

# 3.0SMCJ11 - 220A

**Stand-off Voltage : 11 to 220V**

**Peak Pulse Power : 3000 W**

## FEATURES :

- \* 3000W peak pulse power capability with a 10/1000µs waveform
- \* Excellent clamping capability
- \* Low inductance
- \* High temperature soldering : 250 °C/10 seconds at terminals.
- \* Built-in strain relief
- \* **Pb / RoHS Free**

## MECHANICAL DATA

- \* Case : SMC Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Lead Formed for Surface Mount
- \* Mounting position : Any
- \* Weight : 0.21 gram

## DEVICES FOR BIPOLAR APPLICATIONS

For Bi-directional use C or CA Suffix  
Electrical characteristics apply in both directions

## MAXIMUM RATINGS

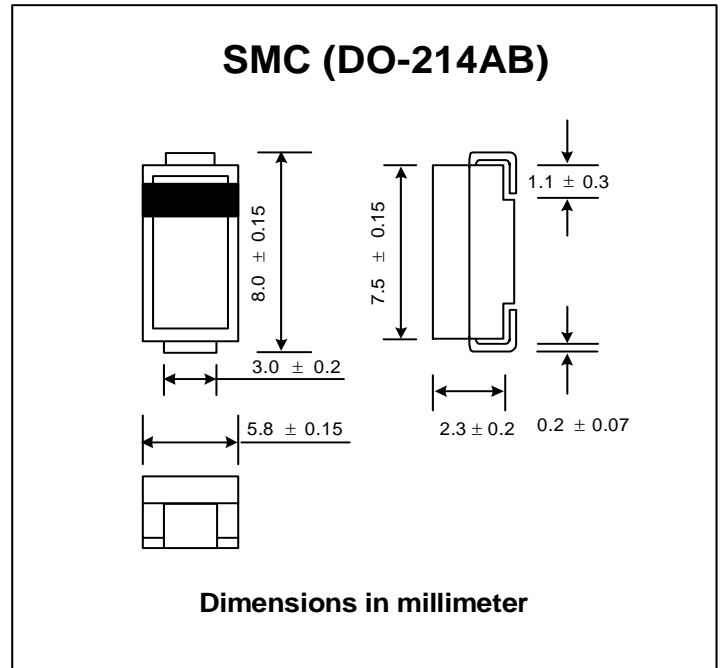
Rating at 25 °C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 µs waveform <sup>(1) (2)</sup>	P <sub>PPM</sub>	3000	W
Peak Pulse Current on 10/1000 s waveform <sup>(1)</sup>	I <sub>PPM</sub>	See Next Table	A
Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load <sup>(2)(3)</sup>	I <sub>FSM</sub>	200	A
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	- 55 to + 150	°C

### Notes :

- (1) Non-repetitive Current pulse, per Fig. 3 and derated above Ta = 25 °C per Fig. 1
- (2) Mounted on 5.0 mm<sup>2</sup> (0.013 thick) land areas.
- (3) Measured on 8.3 ms , single half sine-wave or equivalent square wave, duty cycle=4 pulses per minutes maximum.

