

3000W Surface Mount Transient Voltage Suppressor

Features

- Stand-off voltage from 5.0 to 220 volts
- Glass passivated junction
- Excellent clamping capability
- 3000W peak pulse power capability with a 10/1000µs waveform, repetition rate(duty cycle): 0.01%
- Fast response time: typically less than 1.0ps from 0v to VBR
- Low inductance, Low incremental surge resistance
- High temperature soldering guaranteed: 250°C/10 seconds at terminals
- 3.0SMCJ5.0A/CA – 3.0SMCJ170A/CA series is UL recognized under cc File number E315008
- RoHS Compliant



Mechanical Data

Case:	JEDEC DO-214AB(SMC) molded plastic
Epoxy:	Plastic package has UL flammability classification 94V-0
Terminals:	Solder plated, solderable per MIL-STD-750, Method 2026
Polarity:	Cathode indicated by color band except Bi-directional
Mounting Position:	Any
Weight:	0.007 ounce, 0.21 gram

Maximum Ratings ($T_{Ambient}=25^{\circ}C$ unless noted otherwise)

Symbol	Description	Value	Unit	Conditions
PPPM	Peak Pulse Power Dissipation on 10/1000µs Waveform	Minimum 3000	W	Note (1) (2)
IPPM	Peak Pulse Current on 10/1000µs Waveform	See Table 1	A	Note (1)
IFSM	Peak Forward Surge Current, Uni-directional only (Note 2)	300	A	8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum
TJ,TSTG	Operating Junction and Storage Temperature Range	-55 to 150	° C	

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3.0SMCJ5.0A – 3.0SMCJ220CA

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 8.0mm) copper pads to each terminal.

Electrical Characteristics ($T_{Ambient}=25^\circ\text{C}$ unless noted otherwise)

P/N		Device Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage @ Test Current			Max. Clamping Voltage @ IPPM	Max. Peak Pulse Current	Max. Reverse Leakage Current @ VWM
					VBR		IT(mA)			
