

AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER-3000 Watts

FEATURES

- 3000 Watts Pulse capability
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2015/863/EU
- AEC-Q101 qualified and PPAP capable

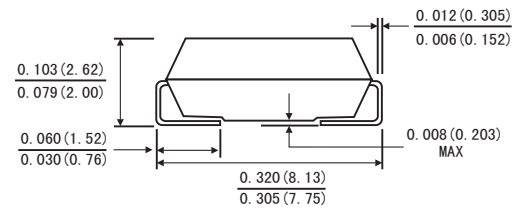
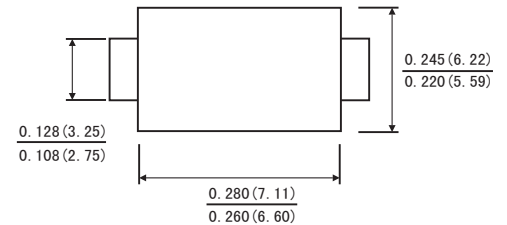


AEC-Q101 Qualified

MECHANICAL DATA

- Case: JEDEC SMC(DO-214AB) molded plastic body
- Terminals: Solder Plated
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device.

SMC(DO-214AB)



Dimensions in inches and (millimeters)

DEVICES FOR BIDIRECTIONAL APPLICATIONS

1. For bi-directional use C suffix for Types .
2. Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified)

	Symbols	Value	Units
Peak Pulse Power Dissipation at on 10/1000µs Waveform (Note 1.2)	PPK	3000	Watts
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) (Note 2)	IFSM	300	Amps
Operating junction and storage temperature range	TJ, TSTG	-55 to 150	°C

Note: 1. Non repetitive current pulse and derated above TA=25°C

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

Part number		Reverse Standoff Voltage VRWM (Volts)	Breakdown Voltage VBR (Volts)		Test Current (mA)	Maximum Clamping Voltage VC@Ipp (Volts)	Maximum Peak Pulse Current Ipp(A)	Maximum Reverse Leakage IR@VRWM (µA)
UNI	BI		MIN	MAX				
3.0SMCJ5.0A-V	3.0SMCJ5.0CA-V	5	6.40	7.00	10	9.2	326.09	500
3.0SMCJ6.0A-V	3.0SMCJ6.0CA-V	6	6.67	7.37	10	10.3	291.26	500
3.0SMCJ6.5A-V	3.0SMCJ6.5CA-V	6.5	7.22	7.98	10	11.2	267.86	300
3.0SMCJ7.0A-V	3.0SMCJ7.0CA-V	7	7.78	8.60	10	12.0	250.00	200
3.0SMCJ7.5A-V	3.0SMCJ7.5CA-V	7.5	8.33	9.21	1	12.9	232.56	100
3.0SMCJ8.0A-V	3.0SMCJ8.0CA-V	8	8.89	9.83	1	13.6	220.59	50
3.0SMCJ8.5A-V	3.0SMCJ8.5CA-V	8.5	9.44	10.40	1	14.4	208.33	30
3.0SMCJ9.0A-V	3.0SMCJ9.0CA-V	9	10.00	11.10	1	15.4	194.81	30
3.0SMCJ10A-V	3.0SMCJ10CA-V	10	11.10	12.30	1	17.0	176.47	5
3.0SMCJ11A-V	3.0SMCJ11CA-V	11	12.20	13.50	1	18.2	164.84	5
3.0SMCJ12A-V	3.0SMCJ12CA-V	12	13.30	14.70	1	19.9	150.75	5
3.0SMCJ13A-V	3.0SMCJ13CA-V	13	14.40	15.90	1	21.5	139.53	5
3.0SMCJ14A-V	3.0SMCJ14CA-V	14	15.60	17.20	1	23.2	129.31	5
3.0SMCJ15A-V	3.0SMCJ15CA-V	15	16.70	18.50	1	24.4	122.95	5
3.0SMCJ16A-V	3.0SMCJ16CA-V	16	17.80	19.70	1	26.0	115.38	5
3.0SMCJ17A-V	3.0SMCJ17CA-V	17	18.90	20.90	1	27.6	108.70	5
3.0SMCJ18A-V	3.0SMCJ18CA-V	18	20.00	22.10	1	29.2	102.74	5
3.0SMCJ19A-V	3.0SMCJ19CA-V	19	21.10	23.30	1	30.8	97.47	5
3.0SMCJ20A-V	3.0SMCJ20CA-V	20	22.20	24.50	1	32.4	92.59	5
3.0SMCJ22A-V	3.0SMCJ22CA-V	22	24.40	26.90	1	35.5	84.51	5
3.0SMCJ24A-V	3.0SMCJ24CA-V	24	26.70	29.50	1	38.9	77.12	5
3.0SMCJ26A-V	3.0SMCJ26CA-V	26	28.90	31.90	1	42.1	71.26	5
3.0SMCJ28A-V	3.0SMCJ28CA-V	28	31.10	34.40	1	45.4	66.08	5
3.0SMCJ30A-V	3.0SMCJ30CA-V	30	33.30	36.80	1	48.4	61.98	5
3.0SMCJ33A-V	3.0SMCJ33CA-V	33	36.70	40.60	1	53.3	56.29	5
3.0SMCJ36A-V	3.0SMCJ36CA-V	36	40.00	44.20	1	58.1	51.64	5
3.0SMCJ40A-V	3.0SMCJ40CA-V	40	44.40	49.10	1	64.5	46.51	5
3.0SMCJ43A-V	3.0SMCJ43CA-V	43	47.80	52.80	1	69.4	43.23	5
3.0SMCJ45A-V	3.0SMCJ45CA-V	45	50.00	55.30	1	72.7	41.27	5
3.0SMCJ48A-V	3.0SMCJ48CA-V	48	53.30	58.90	1	77.4	38.76	5
3.0SMCJ51A-V	3.0SMCJ51CA-V	51	56.70	62.70	1	82.4	36.41	5
3.0SMCJ54A-V	3.0SMCJ54CA-V	54	60.00	66.30	1	87.1	34.44	5
3.0SMCJ58A-V	3.0SMCJ58CA-V	58	64.40	71.20	1	93.6	32.05	5
3.0SMCJ60A-V	3.0SMCJ60CA-V	60	66.70	73.70	1	96.8	30.99	5

