Surface Mount Transient Voltage Suppressor Rectifiers

Reverse Voltage 5.0 ~ 550 V
1500 Watt Peak Pulse Power

Features

- Glass passivated chip
- 1500 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
- **AEC-Q101 qualified and PPAP capable**

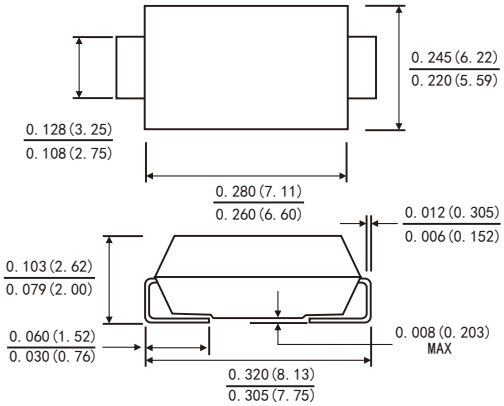
Mechanical Data

- Case: DO-214AB/(SMC) Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- System: Accreditation through IATF16949 System
- High reliability grade (AEC Q101 qualified)

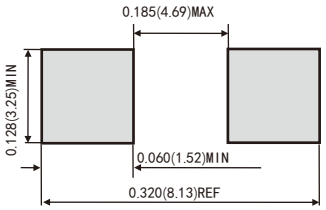
IATF16949认证

AEC-Q101 Qualified

DO-214AB/(SMC)



Suggested PAD Layout



Unit: inch (mm)

