

● Features

- Rating to 200V VBR
- For surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has UL recognition 94V-0
- Typical IR less than 1 A above 10V
- Fast response time: typically less than 1.0ns for Uni-direction, less than 5.0ns for Bi-direction, from 0 Volts to 0.1V min



SMC		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

● Mechanical Data

- Case : Molded Plastic
- Polarity: by cathode band denotes uni-directional device
none cathode band denotes bi-directional device
- Weight : 0.007 ounces, 0.21 grams

● Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Peak Power Dissipation at $T_A=25^\circ\text{C}$ TP=1ms (NOTE1,2)	P_{PK}	Minimum 1500	WATTS
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	200	AMPS
Steady State Power Dissipation at $T_L=75^\circ\text{C}$	$P_{M(AV)}$	5.0	WATTS
Maximum Instantaneous Forward Voltage at 100A for Unidirectional Devices Only (NOTE3)	V_F	SEE NOTE4	VOLTS
Operating Temperature Range	T_J	-55 to + 150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to + 175	$^\circ\text{C}$

NOTES: 1. Non-repetitive current pulse, per Fig. 3 and derated above $T_A=25^\circ\text{C}$ per Fig. 1.

2. Thermal Resistance junction to Lead.

3. 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).

4. $V_F=3.5\text{V}$ on SMCJ5.0 thru SMCJ90A devices and $V_F=5.0\text{V}$ on SMCJ100 thru SMCJ170A devices.

Device	Device Marking code	Working Peak Reverse Voltage	Breakdown Voltage VBR Volts			Maximum Reverse Voltage at IRSM (Clamping Voltage)	Maximum Reverse Surge Current	Maximum Reverse Leakage at VRWM
			VRWM (volts)	Min(V)	Max(V)	@ IT(mA)	VRSM (volts)	IR (μA)
SMCJ5.0CA	BDE	5.0	6.40	7.55	10	9.6	156.3	1000
SMCJ5.0A	GDE	5.0	6.40	7.23	10	9.2	163.0	1000
SMCJ6.0CA	BDG	6.0	6.67	8.45	10	11.4	131.6	1000
SMCJ6.0A	GDG	6.0	6.67	7.67	10	10.3	145.6	1000
SMCJ6.5CA	BDK	6.5	7.22	9.14	10	12.3	122.0	500
SMCJ6.5A	GDK	6.5	7.22	8.30	10	11.2	133.9	500
SMCJ7.0CA	BDM	7.0	7.78	9.86	10	13.3	112.8	200
SMCJ7.0A	GDM	7.0	7.78	8.95	10	12.0	125.0	200
SMCJ7.5CA	BDP	7.5	8.33	10.80	1.0	14.3	104.9	100
SMCJ7.5A	GDP	7.5	8.33	9.58	1.0	12.9	116.3	100
SMCJ8.0CA	BDR	8.0	8.89	11.30	1.0	15.0	100.0	50
SMCJ8.0A	GDR	8.0	8.89	10.20	1.0	13.6	110.3	50
SMCJ8.5CA	BDT	8.5	9.44	11.90	1.0	15.9	95.3	20
SMCJ8.5A	GDT	8.5	9.44	10.80	1.0	14.4	104.2	20
SMCJ9.0CA	BDV	9.0	10.00	12.80	1.0	16.9	88.7	10
SMCJ9.0A	GDV	9.0	10.00	11.50	1.0	15.4	97.4	10
SMCJ10CA	BDX	10.0	11.10	14.10	1.0	18.8	79.8	5.0
SMCJ10A	GDY	10.0	11.10	12.80	1.0	17.0	88.2	5.0
SMCJ11CA	BDZ	11.0	12.20	15.40	1.0	20.1	74.6	5.0
SMCJ11A	GDZ	11.0	12.20	14.40	1.0	18.2	82.4	5.0
SMCJ12CA	BEE	12.0	13.30	16.90	1.0	22.0	68.2	5.0
SMCJ12A	GEE	12.0	13.30	15.30	1.0	19.9	75.3	5.0
SMCJ13CA	BEG	13.0	14.40	18.20	1.0	23.8	63.0	5.0
SMCJ13A	GEG	13.0	14.40	16.50	1.0	21.5	69.7	5.0
SMCJ14CA	BEK	14.0	15.60	19.80	1.0	25.8	58.1	5.0
SMCJ14A	GEK	14.0	15.60	17.90	1.0	23.2	64.7	5.0
SMCJ15CA	BEM	15.0	16.70	21.10	1.0	26.9	55.8	5.0
SMCJ15A	GEM	15.0	16.70	19.20	1.0	24.4	61.5	5.0
SMCJ16CA	BEP	16.0	17.80	22.60	1.0	28.8	52.1	5.0
SMCJ16A	GEP	16.0	17.80	20.50	1.0	26.0	57.7	5.0
SMCJ17CA	BER	17.0	18.90	23.90	1.0	30.5	49.2	5.0
SMCJ17A	GER	17.0	18.90	21.70	1.0	27.6	53.3	5.0
SMCJ18CA	BET	18.0	20.00	25.30	1.0	32.2	46.6	5.0
SMCJ18A	GET	18.0	20.00	23.30	1.0	29.2	51.4	5.0
SMCJ20CA	BEV	20.0	22.20	28.10	1.0	35.8	41.9	5.0
SMCJ20A	GEV	20.0	22.20	25.50	1.0	32.4	46.3	5.0
SMCJ22CA	BEX	22.0	24.40	30.90	1.0	39.4	38.1	5.0
SMCJ22A	GEX	22.0	24.40	28.00	1.0	35.5	42.2	5.0
SMCJ24CA	BEZ	24.0	26.70	33.80	1.0	43.0	34.9	5.0
SMCJ24A	GEZ	24.0	26.70	30.70	1.0	38.9	38.6	5.0
SMCJ26CA	BFE	26.0	28.90	36.80	1.0	46.6	32.2	5.0
SMCJ26A	GFE	26.0	28.90	32.20	1.0	42.1	35.6	5.0
SMCJ28CA	BFG	28.0	31.10	39.40	1.0	50.0	30.0	5.0
SMCJ28A	GFG	28.0	31.10	35.80	1.0	45.4	33.0	5.0
SMCJ30CA	BFK	30.0	33.30	42.40	1.0	53.5	28.0	5.0
SMCJ30A	GFK	30.0	33.30	38.30	1.0	48.4	31.0	5.0
SMCJ33CA	BFM	33.0	36.70	46.90	1.0	59.0	25.4	5.0
SMCJ33A	GFM	33.0	36.70	42.20	1.0	53.3	28.1	5.0

