



DESCRIPTION

The SMCJ5.0A~SMCJ440CA are available
In SMC Package

APPLICATION

- 1500W peak pulse power capability
- Rating to 200V VBR
- Typical IR less than 1A above 10V

MECHANICAL DATA

Case : Molded Plastic, Meet UL94V-0

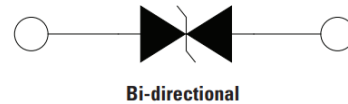
Weight: 0.21 grams

ORDERING INFORMATION

PIN DESCRIPTION



SMC



Bi-directional



Uni-directional

Package Type	Part Number					
	Uni	Bi	Uni	Bi	Uni	Bi
SMC	SMCJ5.0A	SMCJ5.0CA	SMCJ24A	SMCJ24CA	SMCJ90A	SMCJ90CA
	SMCJ6.0A	SMCJ6.0CA	SMCJ26A	SMCJ26CA	SMCJ100A	SMCJ100CA
	SMCJ6.5A	SMCJ6.5CA	SMCJ28A	SMCJ28CA	SMCJ110A	SMCJ110CA
	SMCJ7.0A	SMCJ7.0CA	SMCJ30A	SMCJ30CA	SMCJ120A	SMCJ120CA
	SMCJ7.5A	SMCJ7.5CA	SMCJ33A	SMCJ33CA	SMCJ130A	SMCJ130CA
	SMCJ8.0A	SMCJ8.0CA	SMCJ36A	SMCJ36CA	SMCJ150A	SMCJ150CA
	SMCJ8.5A	SMCJ8.5CA	SMCJ40A	SMCJ40CA	SMCJ160A	SMCJ160CA
	SMCJ9.0A	SMCJ9.0CA	SMCJ43A	SMCJ43CA	SMCJ170A	SMCJ170CA
	SMCJ10A	SMCJ10CA	SMCJ45A	SMCJ45CA	SMCJ180A	SMCJ180CA
	SMCJ11A	SMCJ11CA	SMCJ48A	SMCJ48CA	SMCJ190A	SMCJ190CA
	SMCJ12A	SMCJ12CA	SMCJ51A	SMCJ51CA	SMCJ200A	SMCJ200CA
	SMCJ13A	SMCJ13CA	SMCJ54A	SMCJ54CA	SMCJ210A	SMCJ210CA
	SMCJ14A	SMCJ14CA	SMCJ58A	SMCJ58CA	SMCJ220A	SMCJ220CA
	SMCJ15A	SMCJ15CA	SMCJ60A	SMCJ60CA	SMCJ250A	SMCJ250CA
	SMCJ16A	SMCJ16CA	SMCJ64A	SMCJ64CA	SMCJ300A	SMCJ300CA
	SMCJ17A	SMCJ17CA	SMCJ70A	SMCJ70CA	SMCJ350A	SMCJ350CA
	SMCJ18A	SMCJ18CA	SMCJ75A	SMCJ75CA	SMCJ400A	SMCJ400CA
	SMCJ20A	SMCJ20CA	SMCJ78A	SMCJ78CA	SMCJ440A	SMCJ440CA
	SMCJ22A	SMCJ22CA	SMCJ85A	SMCJ85CA		

SPQ: 3,000pcs/ Reel

AiT provides all RoHS Compliant Products



ABSOLUTE MAXIMUM RATINGS

T_A = 25°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°C TP=1ms ^(NOTE1,2)	P _{PK}	Minimum 1500	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I _{FSM}	200	A
Steady State Power Dissipation at T _L =75°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°C~+150	°C
Storage Temperature Range	T _{STG}	-55°C~+175	°C

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

NOTE1: Non-repetitive current pulse, and derated above T_A=25°C.

NOTE2: Thermal Resistance junction to Lead.

NOTE3: 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).

