3.0SMCJ_5.0_220A

Stand-off Voltage : 5.0 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
- RoHS compliant package

Mechanical Data

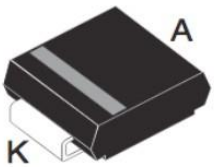
- Case : SMC Molded plastic
- Epoxy : UL94V-O rate flame retardant
- Lead : Lead formed for Surface mount
- Mounting position : Any
- Weight : 0.229 gram

Applications

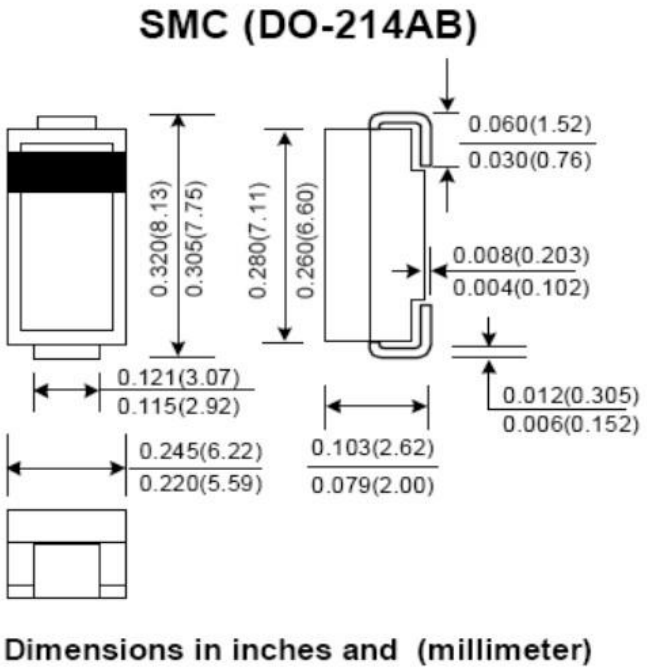
- For Bi-directional use C or CA Suffix
- Electrical characteristics apply in both directions

Packing & Order Information

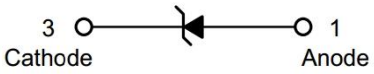
3,000/Reel



RoHS
COMPLIANT



Graphic symbol



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified

Symbol	Parameter	Value	Unit
P_{PPM}	Peak Pulse Power Dissipation on 10/1000ms waveform (1)(2)	3000	W
I_{PPM}	Peak Pulse Current on 10/1000ms waveform (1)	See Next Table	A
I_{FSM}	Peak Forward Surge Current, 8.3 ms single half sine-wave superimposed on rated load (2)(3)	200	A
TJ,Tstg	Operating Junction and Storage Temperature Range	-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 mm2 (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.

Brückewell

3.0SMCJ_5.0_220A

Stand-off Voltage : 5.0 to 220V

Peak Pulse Power : 3000 W

ELECTRICAL CHARACTERISTICS (Rating at 25ºC ambient temperature unless otherwise specified)

Type No.	Breakdown Voltage @ IT(1)			Reverse Stand-off Voltage	Maximum Reverse Leakage @ VRWM	Maximum Peak Pulse Surge Current	Maximum Clamping Voltage @ IPPM
	VBR (V)		IT	VRRWM	ID	IPPM	VC
	Min.	Max.	(mA)	(V)	**μA**	(A)	(V)
3.0SMCJ5.0	6.40	7.55	10	5.0	1000	312.5	9.6
3.0SMCJ5.0A	6.40	7.25	10	5.0	1000	326	9.2
3.0SMCJ6.0	6.67	8.45	10	6.0	1000	263.2	11.4
3.0SMCJ6.0A	6.67	7.67	10	6.0	1000	291.3	10.3
3.0SMCJ6.5	7.22	9.14	10	6.5	500	243.9	12.3
3.0SMCJ6.5A	7.22	8.30	10	6.5	500	267.9	11.2
3.0SMCJ7.0	7.78	9.86	10	7.0	200	225.6	13.3
3.0SMCJ7.0A	7.78	8.95	10	7.0	200	250	12.0
3.0SMCJ7.5	8.33	10.67	1.0	7.5	100	209.8	14.3
3.0SMCJ7.5A	8.33	9.58	1.0	7.5	100	232.6	12.9
3.0SMCJ8.0	8.89	11.30	1.0	8.0	50	200	15.0
3.0SMCJ8.0A	8.89	10.23	1.0	8.0	50	220.6	13.6
3.0SMCJ8.5	9.44	11.92	1.0	8.5	25	188.8	15.9
3.0SMCJ8.5A	9.44	10.82	1.0	8.5	25	208.4	14.4
3.0SMCJ9.0	10.0	12.6	1.0	9.0	10	177.4	16.9
3.0SMCJ9.0A	10.0	11.5	1.0	9.0	10	194.8	15.4
3.0SMCJ10	11.1	14.1	1.0	10	5	159.6	18.8
3.0SMCJ10A	11.1	12.8	1.0	10	5	176.4	17.0
3.0SMCJ11	12.2	15.4	1.0	11	5	149.2	20.1
3.0SMCJ11A	12.2	14.0	1.0	11	5	184.8	18.2
3.0SMCJ12	13.3	16.9	1.0	12	5	136.4	22.0
3.0SMCJ12A	13.3	15.3	1.0	12	5	150.6	19.9
3.0SMCJ13	14.4	18.2	1.0	13	5	126.0	23.8
3.0SMCJ13A	14.4	16.5	1.0	13	5	139.4	21.5
3.0SMCJ14	15.6	19.8	1.0	14	5	116.2	25.8
3.0SMCJ14A	15.6	17.9	1.0	14	5	129.4	23.2
3.0SMCJ15	16.7	21.1	1.0	15	5	111.6	26.9
3.0SMCJ15A	16.7	19.2	1.0	15	5	123.0	24.4
3.0SMCJ16	17.8	22.6	1.0	16	5	104.2	28.8