3.0SMCJ64A-V	3.0SMCJ64CA-V	64	71.10	78.60	1	103.0	29.13	5
3.0SMCJ70A-V	3.0SMCJ70CA-V	70	77.80	86.00	1	113.0	26.55	5
3.0SMCJ75A-V	3.0SMCJ75CA-V	75	83.30	92.10	1	121.0	24.79	5
3.0SMCJ78A-V	3.0SMCJ78CA-V	78	86.70	95.80	1	126.0	23.81	5
3.0SMCJ80A-V	3.0SMCJ80CA-V	80	88.8	97.60	1	126.0	23.15	5
3.0SMCJ85A-V	3.0SMCJ85CA-V	85	94.40	104.00	1	137.0	21.90	5
3.0SMCJ90A-V	3.0SMCJ90CA-V	90	100.0	111.00	1	146.0	20.55	5
3.0SMCJ100A-V	3.0SMCJ100CA-V	100	111.0	123.00	1	162.0	18.52	5
3.0SMCJ110A-V	3.0SMCJ110CA-V	110	122.0	135.00	1	177.0	16.95	5
3.0SMCJ120A-V	3.0SMCJ120CA-V	120	133.0	147.00	1	193.0	15.54	5
3.0SMCJ130A-V	3.0SMCJ130CA-V	130	144.0	159.00	1	209.0	14.35	5
3.0SMCJ140A-V	3.0SMCJ140CA-V	140	155.0	171.00	1	226.8	13.23	5
3.0SMCJ150A-V	3.0SMCJ150CA-V	150	167.0	185.00	1	243.0	12.35	5
3.0SMCJ160A-V	3.0SMCJ160CA-V	160	178.0	197.00	1	259.0	11.58	5
3.0SMCJ170A-V	3.0SMCJ170CA-V	170	189.0	209.00	1	275.0	10.91	5
3.0SMCJ180A-V	3.0SMCJ180CA-V	180	201.0	222.00	1	292.0	10.29	5
3.0SMCJ190A-V	3.0SMCJ190CA-V	190	211.0	233.00	1	306.0	9.75	5
3.0SMCJ200A-V	3.0SMCJ200CA-V	200	224.0	247.00	1	324.0	9.26	5
3.0SMCJ220A-V	3.0SMCJ220CA-V	220	246.0	272.00	1	356.0	8.43	5
3.0SMCJ250A-V	3.0SMCJ250CA-V	250	279.0	309.00	1	405.0	7.41	5
3.0SMCJ300A-V	3.0SMCJ300CA-V	300	335.0	371.00	1	486.0	6.17	5
3.0SMCJ350A-V	3.0SMCJ350CA-V	350	391.0	432.00	1	567.0	5.29	5
3.0SMCJ400A-V	3.0SMCJ400CA-V	400	447.0	494.00	1	648.0	4.63	5
3.0SMCJ440A-V	3.0SMCJ440CA-V	440	492.0	543.00	1	713.0	4.21	5

