

3.0SMCJ5.0(A) THRU 3.0SMCJ170(A)
3.0SMCJ5.0A(CA) THRU 3.0SMCJ170A(CA)
VOLTAGE - 5.0 TO 170 VOLTS 3000 WATT PEAK POWER

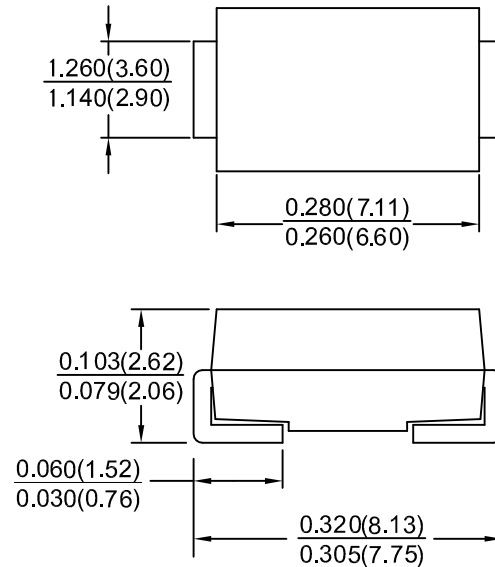
SMC/DO-214AB

FEATURES:

- Plastic package has Underwrites Laboratory Flammability Classification 94V-0
- Glass passivated junction
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time : typically less than 1.0 ps from 0 volts to $V_{(BR)}$ min
- Typical I_R less than 1uA above 10V
- 3000W peak pulse power capability with a 10/1000us waveform , repetition rate (duty cycle) : 0.01 %
- High temperature soldering guaranteed : 250°C /10 seconds at terminal

MECHANICAL DATA

Case: Molded plastic
 Terminals: Solder plated, Solderable per MIL-STD-705, Method 2026
 Polarity: Indicated by cathode band band
 Weight: 0.021 grams



