WILLAS

RoHS COMPLIANT active

5000W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

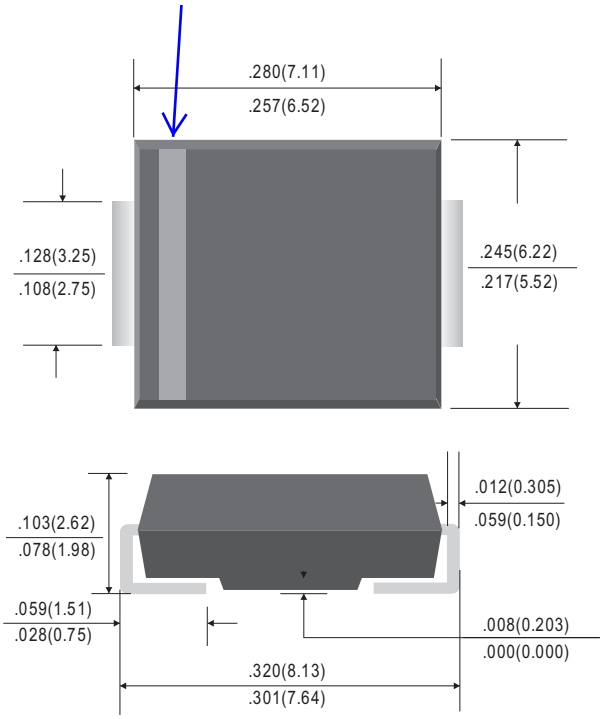
SMC(DO-214AB) PACKAGE

5.0SMDJ Series

Working Voltage: 11 to 440 V
Peak Pulae Power: 5000 W

SMC (DO-214AB)

(Cathode band Only Uui-polarity product)



Dimensions in inches and (millimeters)

Features

- Glass passivated chip
- 5000 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any
- **Pb-Free package is available**
  RoHS product for packing code suffix ”G”
  Halogen free product for packing code suffix “H”

Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	UNIT
Peak power dissipation with a 10/1000μs waveform(1)	P_{PP}	5000	W
Peak pulse current wih a 10/1000μs waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at T_L = 75 °C	P_D	6.5	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only(2)	I_{FSM}	300	A
Maximum instantaneous forward voltage at 100 A for unidirectional only(3)	V_F	3.5/5.0	V
Operating junction and storage temperature range	T_J, T_{STG}	–55 to +150	°C

Note:

(1)Non-repetitive current pulse per Fig.5 and derated above T_A= 25℃ 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)V_F<3.5V for devices Of V_{BR}<200V and V_F<5.0V for devices of V_{BR}>201V