- Mounting position: Any

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}	1500	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	5.0	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only(2)	I_{FSM}	200	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		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	V_{RWM}(V)	Min.(V)	Max.(V)	I_T(mA)	$V_{C\ MAX.}$(V)	I_{PP}(A)	I_R(uA)
SMCJ5.0A-V	SMCJ5.0CA-V	5.0	6.40	7.00	10	9.2	163.0	800
SMCJ6.0A-V	SMCJ6.0CA-V	6.0	6.67	7.37	10	10.3	145.6	800
SMCJ6.5A-V	SMCJ6.5CA-V	6.5	7.22	7.98	10	11.2	133.9	500
SMCJ7.0A-V	SMCJ7.0CA-V	7.0	7.78	8.60	10	12.0	125.0	200
SMCJ7.5A-V	SMCJ7.5CA-V	7.5	8.33	9.21	1	12.9	116.3	100
SMCJ8.0A-V	SMCJ8.0CA-V	8.0	8.89	9.83	1	13.6	110.3	50
SMCJ8.5A-V	SMCJ8.5CA-V	8.5	9.44	10.40	1	14.4	104.2	20
SMCJ9.0A-V	SMCJ9.0CA-V	9.0	10.00	11.10	1	15.4	97.40	10
SMCJ10A-V	SMCJ10CA-V	10.0	11.10	12.30	1	17.0	88.24	5
SMCJ11A-V	SMCJ11CA-V	11.0	12.20	13.50	1	18.2	82.42	1
SMCJ12A-V	SMCJ12CA-V	12.0	13.30	14.70	1	19.9	75.38	1
SMCJ13A-V	SMCJ13CA-V	13.0	14.40	15.90	1	21.5	69.77	1
SMCJ14A-V	SMCJ14CA-V	14.0	15.60	17.20	1	23.2	64.66	1
SMCJ15A-V	SMCJ15CA-V	15.0	16.70	18.50	1	24.4	61.48	1
SMCJ16A-V	SMCJ16CA-V	16.0	17.80	19.70	1	26.0	57.69	1
SMCJ17A-V	SMCJ17CA-V	17.0	18.90	20.90	1	27.6	54.35	1
SMCJ18A-V	SMCJ18CA-V	18.0	20.00	22.10	1	29.2	51.37	1
SMCJ20A-V	SMCJ20CA-V	20.0	22.20	24.50	1	32.4	46.30	1
SMCJ22A-V	SMCJ22CA-V	22.0	24.40	26.90	1	35.5	42.25	1
SMCJ24A-V	SMCJ24CA-V	24.0	26.70	29.50	1	38.9	38.56	1
SMCJ26A-V	SMCJ26CA-V	26.0	28.90	31.90	1	42.1	35.63	1
SMCJ28A-V	SMCJ28CA-V	28.0	31.10	34.40	1	45.4	33.04	1
SMCJ30A-V	SMCJ30CA-V	30.0	33.50	36.80	1	48.4	30.99	1
SMCJ33A-V	SMCJ33CA-V	33.0	36.70	40.60	1	53.3	28.14	1
SMCJ36A-V	SMCJ36CA-V	36.0	40.00	44.20	1	58.1	25.82	1
SMCJ40A-V	SMCJ40CA-V	40.0	44.40	49.10	1	64.5	23.26	1
SMCJ43A-V	SMCJ43CA-V	43.0	47.80	52.80	1	69.4	21.61	1
SMCJ45A-V	SMCJ45CA-V	45.0	50.00	55.30	1	72.7	20.63	1
SMCJ48A-V	SMCJ48CA-V	48.0	53.30	58.90	1	77.4	19.38	1
SMCJ51A-V	SMCJ51CA-V	51.0	56.70	62.70	1	82.4	18.20	1
SMCJ54A-V	SMCJ54CA-V	54.0	60.00	66.30	1	87.1	17.22	1
SMCJ58A-V	SMCJ58CA-V	58.0	64.40	71.20	1	93.6	16.03	1
SMCJ60A-V	SMCJ60CA-V	60.0	66.70	73.70	1	96.8	15.50	1
SMCJ64A-V	SMCJ64CA-V	64.0	71.10	78.60	1	103.0	14.56	1
SMCJ70A-V	SMCJ70CA-V	70.0	77.80	86.00	1	113.0	13.27	1
SMCJ75A-V	SMCJ75CA-V	75.0	83.30	92.10	1	121.0	12.40	1
SMCJ78A-V	SMCJ78CA-V	78.0	86.70	95.80	1	126.0	11.90	1
SMCJ85A-V	SMCJ85CA-V	85.0	94.4	104.0	1	137.0	10.95	1
SMCJ90A-V	SMCJ90CA-V	90.0	100.0	111.0	1	146.0	10.27	1
SMCJ100A-V	SMCJ100CA-V	100.0	111.0	123.0	1	162.0	9.26	1
SMCJ110A-V	SMCJ110CA-V	110.0	122.0	135.0	1	177.0	8.47	1
SMCJ120A-V	SMCJ120CA-V	120.0	133.0	147.0	1	193.0	7.77	1
SMCJ130A-V	SMCJ130CA-V	130.0	144.0	159.0	1	209.0	7.18	1
SMCJ150A-V	SMCJ150CA-V	150.0	167.0	185.0	1	243.0	6.17	1
SMCJ160A-V	SMCJ160CA-V	160.0	178.0	197.0	1	259.0	5.79	1
SMCJ170A-V	SMCJ170CA-V	170.0	189.0	209.0	1	275.0	5.45	1
SMCJ180A-V	SMCJ180CA-V	180.0	201.0	222.0	1	292.0	5.14	1
SMCJ190A-V	SMCJ190CA-V	190.0	209.0	243.0	1	308.0	4.87	1
SMCJ200A-V	SMCJ200CA-V	200.0	224.0	247.0	1	324.0	4.63	1
SMCJ210A-V	SMCJ210CA-V	210.0	231.0	268.0	1	340.0	4.41	1
SMCJ220A-V	SMCJ220CA-V	220.0	246.0	272.0	1	356.0	4.21	1
SMCJ250A-V	SMCJ250CA-V	250.0	279.0	309.0	1	405.0	3.70	1
SMCJ300A-V	SMCJ300CA-V	300.0	335.0	371.0	1	486.0	3.09	1
SMCJ350A-V	SMCJ350CA-V	350.0	391.0	432.0	1	567.0	2.65	1
SMCJ400A-V	SMCJ400CA-V	400.0	447.0	494.0	1	648.0	2.31	1
SMCJ440A-V	SMCJ440CA-V	440.0	492.0	543.0	1	713.0	2.10	1
SMCJ480A-V	SMCJ480CA-V	480.0	536.0	593.0	1	750.0	2.00	1
SMCJ510A-V	SMCJ510CA-V	510.0	570.0	630.0	1	758.0	1.98	1
SMCJ520A-V	SMCJ520CA-V	520.0	578.0	640.0	1	762.0	1.97	1
SMCJ550A-V	SMCJ550CA-V	550.0	615.0	680.0	1	860.0	1.74	1