Uni-Polar	Bi-Polar	Uni	Bi	Vc (V)	Min.	Max.		Vc (V)	IPPM (A)	ID (μA)
3.0SMCJ5.0A	3.0SMCJ5.0CA	3.0 5V0A	3.0 5V0C	5.0	6.40	7.00	10	9.2	326.1	800
3.0SMCJ6.0A	3.0SMCJ6.0CA	3.0 6V0A	3.0 6V0C	6.0	6.67	7.37	10	10.3	291.3	800
3.0SMCJ6.5A	3.0SMCJ6.5CA	3.0 6V5A	3.0 6V5C	6.5	7.22	7.98	10	11.2	267.9	500
3.0SMCJ7.0A	3.0SMCJ7.0CA	3.0 7V0A	3.0 7V0C	7.0	7.78	8.60	10	12.0	250.0	200
3.0SMCJ7.5A	3.0SMCJ7.5CA	3.0 7V5A	3.0 7V5C	7.5	8.33	9.21	1.0	12.9	232.6	100
3.0SMCJ8.0A	3.0SMCJ8.0CA	3.0 8V0A	3.0 8V0C	8.0	8.89	9.83	1.0	13.6	220.6	50
3.0SMCJ8.5A	3.0SMCJ8.5CA	3.0 8V5A	3.0 8V5C	8.5	9.44	10.4	1.0	14.4	208.3	20
3.0SMCJ9.0A	3.0SMCJ9.0CA	3.0 9V0A	3.0 9V0C	9.0	10.0	11.1	1.0	15.4	194.8	10
3.0SMCJ10A	3.0SMCJ10CA	3.0 10A	3.0 10C	10.0	11.1	12.3	1.0	17.0	176.5	5.0
3.0SMCJ11A	3.0SMCJ11CA	3.0 11A	3.0 11C	11.0	12.2	13.5	1.0	18.2	164.8	2.0
3.0SMCJ12A	3.0SMCJ12CA	3.0 12A	3.0 12C	12.0	13.3	14.7	1.0	19.9	150.8	2.0
3.0SMCJ13A	3.0SMCJ13CA	3.0 13A	3.0 13C	13.0	14.4	15.9	1.0	21.5	139.5	2.0
3.0SMCJ14A	3.0SMCJ14CA	3.0 14A	3.0 14C	14.0	15.6	17.2	1.0	23.2	129.3	2.0
3.0SMCJ15A	3.0SMCJ15CA	3.0 15A	3.0 15C	15.0	16.7	18.5	1.0	24.4	123.0	2.0
3.0SMCJ16A	3.0SMCJ16CA	3.0 16A	3.0 16C	16.0	17.8	19.7	1.0	26.0	115.4	2.0
3.0SMCJ17A	3.0SMCJ17CA	3.0 17A	3.0 17C	17.0	18.9	20.9	1.0	27.6	108.7	2.0
3.0SMCJ18A	3.0SMCJ18CA	3.0 18A	3.0 18C	18.0	20.0	22.1	1.0	29.2	102.7	2.0
3.0SMCJ20A	3.0SMCJ20CA	3.0 20A	3.0 20C	20.0	22.2	24.5	1.0	32.4	92.6	2.0
3.0SMCJ22A	3.0SMCJ22CA	3.0 22A	3.0 22C	22.0	24.4	26.9	1.0	35.5	84.5	2.0
3.0SMCJ24A	3.0SMCJ24CA	3.0 24A	3.0 24C	24.0	26.7	29.5	1.0	38.9	77.1	2.0
3.0SMCJ26A	3.0SMCJ26CA	3.0 26A	3.0 26C	26.0	28.9	31.9	1.0	42.1	71.3	2.0
3.0SMCJ28A	3.0SMCJ28CA	3.0 28A	3.0 28C	28.0	31.1	34.4	1.0	45.4	66.1	2.0
3.0SMCJ30A	3.0SMCJ30CA	3.0 30A	3.0 30C	30.0	33.3	36.8	1.0	48.4	62.0	2.0