Brückewell

3.0SMCJ_5.0_220A

Stand-off Voltage : 5.0 to 220V

Peak Pulse Power : 3000 W

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

Type No.	Breakdown Voltage @ IT(1)			Reverse Stand-off Voltage	Maximum Reverse Leakage @ VWM	Maximum Peak Pulse Surge Current	Maximum Clamping Voltage @ IPPM
	VBR (V)		IT	VWM	ID	IPPM	VC
	Min.	Max.	(mA)	(V)	**μA**	(A)	(V)
3.0SMCJ16A	17.8	20.5	1.0	16	5	115.4	26.0
3.0SMCJ17	18.9	23.9	1.0	17	5	98.4	30.5
3.0SMCJ17A	18.9	21.7	1.0	17	5	106.6	27.6
3.0SMCJ18	20.0	25.3	1.0	18	5	93.2	32.2
3.0SMCJ18A	20.0	23.3	1.0	18	5	102.8	29.2
3.0SMCJ20	22.2	28.1	1.0	20	5	83.8	35.8
3.0SMCJ20A	22.2	25.5	1.0	20	5	92.6	32.4
3.0SMCJ22	24.4	30.9	1.0	22	5	76.2	39.4
3.0SMCJ22A	24.4	28.0	1.0	22	5	84.4	35.5
3.0SMCJ24	26.7	33.8	1.0	24	5	69.8	43.0
3.0SMCJ24A	26.7	30.7	1.0	24	5	77.2	38.9
3.0SMCJ26	28.9	36.6	1.0	26	5	64.4	46.6
3.0SMCJ26A	28.9	33.2	1.0	26	5	71.2	42.1
3.0SMCJ28	31.1	39.4	1.0	28	5	60.0	50.0
3.0SMCJ28A	31.1	35.8	1.0	28	5	66.0	45.4
3.0SMCJ30	33.3	42.2	1.0	30	5	56.0	53.5
3.0SMCJ30A	33.3	38.3	1.0	30	5	62.0	48.4
3.0SMCJ33	36.7	46.5	1.0	33	5	50.4	59.0
3.0SMCJ33A	36.7	42.2	1.0	33	5	56.2	53.3
3.0SMCJ36	40.0	50.7	1.0	36	5	46.6	64.3
3.0SMCJ36A	40.0	46.0	1.0	36	5	51.6	58.1
3.0SMCJ40	44.4	56.3	1.0	40	5	42.0	71.4
3.0SMCJ40A	44.4	51.1	1.0	40	5	46.4	64.5
3.0SMCJ43	47.8	60.5	1.0	43	5	39.2	76.7
3.0SMCJ43A	47.8	54.9	1.0	43	5	43.2	69.4
3.0SMCJ45	50.0	63.3	1.0	45	5	37.4	80.3
3.0SMCJ45A	50.0	57.5	1.0	45	5	41.2	72.7
3.0SMCJ48	53.3	67.5	1.0	48	5	35.0	85.5
3.0SMCJ48A	53.3	61.3	1.0	48	5	38.8	77.4

Brückewell

3.0SMCJ_5.0_220A

Stand-off Voltage : 5.0 to 220V

Peak Pulse Power : 3000 W

ELECTRICAL CHARACTERISTICS (Rating at 25ºC ambient temperature unless otherwise specified)