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

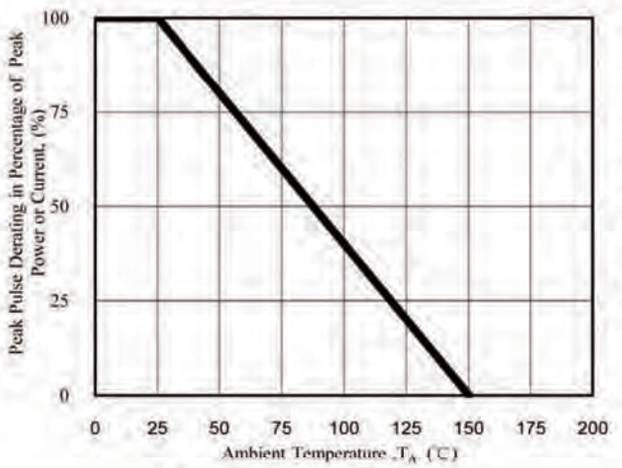


Fig. 1 - Pulse Derating Curve

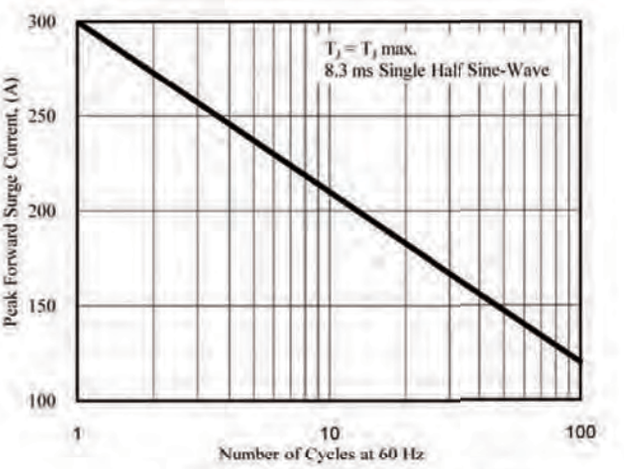


Fig. 2 - Maximum Non-Repetitive Surge Current

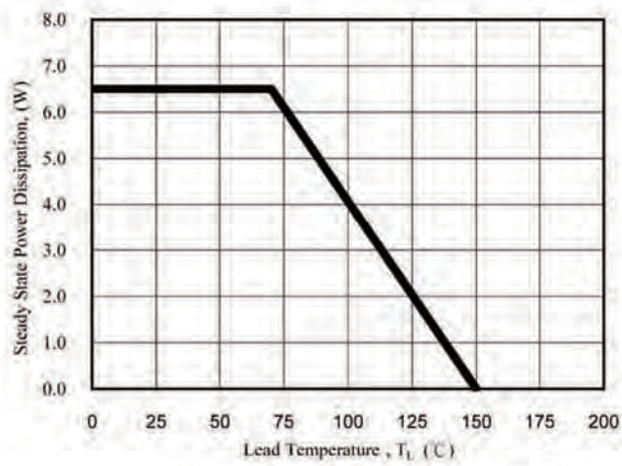


Fig. 3 - Steady State Power Derating Curve

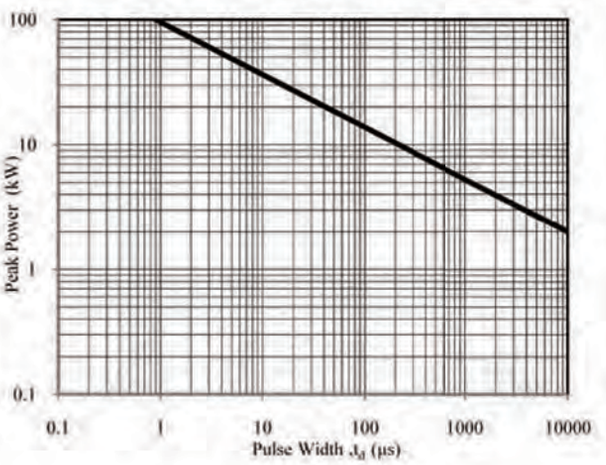


Fig. 4 - Peak Pulse Power Rating Curve

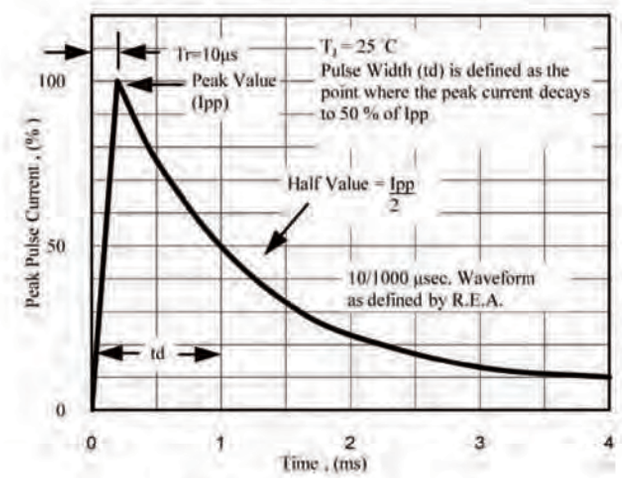


Fig. 5 - Pulse Waveform

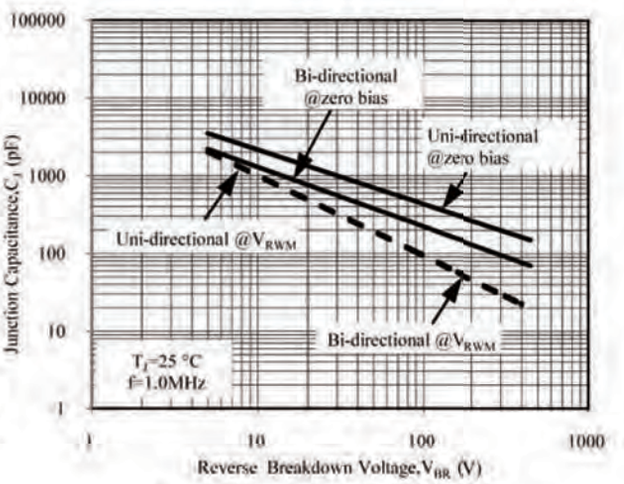


Fig. 6 - Typical Junction Capacitance

WILLAS

RoHS COMPLIANT

5000W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

SMC(DO-214AB) PACKAGE

5.0SMDJ Series

Part No.		Marking Code		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 (μA) @ V_{RWM}
UNI-POLAR	BI-POLAR	UNI-POLAR	BI-POLAR							
5.0SMDJ11A	5.0SMDJ11CA	5PDX	5BDX	11.0	12.20	13.50	1	18.2	277.47	800
5.0SMDJ12A	5.0SMDJ12CA	5PDZ	5BDZ	12.0	13.30	14.70	1	19.9	253.77	800
5.0SMDJ13A	5.0SMDJ13CA	5PEE	5BEE	13.0	14.40	15.90	1	21.5	234.88	500
5.0SMDJ14A	5.0SMDJ14CA	5PEG	5BEG	14.0	15.60	17.20	1	23.2	217.67	200
5.0SMDJ15A	5.0SMDJ15CA	5PEK	5BEK	15.0	16.70	18.50	1	24.4	206.97	100
5.0SMDJ16A	5.0SMDJ16CA	5PEM	5BEM	16.0	17.80	19.70	1	26.0	194.23	50
5.0SMDJ17A	5.0SMDJ17CA	5PEP	5BEP	17.0	18.90	20.90	1	27.6	182.97	20
5.0SMDJ18A	5.0SMDJ18CA	5PER	5BER	18.0	20.00	22.10	1	29.2	172.95	10
5.0SMDJ19A	5.0SMDJ19CA	5PET	5BET	19.0	21.10	23.30	1	30.8	164.07	10
5.0SMDJ20A	5.0SMDJ20CA	5PEW	5BEW	20.0	22.20	24.50	1	32.4	155.86	5
5.0SMDJ22A	5.0SMDJ22CA	5PEX	5BEX	22.0	24.40	26.90	1	35.5	142.25	5
5.0SMDJ24A	5.0SMDJ24CA	5PEZ	5BEZ	24.0	26.70	29.50	1	38.9	129.82	5
5.0SMDJ26A	5.0SMDJ26CA	5PFE	5BFE	26.0	28.90	31.90	1	42.1	119.95	5
5.0SMDJ28A	5.0SMDJ28CA	5PFG	5BFG	28.0	31.10	34.40	1	45.4	111.23	5