NOTE4: V_F=3.5V on SMCJ5.0 thru SMCJ90A devices and V_F=5.0V on SMCJ100 thru SMCJ170A devices



ELECTRICAL CHARACTERISTICS

Part Number	Working Peak Reverse Voltage	Breakdown Voltage V_{BR} (V)			Maximum Reverse Voltage at I_{RSM} (Clamping Voltage)	Maximum Reverse Surge Current	Maximum Reverse Leakage at V_{RWM}
		V_{RWM} (V)	Min(V)	Max(V)			
SMCJ5.0CA	5.0	6.40	7.55	10	9.6	156.3	1000
SMCJ5.0A	5.0	6.40	7.23	10	9.2	163.0	1000
SMCJ6.0CA	6.0	6.67	8.45	10	11.4	131.6	1000
SMCJ6.0A	6.0	6.67	7.67	10	10.3	145.6	1000
SMCJ6.5CA	6.5	7.22	9.14	10	12.3	122.0	500
SMCJ6.5A	6.5	7.22	8.30	10	11.2	133.9	500
SMCJ7.0CA	7.0	7.78	9.86	10	13.3	112.8	200
SMCJ7.0A	7.0	7.78	8.95	10	12.0	125.0	200
SMCJ7.5CA	7.5	8.33	10.80	1.0	14.3	104.9	100
SMCJ7.5A	7.5	8.33	9.58	1.0	12.9	116.3	100
SMCJ8.0CA	8.0	8.89	11.30	1.0	15.0	100.0	50
SMCJ8.0A	8.0	8.89	10.20	1.0	13.6	110.3	50
SMCJ8.5CA	8.5	9.44	11.90	1.0	15.9	95.3	20
SMCJ8.5A	8.5	9.44	10.80	1.0	14.4	104.2	20
SMCJ9.0CA	9.0	10.00	12.80	1.0	16.9	88.7	10
SMCJ9.0A	9.0	10.00	11.50	1.0	15.4	97.4	10
SMCJ10CA	10.0	11.10	14.10	1.0	18.8	79.8	5.0
SMCJ10A	10.0	11.10	12.80	1.0	17.0	88.2	5.0
SMCJ11CA	11.0	12.20	15.40	1.0	20.1	74.6	5.0
SMCJ11A	11.0	12.20	14.40	1.0	18.2	82.4	5.0
SMCJ12CA	12.0	13.30	16.90	1.0	22.0	68.2	5.0
SMCJ12A	12.0	13.30	15.30	1.0	19.9	75.3	5.0
SMCJ13CA	13.0	14.40	18.20	1.0	23.8	63.0	5.0
SMCJ13A	13.0	14.40	16.50	1.0	21.5	69.7	5.0
SMCJ14CA	14.0	15.60	19.80	1.0	25.8	58.1	5.0
SMCJ14A	14.0	15.60	17.90	1.0	23.2	64.7	5.0
SMCJ15CA	15.0	16.70	21.10	1.0	26.9	55.8	5.0
SMCJ15A	15.0	16.70	19.20	1.0	24.4	61.5	5.0
SMCJ16CA	16.0	17.80	22.60	1.0	28.8	52.1	5.0
SMCJ16A	16.0	17.80	20.50	1.0	26.0	57.7	5.0
SMCJ17CA	17.0	18.90	23.90	1.0	30.5	49.2	5.0
SMCJ17A	17.0	18.90	21.70	1.0	27.6	53.3	5.0
SMCJ18CA	18.0	20.00	25.30	1.0	32.2	46.6	5.0
SMCJ18A	18.0	20.00	23.30	1.0	29.2	51.4	5.0
SMCJ20CA	20.0	22.20	28.10	1.0	35.8	41.9	5.0
SMCJ20A	20.0	22.20	25.50	1.0	32.4	46.3	5.0