Suffix " ", "A"
 UNIDIRECTIONAL

Suffix "C", "CA"
 DIRECTIONAL

Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

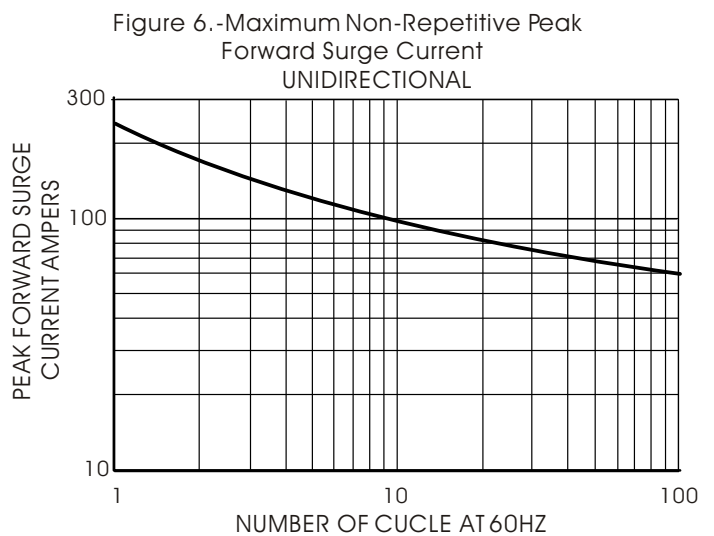
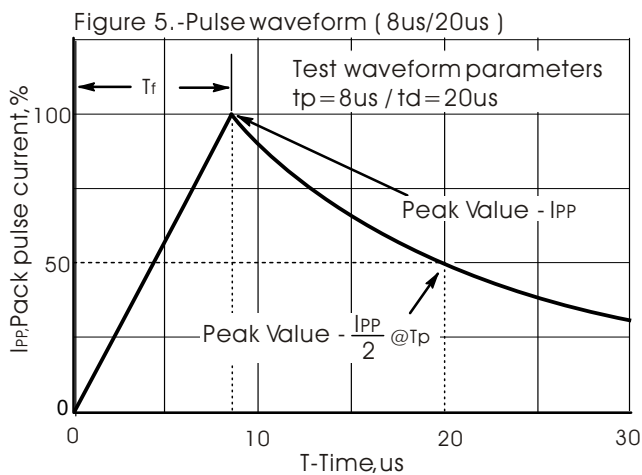
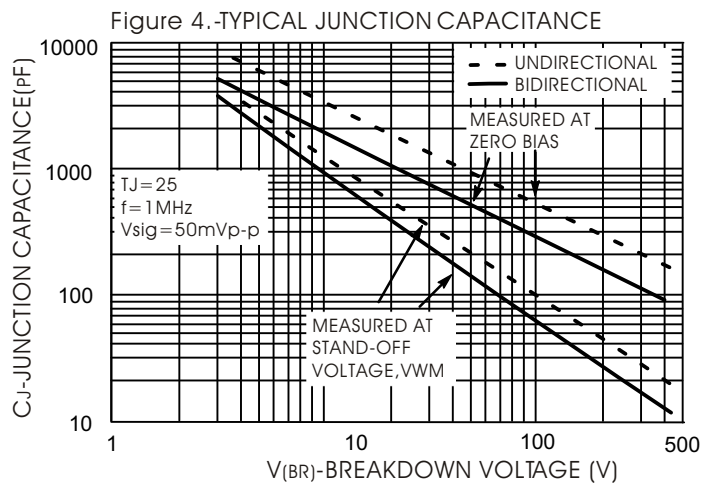
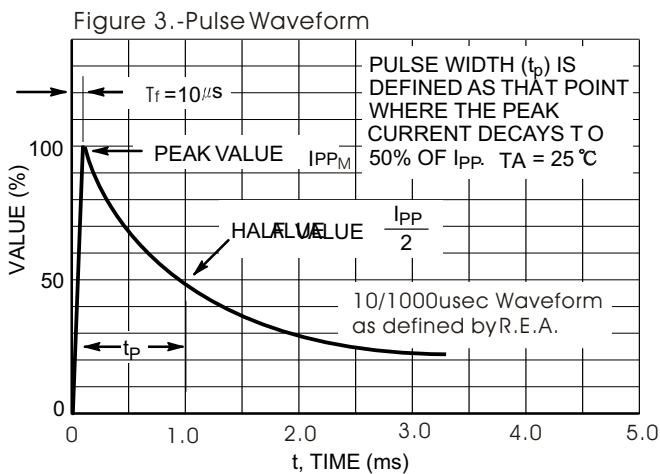
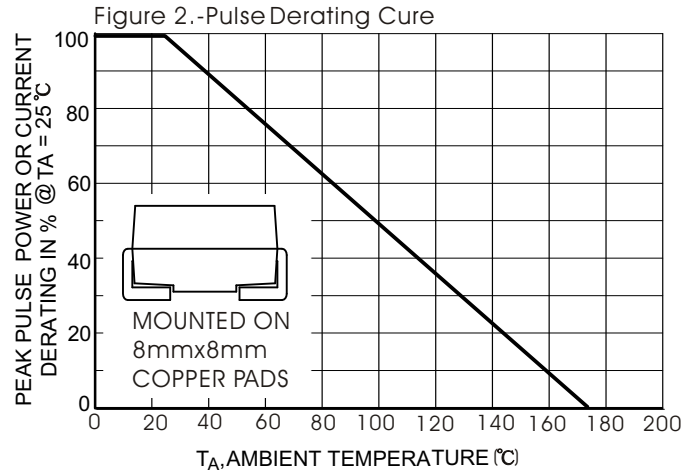
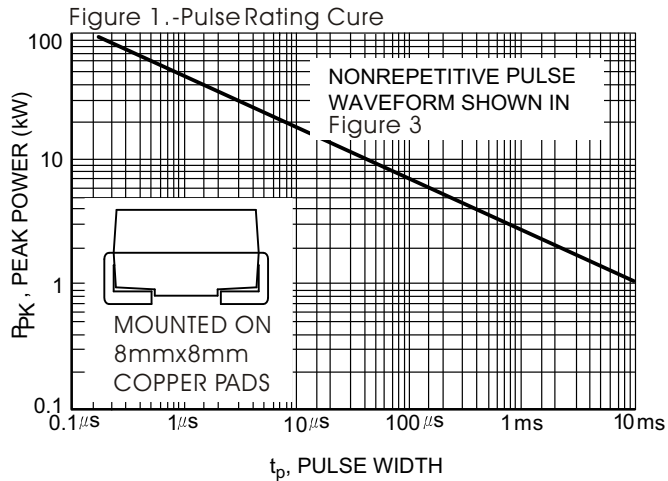
Rating at 25 °C ambient temp. unless otherwise specified.
 Single phase, half sine wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20 %.