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR



## ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified

Type	Marking Code	Breakdown Voltage @ $T^{(1)}$			Working Peak Reverse Voltage	Maximum Reverse Leakage @ $V_{WM}$	Maximum Clamping Voltage @ $I_{PPM}$	Maximum Peak Pulse Surge Current
		$V_{BR}$ (V)		IT				
		Min.	Max.	(mA)				
3.0SMCJ11	3013	12.2	15.4	1.0	11	1000	20.1	149.2
3.0SMCJ11A	3513	12.2	14.0	1.0	11	1000	18.2	184.8
3.0SMCJ12	3014	13.3	16.9	1.0	12	1000	22.0	136.4
3.0SMCJ12A	3514	13.3	15.3	1.0	12	1000	19.9	150.6
3.0SMCJ13	3015	14.4	18.2	1.0	13	500	23.8	126.0
3.0SMCJ13A	3515	14.4	16.5	1.0	13	500	21.5	139.4
3.0SMCJ14	3016	15.6	19.8	1.0	14	200	25.8	116.2
3.0SMCJ14A	3516	15.6	17.9	1.0	14	200	23.2	129.4
3.0SMCJ15	3018	16.7	21.1	1.0	15	100	26.9	111.6
3.0SMCJ15A	3518	16.7	19.2	1.0	15	100	24.4	123.0
3.0SMCJ16	3019	17.8	22.6	1.0	16	50	28.8	104.2
3.0SMCJ16A	3519	17.8	20.5	1.0	16	50	26.0	115.4
3.0SMCJ17	3020	18.9	23.9	1.0	17	20	30.5	98.4
3.0SMCJ17A	3520	18.9	21.7	1.0	17	20	27.6	106.6
3.0SMCJ18	3021	20.0	25.3	1.0	18	10	32.2	93.2
3.0SMCJ18A	3521	20.0	23.3	1.0	18	10	29.2	102.8
3.0SMCJ20	3023	22.2	28.1	1.0	20	10	35.8	83.8
3.0SMCJ20A	3523	22.2	25.5	1.0	20	10	32.4	92.6
3.0SMCJ22	3026	24.4	30.9	1.0	22	5	39.4	76.2
3.0SMCJ22A	3526	24.4	28.0	1.0	22	5	35.5	84.4
3.0SMCJ24	3028	26.7	33.8	1.0	24	5	43.0	69.8
3.0SMCJ24A	3528	26.7	30.7	1.0	24	5	38.9	77.2
3.0SMCJ26	3030	28.9	36.6	1.0	26	5	46.6	64.4
3.0SMCJ26A	3530	28.9	33.2	1.0	26	5	42.1	71.2
3.0SMCJ28	3033	31.1	39.4	1.0	28	5	50.0	60.0
3.0SMCJ28A	3533	31.1	35.8	1.0	28	5	45.4	66.0
3.0SMCJ30	3035	33.3	42.2	1.0	30	5	53.5	56.0
3.0SMCJ30A	3535	33.3	38.3	1.0	30	5	48.4	62.0
3.0SMCJ33	3039	36.7	46.5	1.0	33	5	59.0	50.4
3.0SMCJ33A	3539	36.7	42.2	1.0	33	5	53.3	56.2
3.0SMCJ36	3042	40.0	50.7	1.0	36	5	64.3	46.6
3.0SMCJ36A	3542	40.0	46.0	1.0	36	5	58.1	51.6
3.0SMCJ40	3047	44.4	56.3	1.0	40	5	71.4	42.0
3.0SMCJ40A	3547	44.4	51.1	1.0	40	5	64.5	46.4
3.0SMCJ43	3050	47.8	60.5	1.0	43	5	76.7	39.2
3.0SMCJ43A	3550	47.8	54.9	1.0	43	5	69.4	43.2
3.0SMCJ45	3053	50.0	63.3	1.0	45	5	80.3	37.4
3.0SMCJ45A	3553	50.0	57.5	1.0	45	5	72.7	41.2
3.0SMCJ48	3056	53.3	67.5	1.0	48	5	85.5	35.0
3.0SMCJ48A	3556	53.3	61.3	1.0	48	5	77.4	38.8
3.0SMCJ51	3060	56.7	71.8	1.0	51	5	91.1	37.0
3.0SMCJ51A	3560	56.7	65.2	1.0	51	5	82.4	36.4
3.0SMCJ54	3063	60.0	76.0	1.0	54	5	96.3	31.2
3.0SMCJ54A	3563	60.0	69.0	1.0	54	5	87.1	34.4
3.0SMCJ58	3068	64.4	81.6	1.0	58	5	103	39.2
3.0SMCJ58A	3568	64.4	74.1	1.0	58	5	93.6	32.0

## ELECTRICAL CHARACTERISTICS

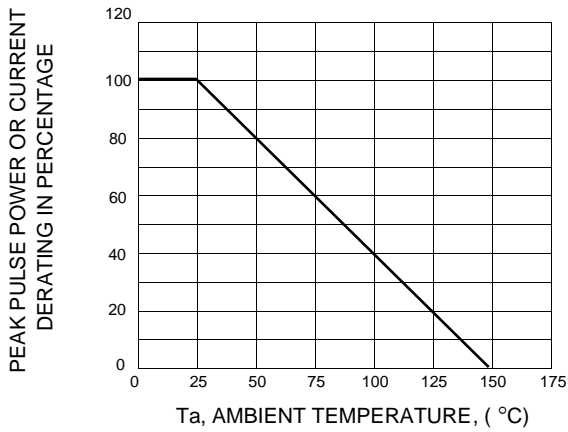
Rating at 25 °C ambient temperature unless otherwise specified