Part Number	Working Peak Reverse Voltage	Breakdown Voltage V_{BR} (V)			Maximum Reverse Voltage at I_{RSM} (Clamping Voltage)	Maximum Reverse Surge Current	Maximum Reverse Leakage at V_{RWM}
	V_{RWM} (V)	Min(V)	Max(V)	@ I_T (mA)	V_{RSM} (V)	I_{RSM} (A)	I_R (μ A)
SMCJ22CA	22.0	24.40	30.90	1.0	39.4	38.1	5.0
SMCJ22A	22.0	24.40	28.00	1.0	35.5	42.2	5.0
SMCJ24CA	24.0	26.70	33.80	1.0	43.0	34.9	5.0
SMCJ24A	24.0	26.70	30.70	1.0	38.9	38.6	5.0
SMCJ26CA	26.0	28.90	36.80	1.0	46.6	32.2	5.0
SMCJ26A	26.0	28.90	32.20	1.0	42.1	35.6	5.0
SMCJ28CA	28.0	31.10	39.40	1.0	50.0	30.0	5.0
SMCJ28A	28.0	31.10	35.80	1.0	45.4	33.0	5.0
SMCJ30CA	30.0	33.30	42.40	1.0	53.5	28.0	5.0
SMCJ30A	30.0	33.30	38.30	1.0	48.4	31.0	5.0
SMCJ33CA	33.0	36.70	46.90	1.0	59.0	25.4	5.0
SMCJ33A	33.0	36.70	42.20	1.0	53.3	28.1	5.0
SMCJ36CA	36.0	40.0	50.7	1.0	64.3	23.3	5.0
SMCJ36A	36.0	40.0	46.0	1.0	58.1	25.8	5.0
SMCJ40CA	40.0	44.4	56.3	1.0	71.4	21.0	5.0
SMCJ40A	40.0	44.4	51.1	1.0	64.5	23.3	5.0
SMCJ43CA	43.0	47.8	60.5	1.0	76.7	19.6	5.0
SMCJ43A	43.0	47.8	54.9	1.0	69.4	21.6	5.0
SMCJ45CA	45.0	50.0	63.3	1.0	80.3	18.7	5.0
SMCJ45A	45.0	50.0	57.5	1.0	72.7	20.6	5.0
SMCJ48CA	48.0	53.3	67.5	1.0	85.5	17.5	5.0
SMCJ48A	48.0	53.3	61.3	1.0	77.4	19.4	5.0
SMCJ51CA	51.0	56.7	71.8	1.0	91.1	16.5	5.0
SMCJ51A	51.0	56.7	65.2	1.0	82.4	18.2	5.0
SMCJ54CA	54.0	60.0	76.0	1.0	96.3	15.6	5.0
SMCJ54A	54.0	60.0	69.0	1.0	87.1	17.2	5.0
SMCJ58CA	58.0	64.4	81.6	1.0	103.0	14.6	5.0
SMCJ58A	58.0	64.4	74.6	1.0	93.6	16.0	5.0
SMCJ60CA	60.0	66.7	84.5	1.0	107.0	14.0	5.0
SMCJ60A	60.0	66.7	76.7	1.0	96.8	15.5	5.0
SMCJ64CA	64.0	71.1	90.1	1.0	114.0	13.2	5.0
SMCJ64A	64.0	71.1	81.8	1.0	103.0	14.6	5.0
SMCJ70CA	70.0	77.8	98.6	1.0	125.0	12.0	5.0
SMCJ70A	70.0	77.8	89.5	1.0	113.0	13.3	5.0
SMCJ75CA	75.0	83.3	106.0	1.0	134.0	11.2	5.0
SMCJ75A	75.0	83.3	95.8	1.0	121.0	12.4	5.0
SMCJ78CA	78.0	86.7	110.0	1.0	139.0	10.8	5.0
SMCJ78A	78.0	86.7	99.7	1.0	126.0	11.4	5.0
SMCJ85CA	85.0	94.4	119.2	1.0	151.0	9.9	5.0
SMCJ85A	85.0	94.4	108.2	1.0	137.0	10.4	5.0