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P/N		Device Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage @ Test Current			Max. Clamping Voltage @ IPPM	Max. Peak Pulse Current	Max. Reverse Leakage Current @ VWM
					VBR		IT(mA)			
Uni-Polar	Bi-Polar	Uni	Bi	Vc (V)	Min.	Max.		Vc (V)	IPPM (A)	ID (µA)
3.0SMCJ33A	3.0SMCJ33CA	3.0 33A	3.0 33C	33.0	36.7	40.6	1.0	53.3	56.3	2.0
3.0SMCJ36A	3.0SMCJ36CA	3.0 36A	3.0 36C	36.0	40.0	44.2	1.0	58.1	51.6	2.0
3.0SMCJ40A	3.0SMCJ40CA	3.0 40A	3.0 40C	40.0	44.4	49.1	1.0	64.5	46.5	2.0
3.0SMCJ43A	3.0SMCJ43CA	3.0 43A	3.0 43C	43.0	47.8	52.8	1.0	69.4	43.2	2.0
3.0SMCJ45A	3.0SMCJ45CA	3.0 45A	3.0 45C	45.0	50.0	55.3	1.0	72.7	41.3	2.0
3.0SMCJ48A	3.0SMCJ48CA	3.0 48A	3.0 48C	48.0	53.3	58.9	1.0	77.4	38.8	2.0
3.0SMCJ51A	3.0SMCJ51CA	3.0 51A	3.0 51C	51.0	56.7	62.7	1.0	82.4	36.4	2.0
3.0SMCJ54A	3.0SMCJ54CA	3.0 54A	3.0 54C	54.0	60.0	66.3	1.0	87.1	34.4	2.0
3.0SMCJ58A	3.0SMCJ58CA	3.0 58A	3.0 58C	58.0	64.4	71.2	1.0	93.6	32.1	2.0
3.0SMCJ60A	3.0SMCJ60CA	3.0 60A	3.0 60C	60.0	66.7	73.7	1.0	96.8	31.0	2.0
3.0SMCJ64A	3.0SMCJ64CA	3.0 64A	3.0 64C	64.0	71.1	78.6	1.0	103	29.1	2.0
3.0SMCJ70A	3.0SMCJ70CA	3.0 70A	3.0 70C	70.0	77.8	86.0	1.0	113	26.5	2.0
3.0SMCJ75A	3.0SMCJ75CA	3.0 75A	3.0 75C	75.0	83.3	92.1	1.0	121	24.8	2.0
3.0SMCJ78A	3.0SMCJ78CA	3.0 78A	3.0 78C	78.0	86.7	95.8	1.0	126	23.8	2.0
3.0SMCJ85A	3.0SMCJ85CA	3.0 85A	3.0 85C	85.0	94.4	104	1.0	137	21.9	2.0
3.0SMCJ90A	3.0SMCJ90CA	3.0 90A	3.0 90C	90.0	100	111	1.0	146	20.5	2.0
3.0SMCJ100A	3.0SMCJ100CA	3.0 100A	3.0 100C	100	111	123	1.0	162	18.5	2.0
3.0SMCJ110A	3.0SMCJ110CA	3.0 110A	3.0 110C	110	122	135	1.0	177	16.9	2.0
3.0SMCJ120A	3.0SMCJ120CA	3.0 120A	3.0 120C	120	133	147	1.0	193	15.5	2.0
3.0SMCJ130A	3.0SMCJ130CA	3.0 130A	3.0 130C	130	144	159	1.0	209	14.4	2.0
3.0SMCJ150A	3.0SMCJ150CA	3.0 150A	3.0 150C	150	167	185	1.0	243	12.3	2.0
3.0SMCJ160A	3.0SMCJ160CA	3.0 160A	3.0 160C	160	178	197	1.0	259	11.6	2.0
3.0SMCJ170A	3.0SMCJ170CA	3.0 170A	3.0 170C	170	189	209	1.0	275	10.9	2.0
3.0SMCJ180A	3.0SMCJ180CA	3.0 180A	3.0 180C	180	198	230.4	1.0	292	10.3	3.0
3.0SMCJ190A	3.0SMCJ190CA	3.0 190A	3.0 190C	190	209	243.2	1.0	308	9.7	3.0
3.0SMCJ200A	3.0SMCJ200CA	3.0 200A	3.0 200C	200	220	256	1.0	324	9.3	3.0
3.0SMCJ210A	3.0SMCJ210CA	3.0 210A	3.0 210C	210	231	268.8	1.0	340	8.8	3.0
3.0SMCJ220A	3.0SMCJ220CA	3.0 220A	3.0 220C	220	242	281.6	1.0	356	8.4	3.0