Type	Marking Code	Breakdown Voltage @ $T^{(1)}$			Working Peak Reverse Voltage	Maximum Reverse Leakage @ $V_{WM}$	Maximum Clamping Voltage @ $I_{PPM}$	Maximum Peak Pulse Surge Current
		$V_{BR}$ (V)		IT				
		Min.	Max.	(mA)				
3.0SMCJ60	3071	66.7	84.5	1.0	60	5	107	28.0
3.0SMCJ60A	3571	66.7	76.7	1.0	60	5	96	31.0
3.0SMCJ64	3075	71.1	90.1	1.0	64	5	114	26.4
3.0SMCJ64A	3575	71.1	81.8	1.0	64	5	103	29.2
3.0SMCJ70	3082	77.8	98.6	1.0	70	5	125	24.0
3.0SMCJ70A	3582	77.8	89.5	1.0	70	5	113	26.6
3.0SMCJ75	3088	83.3	105.7	1.0	75	5	134	22.4
3.0SMCJ75A	3588	83.3	95.8	1.0	75	5	121	24.8
3.0SMCJ78	3091	86.7	109.8	1.0	78	5	139	21.6
3.0SMCJ78A	3591	86.7	99.7	1.0	78	5	126	22.8
3.0SMCJ85	3099	94.4	119.2	1.0	85	5	151	19.8
3.0SMCJ85A	3599	94.4	108.2	1.0	85	5	137	20.8
3.0SMCJ90	30B1	100	126.5	1.0	90	5	160	18.8
3.0SMCJ90A	35B1	100	115.5	1.0	90	5	146	20.6
3.0SMCJ100	30B2	111	141.0	1.0	100	5	179	16.6
3.0SMCJ100A	35B2	111	128.0	1.0	100	5	162	18.6
3.0SMCJ110	30B3	122	154.5	1.0	110	5	196	15.4
3.0SMCJ110A	35B3	122	140.5	1.0	110	5	177	16.8
3.0SMCJ120	30B4	133	169.0	1.0	120	5	214	14.0
3.0SMCJ120A	35B4	133	153.0	1.0	120	5	193	15.6
3.0SMCJ130	30B5	144	182.5	1.0	130	5	231	13.0
3.0SMCJ130A	35B5	144	165.5	1.0	130	5	209	14.4
3.0SMCJ150	30B8	167	211.5	1.0	150	5	268	11.2
3.0SMCJ150A	35B8	167	192.5	1.0	150	5	243	12.4
3.0SMCJ160	30B9	178	226.0	1.0	160	5	287	10.4
3.0SMCJ160A	35B9	178	205.0	1.0	160	5	259	11.6
3.0SMCJ170	30D0	189	239.5	1.0	170	5	304	9.8
3.0SMCJ170A	35D0	189	217.5	1.0	170	5	275	11.0
3.0SMCJ180	30D1	198	253.8	1.0	180	5	322	9.3
3.0SMCJ180A	35D1	198	230.4	1.0	180	5	292	10.3
3.0SMCJ190	30D2	209	267.9	1.0	190	5	340	8.8
3.0SMCJ190A	35D2	209	243.2	1.0	190	5	308	9.7
3.0SMCJ200	30D3	220	282.0	1.0	200	5	358	8.4
3.0SMCJ200A	35D3	220	256.0	1.0	200	5	324	9.3
3.0SMCJ210	30D4	231	296.1	1.0	210	5	376	7.8
3.0SMCJ210A	35D4	231	268.8	1.0	210	5	340	8.8
3.0SMCJ220	30D5	242	310.2	1.0	220	5	394	7.6
3.0SMCJ220A	35D5	242	281.6	1.0	220	5	356	8.4

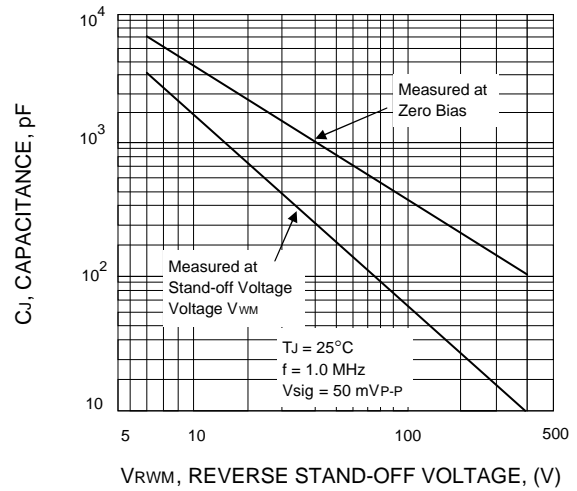
Note: (1) Pulse test:  $t_p \leq 50\text{ms}$ .

**RATING AND CHARACTERISTIC CURVES ( 3.0SMCJ11 - 220A )**

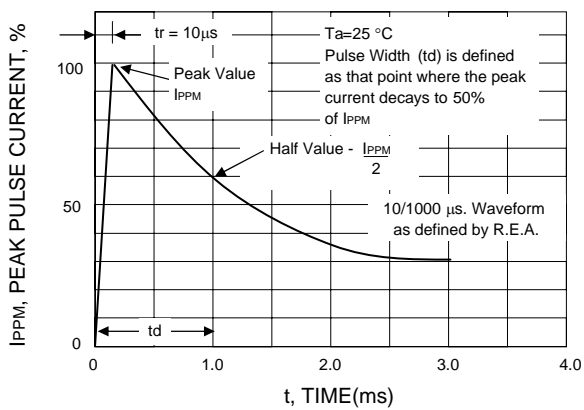
**FIG.1 - PULSE DERATING CURVE**



**FIG.2 - TYPICAL JUNCTION CAPACITANCE**



**FIG.3 - PULSE WAVEFORM**



**FIG.4 - PEAK PULSE POWER RATING CURVE**