Type No.	Breakdown Voltage @ IT(1)			Reverse Stand-off Voltage	Maximum Reverse Leakage @ VWM	Maximum Peak Pulse Surge Current	Maximum Clamping Voltage @ IPPM
	VBR (V)		IT	VWM	ID	IPPM	VC
	Min.	Max.	(mA)	(V)	μA	(A)	(V)
3.0SMCJ51	56.7	71.8	1.0	51	5	37.0	91.1
3.0SMCJ51A	56.7	65.2	1.0	51	5	36.4	82.4
3.0SMCJ54	60.0	76.0	1.0	54	5	31.2	96.3
3.0SMCJ54A	60.0	69.0	1.0	54	5	34.4	87.1
3.0SMCJ58	64.4	81.6	1.0	58	5	39.2	103
3.0SMCJ58A	64.4	74.1	1.0	58	5	32.0	93.6
3.0SMCJ60	66.7	84.5	1.0	60	5	28.0	107
3.0SMCJ60A	66.7	76.7	1.0	60	5	31.0	96
3.0SMCJ64	71.1	90.1	1.0	64	5	26.4	114
3.0SMCJ64A	71.1	81.8	1.0	64	5	29.2	103
3.0SMCJ70	77.8	98.6	1.0	70	5	24.0	125
3.0SMCJ70A	77.8	89.5	1.0	70	5	26.6	113
3.0SMCJ75	83.3	105.7	1.0	75	5	22.4	134
3.0SMCJ75A	83.3	95.8	1.0	75	5	24.8	121
3.0SMCJ78	86.7	109.8	1.0	78	5	21.6	139
3.0SMCJ78A	86.7	99.7	1.0	78	5	22.8	126
3.0SMCJ85	94.4	119.2	1.0	85	5	19.8	151
3.0SMCJ85A	94.4	108.2	1.0	85	5	20.8	137
3.0SMCJ90	100	126.5	1.0	90	5	18.8	160
3.0SMCJ90A	100	115.5	1.0	90	5	20.6	146
3.0SMCJ100	111	141.0	1.0	100	5	16.6	179
3.0SMCJ100A	111	128.0	1.0	100	5	18.6	162
3.0SMCJ110	122	154.5	1.0	110	5	15.4	196
3.0SMCJ110A	122	140.5	1.0	110	5	16.8	177
3.0SMCJ120	133	169.0	1.0	120	5	14.0	214
3.0SMCJ120A	133	153.0	1.0	120	5	15.6	193
3.0SMCJ130	144	182.5	1.0	130	5	13.0	231
3.0SMCJ130A	144	165.5	1.0	130	5	14.4	209
3.0SMCJ150	167	211.5	1.0	150	5	11.2	268

3.0SMCJ_5.0_220A

Stand-off Voltage : 5.0 to 220V

Peak Pulse Power : 3000 W

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

Type No.	Breakdown Voltage @ IT(1)			Reverse Stand-off Voltage	Maximum Reverse Leakage @ VWM	Maximum Peak Pulse Surge Current	Maximum Clamping Voltage @ IPPM
	VBR (V)		IT	VWM	ID	IPPM	VC
	Min.	Max.	(mA)	(V)	**μA**	(A)	(V)
3.0SMCJ150A	167	192.5	1.0	150	5	12.4	243
3.0SMCJ160	178	226.0	1.0	160	5	10.4	287
3.0SMCJ160A	178	205.0	1.0	160	5	11.6	259
3.0SMCJ170	189	239.5	1.0	170	5	9.8	304
3.0SMCJ170A	189	217.5	1.0	170	5	11.	275
3.0SMCJ180	198	253.8	1.0	180	5	09.3	322
3.0SMCJ180A	198	230.4	1.0	180	5	10.3	292
3.0SMCJ190	209	267.9	1.0	190	5	8.8	340
3.0SMCJ190A	209	243.2	1.0	190	5	9.7	308
3.0SMCJ200	220	282.0	1.0	200	5	8.4	358
3.0SMCJ200A	220	256.0	1.0	200	5	9.3	324
3.0SMCJ210	231	296.1	1.0	210	5	7.8	376
3.0SMCJ210A	231	268.8	1.0	210	5	8.8	340
3.0SMCJ220	242	310.2	1.0	220	5	7.6	394
3.0SMCJ220A	242	281.6	1.0	220	5	8.4	356

Note: (1) Pulse test : tp ≤ 50ms.

(2) "SMCJ" will be omitted on marking of the diode.