5.0SMDJ30A	5.0SMDJ30CA	5PFK	5BFK	30.0	33.30	36.80	1	48.4	104.34	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
5.0SMDJ80A	5.0SMDJ80CA	5PGB	5BGB	80.0	88.80	97.60	1	129.6	38.97	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
5.0SMDJ140A	5.0SMDJ140CA	5PHB	5BHB	140.0	155.00	171.00	1	226.8	22.27	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

WILLAS

RoHS COMPLIANT

5000W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

SMC(DO-214AB) PACKAGE

5.0SMDJ Series

Part No.		Marking Code		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 (μA) @ V_{RWM}
UNI-POLAR	BI-POLAR	UNI-POLAR	BI-POLAR							
5.0SMDJ170A	5.0SMDJ170CA	5PHR	5BHR	170.0	189.00	209.00	1	275.0	18.36	5
5.0SMDJ180A	5.0SMDJ180CA	5PHT	5BHT	180.0	200.00	220.00	1	291.6	17.32	5
5.0SMDJ190A	5.0SMDJ190CA	5PHW	5BHW	190.0	211.00	232.00	1	307.8	16.41	5
5.0SMDJ200A	5.0SMDJ200CA	5PHV	5BHV	200.0	224.00	247.00	1	324.0	15.43	5
5.0SMDJ220A	5.0SMDJ220CA	5PHX	5BHX	220.0	246.00	272.00	1	356.0	14.04	5
5.0SMDJ250A	5.0SMDJ250CA	5PHZ	5BHZ	250.0	279.00	309.00	1	405.0	12.35	5
5.0SMDJ300A	5.0SMDJ300CA	5PJE	5BJE	300.0	335.00	371.00	1	486.0	10.29	5
5.0SMDJ350A	5.0SMDJ350CA	5PJG	5BJG	350.0	391.00	432.00	1	567.0	8.82	5
5.0SMDJ400A	5.0SMDJ400CA	5PJK	5BJK	400.0	447.00	494.00	1	648.0	7.72	5
5.0SMDJ440A	5.0SMDJ440CA	5PJM	5BJM	440.0	492.00	543.00	1	713.0	7.01	5

Note:

1. Add suffix "CA" after Part number to specify Bi-directional devices.
2. For Bi-directional devices having VRWM of 10 voltages and under, the IR limit is doubled.

Ordering Information:

Device PN	Packing
Part Number -T(1)G(2)-WS	Tape & Reel Packing :3Kpcs/Reel

Note: 1. Packing code, T: Tape & Reel Packing;

2. RoHS product for packing code suffix ”G”, Halogen free product for packing code suffix "H" .