Device	Device Marking code	Working Peak Reverse Voltage	Breakdown Voltage VBR Volts			Maximum Reverse Voltage at IRSM (Clamping Voltage)	Maximum Reverse Surge Current	Maximum Reverse Leakage at VRWM
		VRWM (volts)	Min(V)	Max(V)	@ IT(mA)	VRSM (volts)	IRSM (Amps)	IR (µA)
SMCJ36CA	BFP	36.0	40.0	50.7	1.0	64.3	23.3	5.0
SMCJ36A	GFP	36.0	40.0	46.0	1.0	58.1	25.8	5.0
SMCJ40CA	BFR	40.0	44.4	56.3	1.0	71.4	21.0	5.0
SMCJ40A	GFR	40.0	44.4	51.1	1.0	64.5	23.3	5.0
SMCJ43CA	BFT	43.0	47.8	60.5	1.0	76.7	19.6	5.0
SMCJ43A	GFT	43.0	47.8	54.9	1.0	69.4	21.6	5.0
SMCJ45CA	BFV	45.0	50.0	63.3	1.0	80.3	18.7	5.0
SMCJ45A	GFV	45.0	50.0	57.5	1.0	72.7	20.6	5.0
SMCJ48CA	BFX	48.0	53.3	67.5	1.0	85.5	17.5	5.0
SMCJ48A	GFX	48.0	53.3	61.3	1.0	77.4	19.4	5.0
SMCJ51CA	BFZ	51.0	56.7	71.8	1.0	91.1	16.5	5.0
SMCJ51A	GFZ	51.0	56.7	65.2	1.0	82.4	18.2	5.0
SMCJ54CA	BGE	54.0	60.0	76.0	1.0	96.3	15.6	5.0
SMCJ54A	GGE	54.0	60.0	69.0	1.0	87.1	17.2	5.0
SMCJ58CA	BGG	58.0	64.4	81.6	1.0	103.0	14.6	5.0
SMCJ58A	GGG	58.0	64.4	74.6	1.0	93.6	16.0	5.0
SMCJ60CA	BGK	60.0	66.7	84.5	1.0	107.0	14.0	5.0
SMCJ60A	GGK	60.0	66.7	76.7	1.0	96.8	15.5	5.0
SMCJ64CA	BGM	64.0	71.1	90.1	1.0	114.0	13.2	5.0
SMCJ64A	GGM	64.0	71.1	81.8	1.0	103.0	14.6	5.0
SMCJ70CA	BGP	70.0	77.8	98.6	1.0	125.0	12.0	5.0
SMCJ70A	GGP	70.0	77.8	89.5	1.0	113.0	13.3	5.0
SMCJ75CA	BGR	75.0	83.3	106.0	1.0	134.0	11.2	5.0
SMCJ75A	GGR	75.0	83.3	95.8	1.0	121.0	12.4	5.0
SMCJ78CA	BGT	78.0	86.7	110.0	1.0	139.0	10.8	5.0
SMCJ78A	GGT	78.0	86.7	99.7	1.0	126.0	11.4	5.0
SMCJ85CA	BGV	85.0	94.4	119.2	1.0	151.0	9.9	5.0
SMCJ85A	GGV	85.0	94.4	108.2	1.0	137.0	10.4	5.0
SMCJ90CA	BGX	90.0	100.0	126.5	1.0	160.0	9.4	5.0
SMCJ90A	GGX	90.0	100.0	115.5	1.0	146.0	10.3	5.0
SMCJ100CA	BGZ	100.0	111.0	141.0	1.0	179.0	8.4	5.0
SMCJ100A	GGZ	100.0	111.0	128.0	1.0	162.0	9.3	5.0
SMCJ110CA	BHE	110.0	122.0	154.0	1.0	196.0	7.7	5.0
SMCJ110A	GHE	110.0	122.0	140.0	1.0	177.0	8.4	5.0
SMCJ120CA	BHG	120.0	133.0	169.0	1.0	214.0	7.0	5.0
SMCJ120A	GHG	120.0	133.0	153.0	1.0	193.0	7.9	5.0
SMCJ130CA	BHK	130.0	144.0	182.0	1.0	231.0	6.5	5.0
SMCJ130A	GHK	130.0	144.0	165.0	1.0	209.0	7.2	5.0
SMCJ150CA	BHM	150.0	167.0	211.5	1.0	268.0	5.6	5.0
SMCJ150A	GHM	150.0	167.0	192.0	1.0	243.0	6.2	5.0
SMCJ160CA	BHP	160.0	178.0	226.0	1.0	287.0	5.2	5.0
SMCJ160A	GHP	160.0	178.0	205.0	1.0	259.0	5.8	5.0
SMCJ170CA	BHR	170.0	189.0	239.5	1.0	304.0	4.9	5.0
SMCJ170A	GHR	170.0	189.0	217.5	1.0	275.0	5.5	5.0