Characteristic	Symbol	Value	Units
Minimum peak power dissipation on 10/1000us waveform (note1,fig.1)	P_{PK}	3000	W
Maximum peak pulse current of on 10/1000us waveform (note1,fig3)	I_{PPM}	SEE TABLE1~3	Amps
Steady state power dissipation at $T_L=75$ °C (note 2)	$P_{M(AV)}$	1.0	Watts
Maximum forward Surge current, 8.3ms Single Half Sine-Wave Superimposed on rated load Unidirectional only (note 3)	I_{FSM}	250	Amps
Maximum instantaneous forward voltage at 25A for unidirectional only(note 4)	V_F	3.5/5.0	Volts
Operating and storage temperature range	T_J, T_{stg}	-55 to +175	°C

NOTES :

1. Non-repetitive current pulse, per Fig.3 and derated above $T_a=25$ °C per Fig.2
2. Mounted on 8.0mmx8.0mm copper padsto each terminal
3. Measured on 8.3mS Single half sine-wave or equivalent square wave ,duty cycle =4pulses per minute maximum for uni-directional devices only
4. $V_F=3.5V$ on 3.0SMCJ5.0THRU 3.0SMCJ90 devices and $V_F=5.0V$ on 3.0SMCJ100 THRU 3.0SMCJ170

RATINGS AND CHARACTERISTIC CURVES 3.0SMCJ5.0(A)(C)(CA) THRU 3.0SMCJ170(A)(C)(CA)



RATINGS AND CHARACTERISTIC CURVES 3.0SMCJ5.0(A)(C)(CA) THRU 3.0SMCJ170(A)(C)(CA)