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

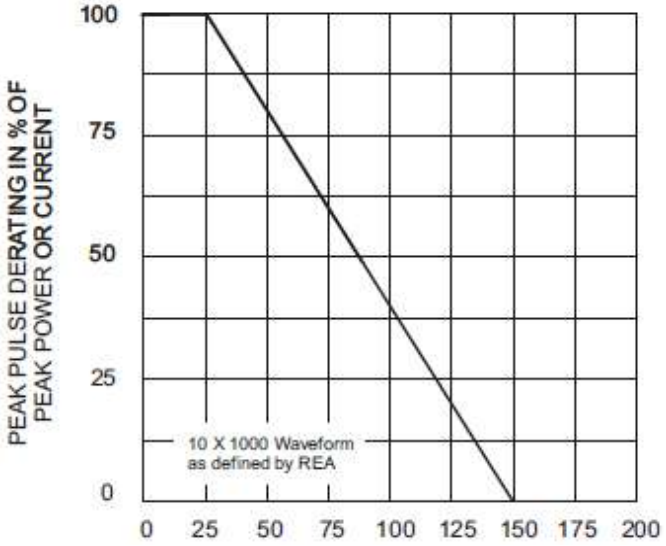


Fig. 1 - Pulse Derating Curve

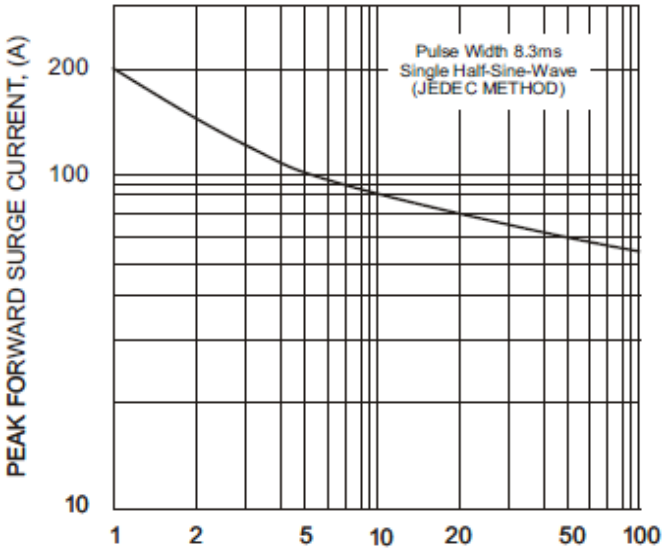


Fig. 2 - Maximum Non-Repetitive Surge Current

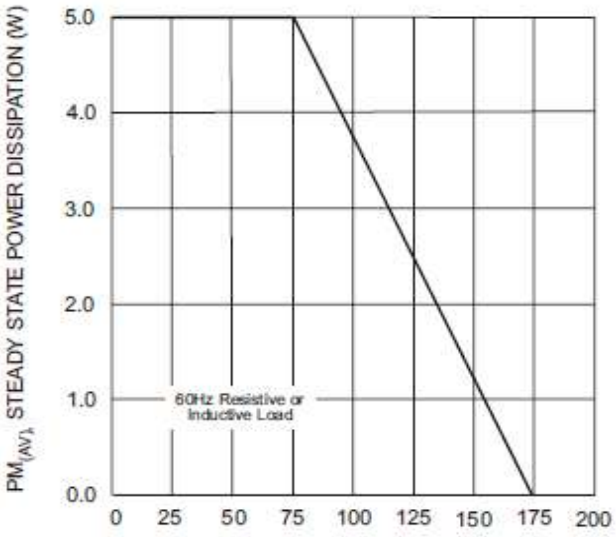