NOTE: For bidirectional use C or CA suffix for types SMCJ5.0 thru types SMCJ170(ex. SMCJ5.0C, SMCJ170CA).

Electrical characteristics apply in both directions.

The later codes(/BDD thru /BHR) denote by bidirectional material.

Device	Device Marking code	Working Peak Reverse Voltage	Breakdown Voltage VBR Volts			Maximum Reverse Voltage at IRSM (Clamping Voltage)	Maximum Reverse Surge Current	Maximum Reverse Leakage at VRWM
			Min(V)	Max(V)	@ IT(mA)			
SMCJ180CA	BHP	180.0	200	230.4	1.0	290	5.2	5.0
SMCJ180A	GHP	180.0	200	230.4	1.0	290	5.2	5.0
SMCJ190CA	BHR	190.0	211	243.2	1.0	306	4.9	5.0
SMCJ190A	GHR	190.0	211	243.2	1.0	306	4.9	5.0
SMCJ200CA	BHX	200.0	222	256.0	1.0	322	4.7	5.0
SMCJ200A	GHX	200.0	222	256.0	1.0	322	4.7	5.0
SMCJ210CA	BHZ	210.0	233	268.8	1.0	339	4.4	5.0
SMCJ210A	GHZ	210.0	233	268.8	1.0	339	4.4	5.0
SMCJ220CA	BJE	220.0	244	281.6	1.0	355	4.2	5.0
SMCJ220A	GJE	220.0	244	281.6	1.0	355	4.2	5.0
SMCJ250CA	BJG	250.0	278	309.0	1.0	403	3.7	5.0
SMCJ250A	GJG	250.0	278	309.0	1.0	403	3.7	5.0
SMCJ300CA	BJK	300.0	333	371.0	1.0	484	3.1	5.0
SMCJ300A	GJK	300.0	333	371.0	1.0	484	3.1	5.0
SMCJ350CA	BJM	350.0	389	432.0	1.0	565	2.7	5.0
SMCJ350A	GJM	350.0	389	432.0	1.0	565	2.7	5.0
SMCJ400CA	BJP	400.0	444	494.0	1.0	645	2.3	5.0
SMCJ400A	GJP	400.0	444	494.0	1.0	645	2.3	5.0
SMCJ440CA	BJR	440.0	489	543.0	1.0	710	2.1	5.0
SMCJ440A	GJR	440.0	489	543.0	1.0	710	2.1	5.0

NOTE: For bidirectional use C or CA suffix for types SMCJ5.0 thru types SMCJ170(ex. SMCJ5.0C, SMCJ170CA).

Electrical characteristics apply in both directions.

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