TABLE 1

Device Type	Breakdown VBR Voltage at IT(Voltage)		Test Current IT	Working Peak Reverse Voltage VRWM	Maximum Reverse Leakage at VRWM IR(μA)	Maximum Peak Pulse Current IPPM(NOTE5)	Maximum Clamping Voltage (Vc)atIPPM(NOTE5)	Device Marking code	
	Min	Max						mA	Volts
3.0SMCJ5.0(C)	6.40	7.82	10	5.00	800	312.5	9.60	HDD	IDD
3.0SMCJ5.0A(CA)	6.40	7.07	10	5.00	800	326.0	9.20	HDE	IDE
3.0SMCJ6.0(C)	6.67	8.15	10	6.00	800	263.2	11.4	HDF	IDF
3.0SMCJ6.0A(CA)	6.67	7.37	10	6.00	800	291.3	10.3	HDG	IDG
3.0SMCJ6.5(C)	7.22	8.82	10	6.50	500	243.9	12.3	HDH	IDH
3.0SMCJ6.5A(CA)	7.22	7.98	10	6.50	500	267.9	11.2	HDK	IDK
3.0SMCJ7.0(C)	7.78	9.51	10	7.00	200	225.6	13.3	HDL	IDL
3.0SMCJ7.0A(CA)	7.78	8.60	10	7.00	200	250.0	12.0	HDM	IDM
3.0SMCJ7.5(C)	8.33	10.2	1.0	7.50	100	209.8	14.3	HDN	IDN
3.0SMCJ7.5A(CA)	8.33	9.21	1.0	7.50	100	232.6	12.9	HDP	IDP
3.0SMCJ8.0(C)	8.89	10.9	1.0	8.00	50	200.0	15.0	HDQ	IDQ
3.0SMCJ8.0A(CA)	8.89	9.83	1.0	8.00	50	220.6	13.6	HDR	IDR
3.0SMCJC8.5(C)	9.44	11.5	1.0	8.50	10	188.8	15.9	HDS	IDS
3.0SMCJ8.5(CA)	9.44	10.4	1.0	8.50	10	208.4	14.4	HDT	IDT
3.0SMCJ9.0(C)	10.0	12.2	1.0	9.00	5.0	177.4	16.9	HDU	IDU
3.0SMCJ9.0A(CA)	10.0	11.1	1.0	9.00	5.0	194.8	15.4	HDV	IDV
3.0SMCJ10(C)	11.1	13.6	1.0	10.0	5.0	159.6	18.8	HDW	IDW
3.0SMCJ10A(CA)	11.1	12.3	1.0	10.0	5.0	176.4	17.0	HDX	IDX
3.0SMCJ11(C)	12.2	14.9	1.0	11.0	5.0	149.2	20.1	HDY	IDY
3.0SMCJ11A(CA)	12.2	13.5	1.0	11.0	5.0	184.8	18.2	HDZ	IDZ
3.0SMCJ12(C)	13.3	16.3	1.0	12.0	5.0	136.4	22.0	HED	IED
3.0SMCJ12A(CA)	13.3	14.7	1.0	12.0	5.0	150.6	19.9	HEE	IEE
3.0SMCJ13(C)	14.4	17.6	1.0	13.0	5.0	126.0	23.8	HEF	IEF
3.0SMCJ13A(CA)	14.4	15.9	1.0	13.0	5.0	139.4	21.5	HEG	IEG
3.0SMCJ14(C)	15.6	19.1	1.0	14.0	5.0	116.2	25.8	HEH	IEH
3.0SMCJ14A(CA)	15.6	17.2	1.0	14.0	5.0	129.4	23.2	HEK	IEK
3.0SMCJ15(C)	16.7	20.4	1.0	15.0	5.0	111.6	26.9	HEL	IEL
3.0SMCJ15A(CA)	16.7	18.5	1.0	15.0	5.0	123.0	24.4	HEM	IEM
3.0SMCJ16(C)	17.8	21.8	1.0	16.0	5.0	104.2	28.8	HEN	IEN
3.0SMCJ16A(CA)	17.8	19.7	1.0	16.0	5.0	115.4	26.0	HEP	IEP
3.0SMCJ17(C)	18.9	23.1	1.0	17.0	5.0	98.4	30.5	HEQ	IEQ
3.0SMCJ17A(CA)	18.9	20.9	1.0	17.0	5.0	106.6	27.6	HER	IER
3.0SMCJ18(C)	20.0	24.4	1.0	18.0	5.0	93.2	32.2	HES	IES
3.0SMCJ18A(CA)	20.0	22.1	1.0	18.0	5.0	102.8	29.2	HET	IET
3.0SMCJ20(C)	22.2	27.1	1.0	20.0	5.0	83.8	35.8	HEU	IEU
3.0SMCJ20A(CA)	22.2	24.5	1.0	20.0	5.0	92.6	32.4	HEV	IEV
3.0SMCJ22(C)	24.4	29.8	1.0	22.0	5.0	76.2	39.4	HEW	IEW
3.0SMCJ22A(CA)	24.4	26.9	1.0	22.0	5.0	84.4	35.5	HEX	IEX
3.0SMCJ24(C)	26.7	32.6	1.0	24.0	5.0	69.8	43.0	HEY	IEY
3.0SMCJ24A(CA)	26.7	29.5	1.0	24.0	5.0	77.2	38.9	HEZ	IEZ
3.0SMCJ26(C)	28.9	35.3	1.0	26.0	5.0	64.4	46.6	HFD	IFD
3.0SMCJ26A(CA)	28.9	31.9	1.0	26.0	5.0	71.2	42.1	HFE	IFE