3.0SMCJ_5.0_220A

Stand-off Voltage : 5.0 to 220V

Peak Pulse Power : 3000 W

■RATING AND CHARACTERISTIC CURVES (3.0SMCJ5.0 - 220A)

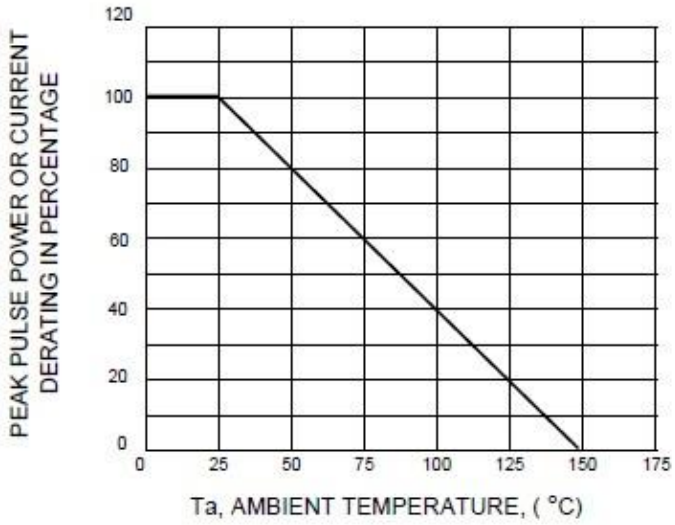


FIG.1 - PULSE DERATING CURVE

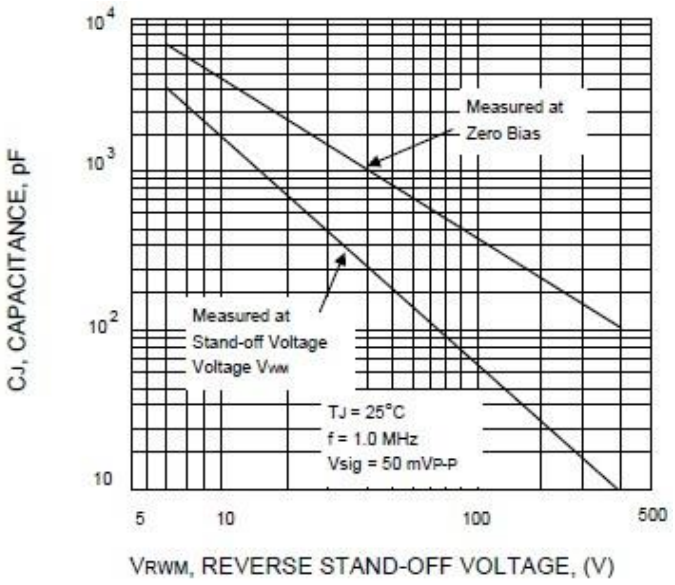


FIG.2 - TYPICAL JUNCTION CAPACITANCE

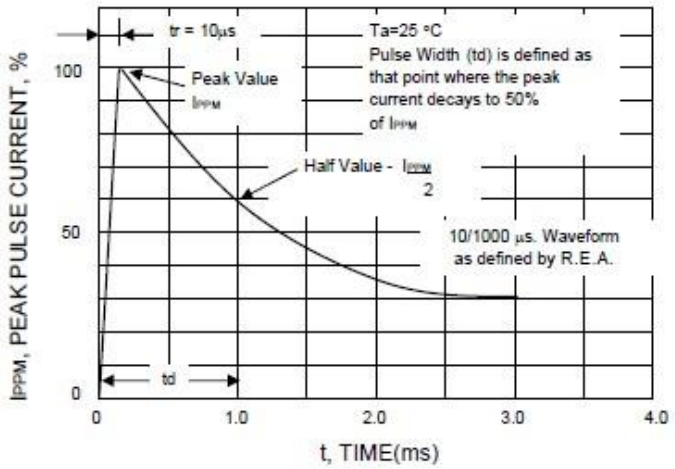


FIG.3 - PULSE WAVEFORM

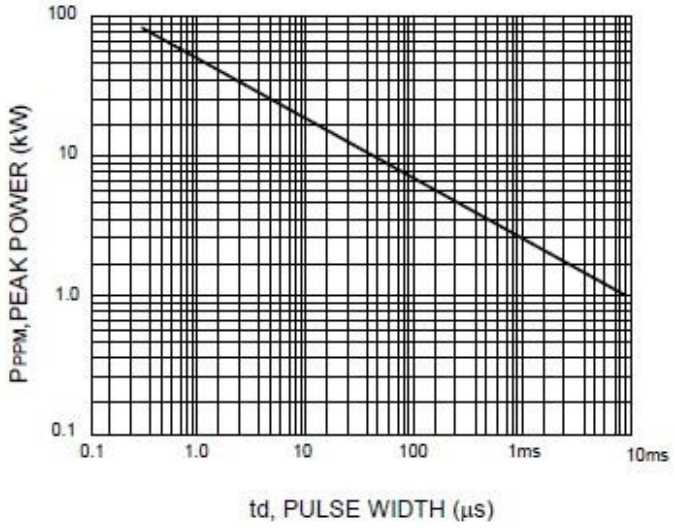


FIG.4 - PEAK PULSE POWER RATING CURVE

3.0SMCJ_5.0_220A

Stand-off Voltage : 5.0 to 220V

Peak Pulse Power : 3000 W

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