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Note: (1) For Bi-directional type having V_{RWM} of 10 volts and less, the IR limit is doubled.

Typical Characteristics Curves

Fig.1- Peak Pulse Power Rating Curve

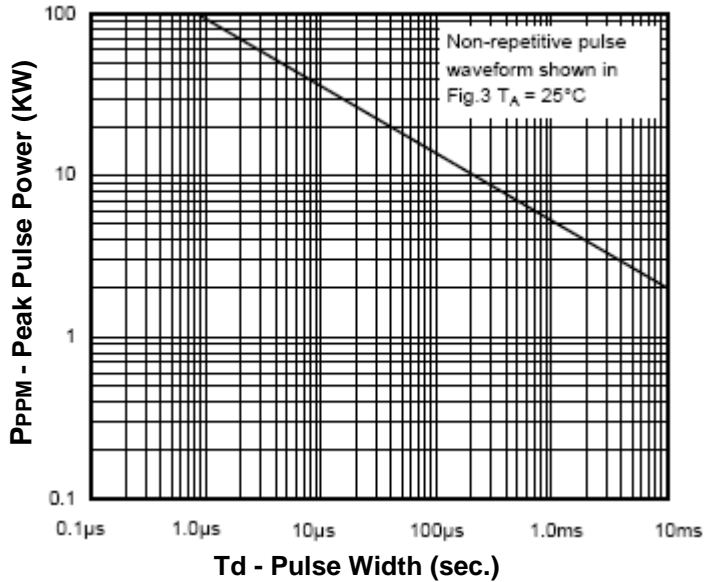