For Bi-directional type having VRWM of 10 Volts and less, the IR limit is double

- 1.A transient suppressor is normally selected according to the working peak reverse voltage (VRWM), which should be equal to or greater than the DC or continuous peak operating voltage level.
- 2.VBR measured at pulse test current IT at an ambient temperature of 25°C.
- 3.Surge current waveform per Figure 2 and derate per Figure 3

FIG. 1-PEAK PULSE POWER CURVE

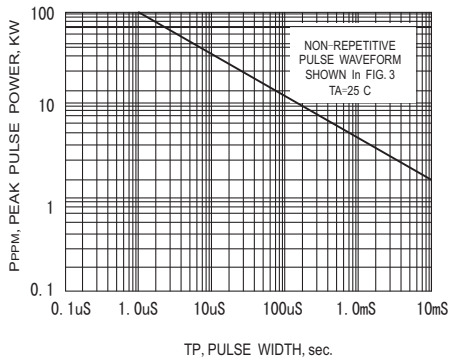


FIG. 2-PULSE DERATING CURVE

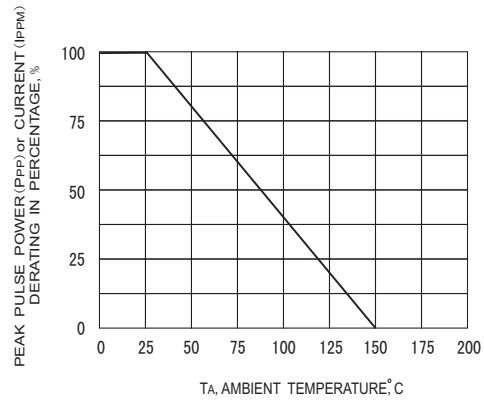


FIG. 3-PULSE WAVEFORM

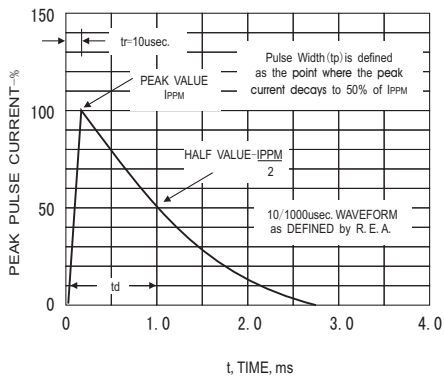


FIG. 4-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

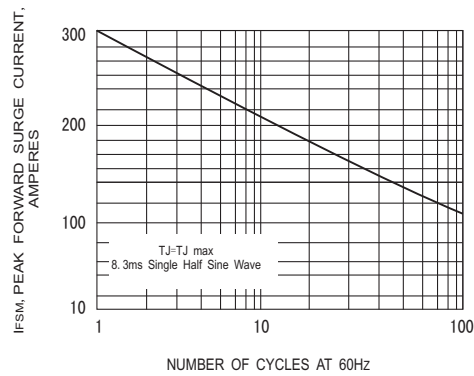


FIG. 5-Steady State Power Derating Curve

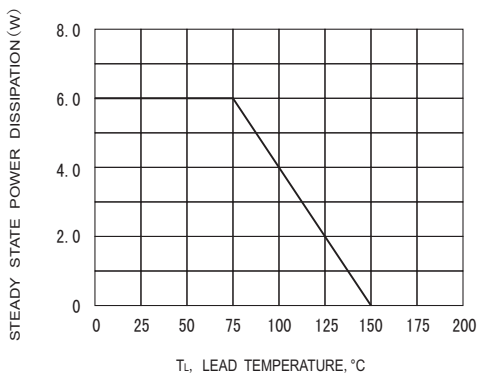


FIG. 6-TYPICAL JUNCTION CAPACITANCE

