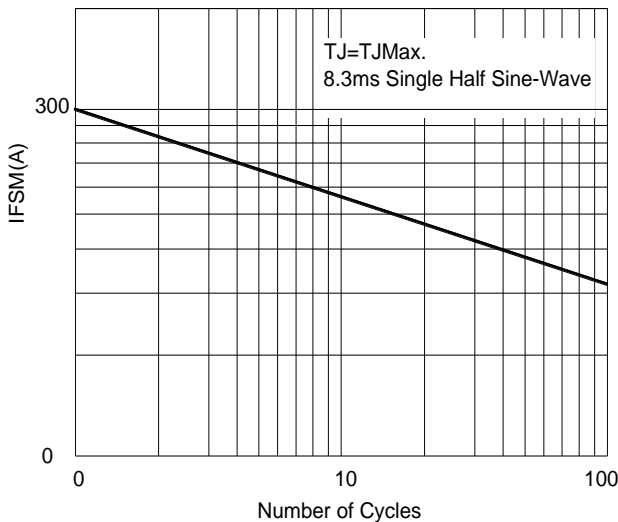


FIG5: Maximum Non-Repetitive Surge Current

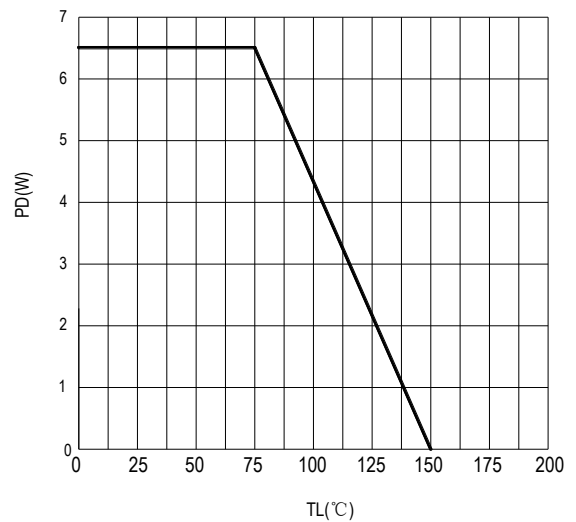


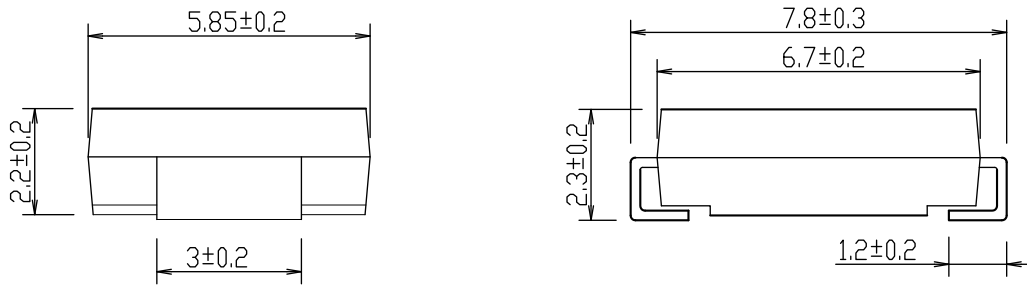
FIG6: Steady State Power Dissipation

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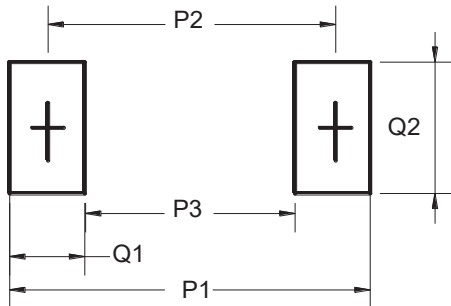
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Package Outline Dimensions(unit:mm)

DO-214AB (SMC)



Mounting Pad Layout(unit:mm)



Dim	Millimeters
P1	9.80
P2	6.80
P3	3.80
Q1	3.00
Q2	4.00