Fig.2- Pulse Derating Curve

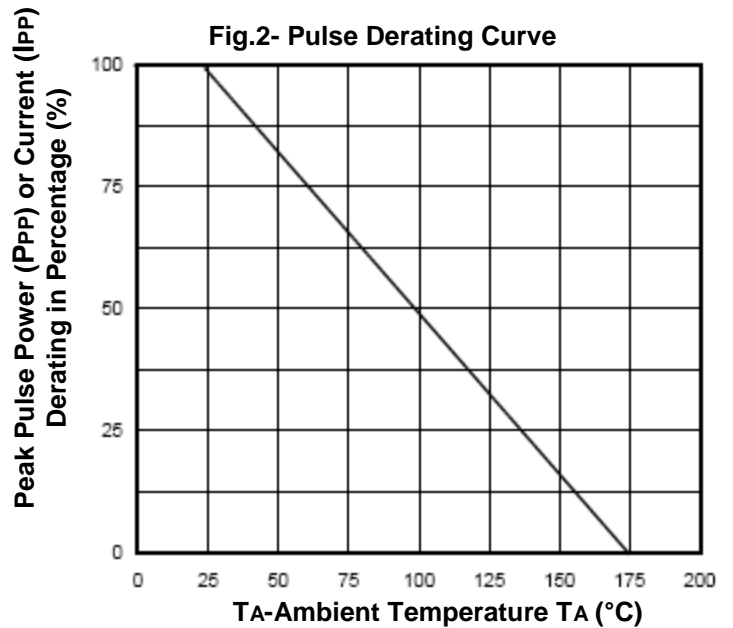


Fig.3- Pulse Waveform

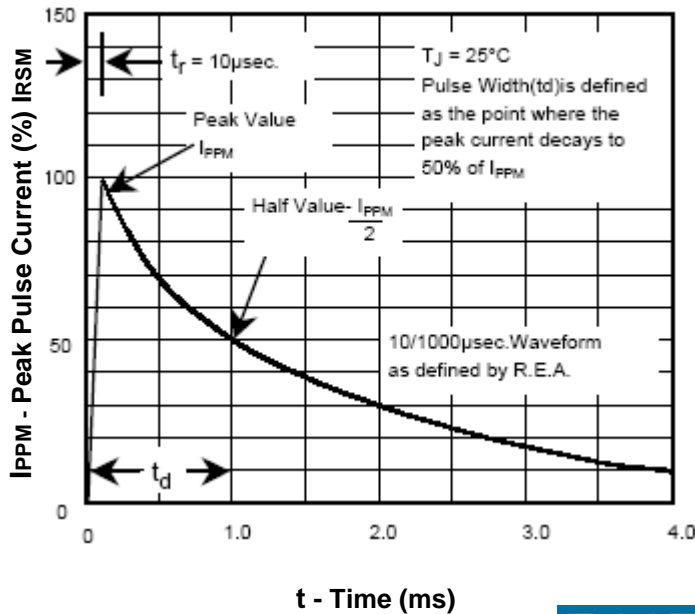
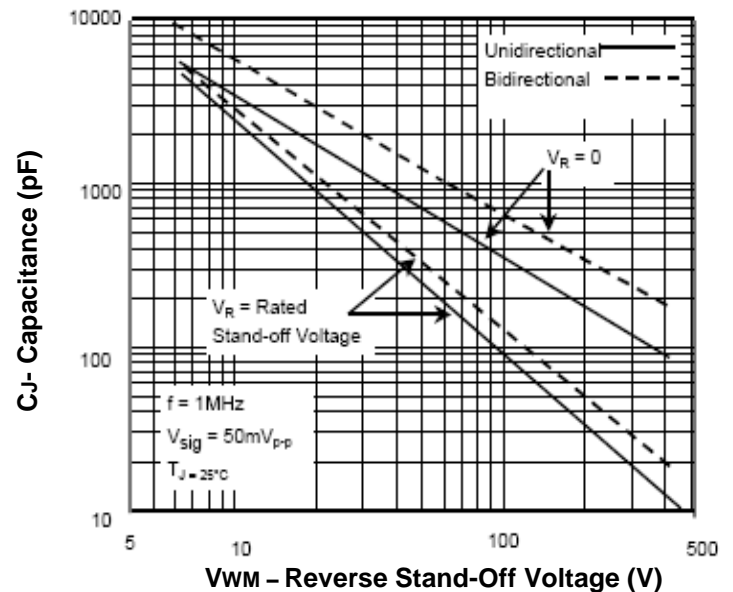
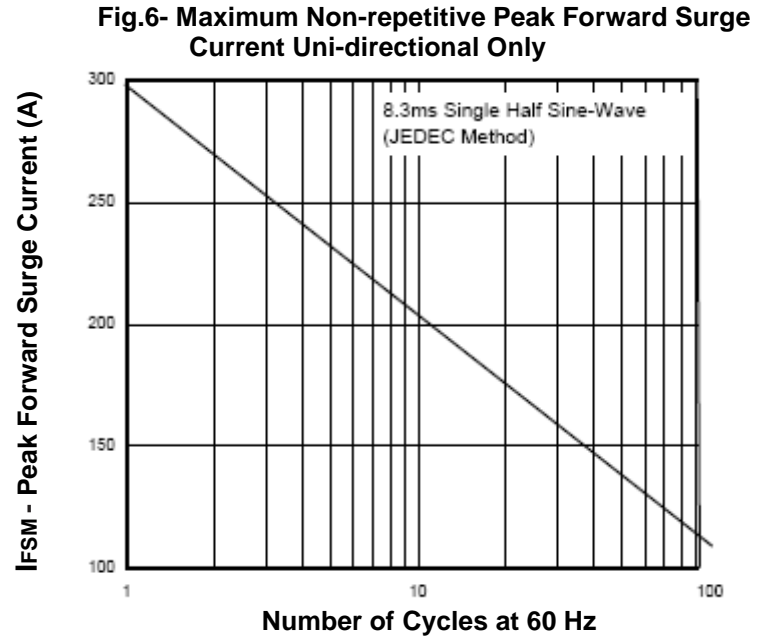
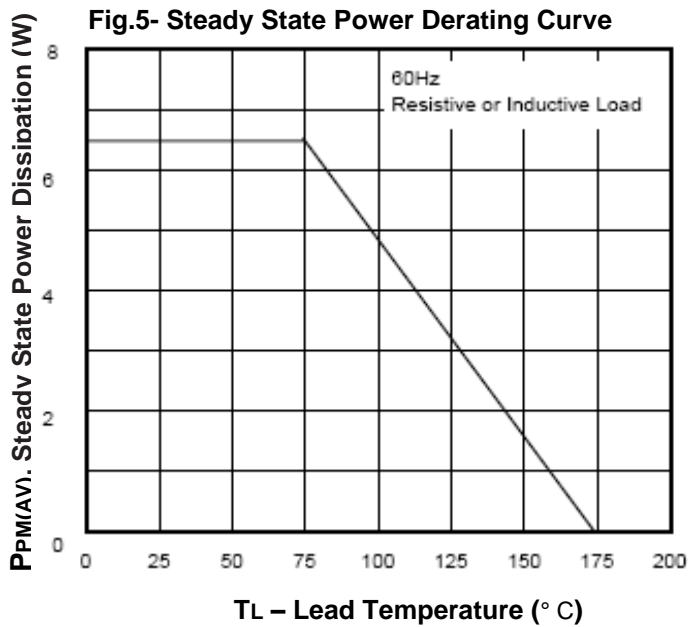