Fig. 3 - Steady State Power Derating Curve

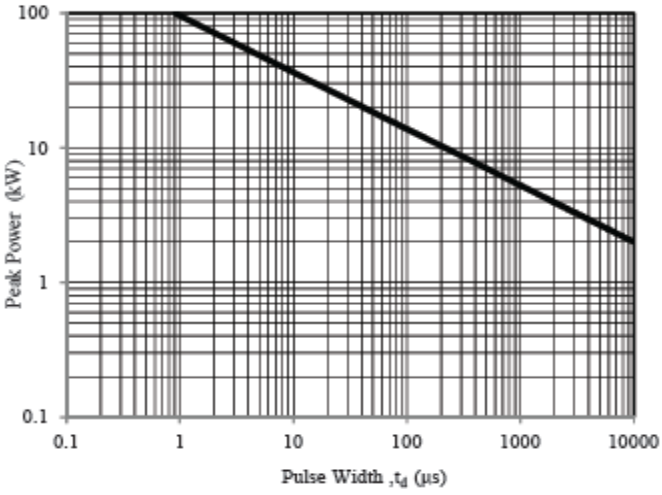


Fig. 4 - Peak Pulse Power Rating Curve

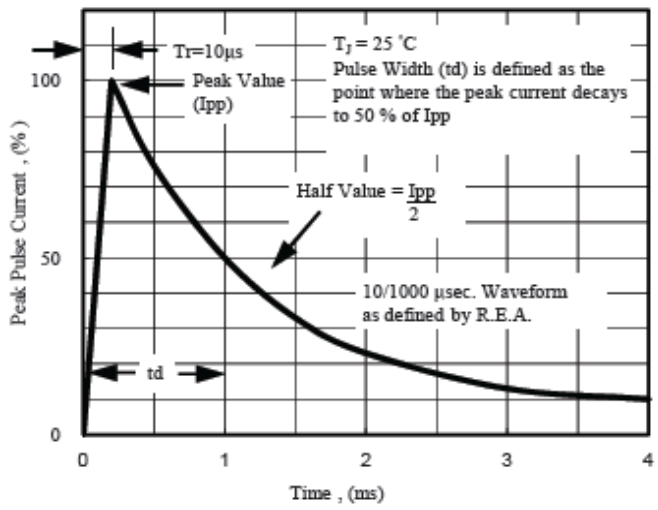


Fig. 5 - Pulse Waveform

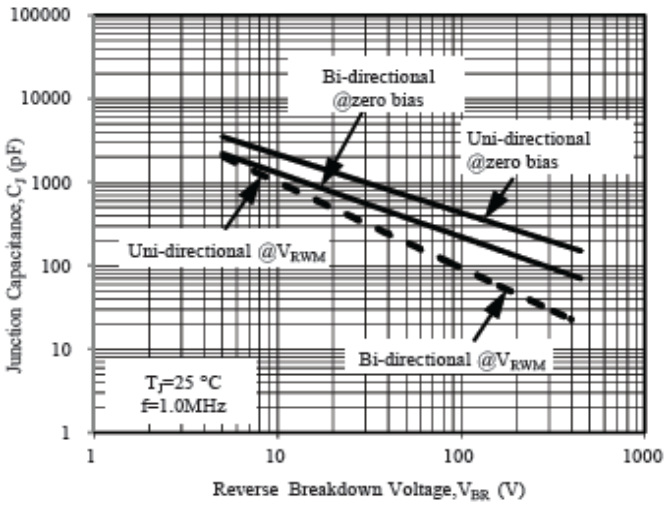


Fig. 6 - Typical Junction Capacitance