RATINGS AND CHARACTERISTIC CURVES 3.0SMCJ5.0(A)(C)(CA) THRU 3.0SMCJ170(A)(C)(CA)

TABLE 2

Device Type	Breakdown VBR Voltage at Ir		Test Current Ir mA	Working Peak Reverse Voltage VRWM Volts	Maximun Reverse Leakage at VRWM Ir(μA)	Maximun Peak Pulse Current IPPM(NOTE5) Amps	Maximum Clamping Voltage (Vc) at IPPM(NOTE5) Volts	Device Marking code	
	Min	Max						UNI	BI
3.0SMCJ28(C)	31.1	38.0	1.0	28.0	5.0	60.0	50.0	HFF	IFF
3.0SMCJ28A(CA)	31.1	34.4	1.0	28.0	5.0	66.0	45.4	HFG	IFG
3.0SMCJ30(C)	33.3	40.7	1.0	30.0	5.0	56.0	53.5	HFH	IFH
3.0SMCJ30A(CA)	33.3	36.8	1.0	30.0	5.0	62.0	48.4	HFK	IFK
3.0SMCJ33(C)	36.7	44.9	1.0	33.0	5.0	50.4	59.0	HFL	IFL
3.0SMCJ33A(CA)	36.7	40.6	1.0	33.0	5.0	56.2	53.3	HFM	IFM
3.0SMCJC36(C)	40.0	48.9	1.0	36.0	5.0	46.6	64.3	HFN	IFN
3.0SMCJ36A(CA)	40.0	44.2	1.0	36.0	5.0	51.6	58.1	HFP	IFP
3.0SMCJ40(C)	44.4	54.3	1.0	40.0	5.0	42.0	71.4	HFQ	IFQ
3.0SMCJ40A(CA)	44.4	49.1	1.0	40.0	5.0	46.4	64.5	HFR	IFR
3.0SMCJ43(C)	47.8	58.4	1.0	43.0	5.0	39.2	76.7	HFS	IFS
3.0SMCJ43A(CA)	47.8	52.8	1.0	43.0	5.0	43.2	69.4	HFT	IFT
3.0SMCJ45(C)	50.0	61.1	1.0	45.0	5.0	37.4	80.3	HFU	IFU
3.0SMCJ45(CA)	50.0	55.3	1.0	45.0	5.0	41.2	72.7	HFV	IFV
3.0SMCJ48(C)	53.3	65.1	1.0	48.0	5.0	35.0	85.5	HFW	IFW
3.0SMCJ48A(CA)	53.3	58.9	1.0	48.0	5.0	38.8	77.4	HFX	IFX
3.0SMCJ51(C)	56.7	69.3	1.0	51.0	5.0	37.0	91.1	HFY	IFY
3.0SMCJ51A(CA)	56.7	62.7	1.0	51.0	5.0	36.4	82.4	HFZ	IFZ
3.0SMCJ54(C)	60.0	73.3	1.0	54.0	5.0	31.2	96.3	HGD	IGD
3.0SMCJ54A(CA)	60.0	66.3	1.0	54.0	5.0	34.4	87.1	HGE	IGE
3.0SMCJ58(C)	64.4	78.7	1.0	58.0	5.0	39.2	103	HGF	IGF
3.0SMCJ58A(CA)	64.4	71.2	1.0	58.0	5.0	32.0	93.0	HGG	IGG
3.0SMCJ60(C)	66.7	81.5	1.0	60.0	5.0	28.0	107	HGH	IGH
3.0SMCJ60A(CA)	66.7	73.7	1.0	60.0	5.0	31.0	96.0	HGK	IGK
3.0SMCJ64(C)	71.1	86.9	1.0	64.0	5.0	26.4	114	HGL	IGL
3.0SMCJ64A(CA)	71.1	78.6	1.0	64.0	5.0	29.2	103	HGM	IGM
3.0SMCJ70(C)	77.8	95.1	1.0	70.0	5.0	24.0	125	HGN	IGN
3.0SMCJ70A(CA)	77.8	86.0	1.0	70.0	5.0	26.6	113	HGP	IGP
3.0SMCJ75(C)	83.3	102	1.0	75.0	5.0	22.4	134	HGQ	IGQ
3.0SMCJ75A(CA)	83.3	92.1	1.0	75.0	5.0	24.8	121	HGR	IGR
3.0SMCJ78(C)	86.7	106	1.0	78.0	5.0	21.6	139	HGS	IGS
3.0SMCJ78A(CA)	86.7	95.8	1.0	78.0	5.0	22.8	126	HGT	IGT
3.0SMCJ85(C)	94.4	115	1.0	85.0	5.0	19.8	151	HGU	IGU
3.0SMCJ85A(CA)	94.4	104	1.0	85.0	5.0	20.8	137	HGV	IGV
3.0SMCJ90(C)	100	122	1.0	90.0	5.0	18.8	160	HGW	IGW
3.0SMCJ90A(CA)	100	111	1.0	90.0	5.0	20.6	146	HGX	IGX
3.0SMCJ100(C)	111	136	1.0	100	5.0	16.6	179	HGY	IGY
3.0SMCJ100A(CA)	111	123	1.0	100	5.0	18.6	162	HGZ	IGZ
3.0SMCJ110(C)	122	149	1.0	110	5.0	15.4	196	HHD	IHD
3.0SMCJ110A(CA)	122	135	1.0	110	5.0	16.8	177	HHE	IHE
3.0SMCJ120(C)	133	163	1.0	120	5.0	7.00	214	HHF	IHF
3.0SMCJ120A(CA)	133	147	1.0	120	5.0	7.80	193	HHG	IHG