Fig.4-Typical Junction Capacitance

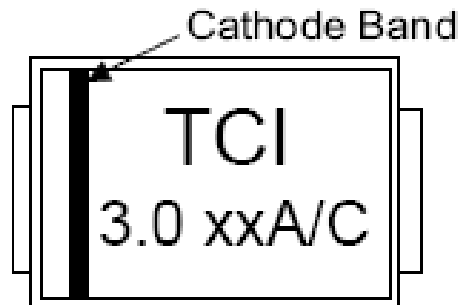


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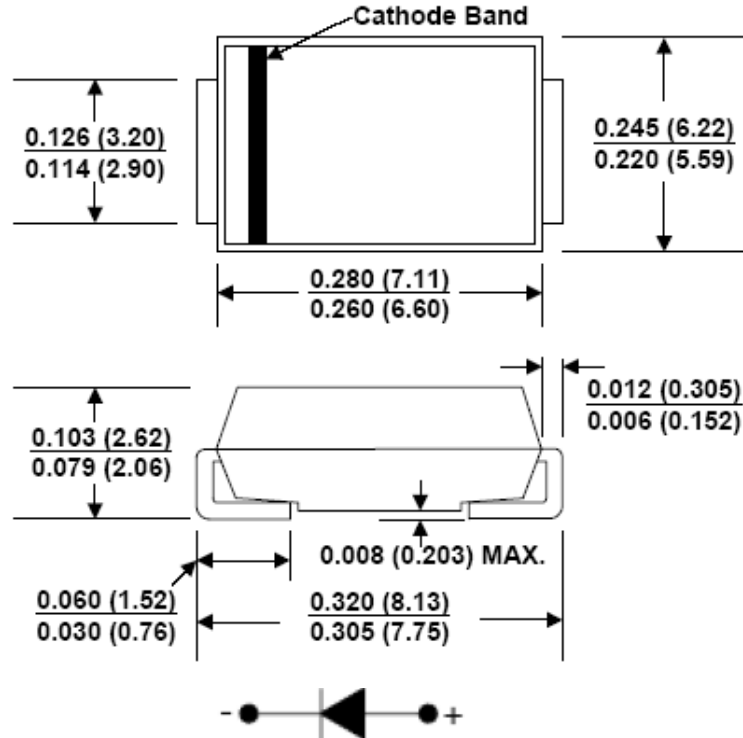
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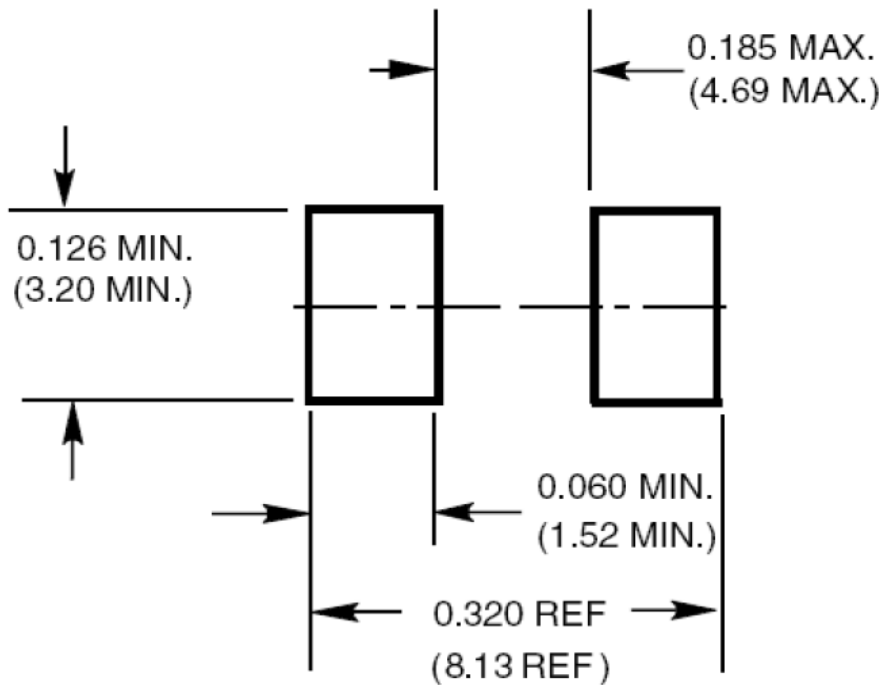
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Dimensions in inch (mm)



Soldering Pad in inch (mm)



SMC

TAITRON
components incorporated

3000W Surface Mount Transient Voltage Suppressor

3.0SMCJ5.0A – 3.0SMCJ220CA

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