RATINGS AND CHARACTERISTIC CURVES 3.0SMCJ5.0(A)(C)(CA) THRU 3.0SMCJ170(A)(C)(CA)

TABLE 2

Device Type	Breakdown V _{BR} Voltage at I _T (Voltage)		Test Current I _T mA	Working Peak Reverse Voltage V _{RWM} Volts	Maximum Reverse Leakage at V _{RWM} I _R (μ A)	Maximum Peak Pulse Current I _{PPM} (NOTE5) Amps	Maximum Clamping Voltage (V _c) at I _{PPM} (NOTE5) Volts	Device Marking code	
	Min	Max						UNI	BI
3.0SMCJ130(C)	144	176	1.0	130.0	5.0	6.50	231.0	HHH	IHH
3.0SMCJ130A(CA)	144	159	1.0	130.0	5.0	7.20	209.0	HHK	IHK
3.0SMCJ150(C)	167	204	1.0	150.0	5.0	5.60	268.0	HHL	IHL
3.0SMCJ150A(CA)	167	185	1.0	150.0	5.0	6.20	243.0	HHM	IHM
3.0SMCJ160(C)	178	218	1.0	160.0	5.0	5.20	287.0	HHN	IHN
3.0SMCJ160A(CA)	178	197	1.0	160.0	5.0	5.80	259.0	HHP	IHP
3.0SMCJ170(C)	189	231	1.0	170.0	5.0	4.90	304.0	HHQ	IHQ
3.0SMCJ170A(CA)	189	209	1.0	170.0	5.0	5.50	275.0	HHR	IHR