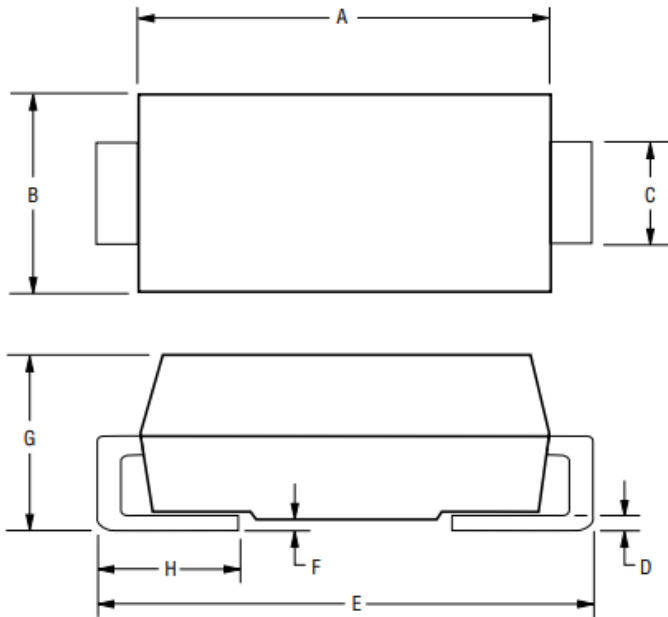
Part Number	Working Peak Reverse Voltage	Breakdown Voltage V_{BR} (V)			Maximum Reverse Voltage at I_{RSM} (Clamping Voltage)	Maximum Reverse Surge Current	Maximum Reverse Leakage at V_{RWM}
	V_{RWM} (V)	Min(V)	Max(V)	@ I_T (mA)	V_{RSM} (V)	I_{RSM} (A)	I_R (μ A)
SMCJ90CA	90.0	100.0	126.5	1.0	160.0	9.4	5.0
SMCJ90A	90.0	100.0	115.5	1.0	146.0	10.3	5.0
SMCJ100CA	100.0	111.0	141.0	1.0	179.0	8.4	5.0
SMCJ100A	100.0	111.0	128.0	1.0	162.0	9.3	5.0
SMCJ110CA	110.0	122.0	154.0	1.0	196.0	7.7	5.0
SMCJ110A	110.0	122.0	140.0	1.0	177.0	8.4	5.0
SMCJ120CA	120.0	133.0	169.0	1.0	214.0	7.0	5.0
SMCJ120A	120.0	133.0	153.0	1.0	193.0	7.9	5.0
SMCJ130CA	130.0	144.0	182.0	1.0	231.0	6.5	5.0
SMCJ130A	130.0	144.0	165.0	1.0	209.0	7.2	5.0
SMCJ150CA	150.0	167.0	211.5	1.0	268.0	5.6	5.0
SMCJ150A	150.0	167.0	192.0	1.0	243.0	6.2	5.0
SMCJ160CA	160.0	178.0	226.0	1.0	287.0	5.2	5.0
SMCJ160A	160.0	178.0	205.0	1.0	259.0	5.8	5.0
SMCJ170CA	170.0	189.0	239.5	1.0	304.0	4.9	5.0
SMCJ170A	170.0	189.0	217.5	1.0	275.0	5.5	5.0
SMCJ180CA	180.0	200	230.4	1.0	290	5.2	5.0
SMCJ180A	180.0	200	230.4	1.0	290	5.2	5.0
SMCJ190CA	190.0	211	243.2	1.0	306	4.9	5.0
SMCJ190A	190.0	211	243.2	1.0	306	4.9	5.0
SMCJ200CA	200.0	222	256.0	1.0	322	4.7	5.0
SMCJ200A	200.0	222	256.0	1.0	322	4.7	5.0
SMCJ210CA	210.0	233	268.8	1.0	339	4.4	5.0
SMCJ210A	210.0	233	268.8	1.0	339	4.4	5.0
SMCJ220CA	220.0	244	281.6	1.0	355	4.2	5.0
SMCJ220A	220.0	244	281.6	1.0	355	4.2	5.0
SMCJ250CA	250.0	278	309.0	1.0	403	3.7	5.0
SMCJ250A	250.0	278	309.0	1.0	403	3.7	5.0
SMCJ300CA	300.0	333	371.0	1.0	484	3.1	5.0
SMCJ300A	300.0	333	371.0	1.0	484	3.1	5.0
SMCJ350CA	350.0	389	432.0	1.0	565	2.7	5.0
SMCJ350A	350.0	389	432.0	1.0	565	2.7	5.0
SMCJ400CA	400.0	444	494.0	1.0	645	2.3	5.0
SMCJ400A	400.0	444	494.0	1.0	645	2.3	5.0
SMCJ440CA	440.0	489	543.0	1.0	710	2.1	5.0
SMCJ440A	440.0	489	543.0	1.0	710	2.1	5.0

NOTE: Suffix "A", Unidirectional Device, Suffix "CA", Bidirectional Device
Electrical characteristics apply in both directions.

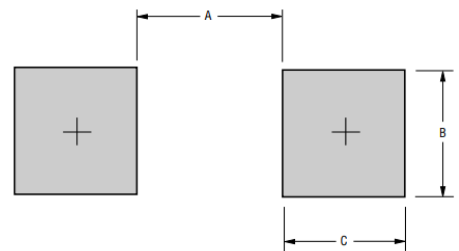


PACKAGE INFORMATION

Dimension in SMC Package (Unit: mm)



RECOMMENDED SOLDERING FOOTPRINT



Symbol	MILLIMETERS	
	MIN	MAX
A	6.60	7.11
B	5.59	6.22
C	2.90	3.20
D	0.15	0.31
E	7.75	8.13
F	0.05	0.202
G	2.00	2.62
H	0.76	1.52



IMPORTANT NOTICE

AiT Semiconductor Inc. (AiT) reserves the right to make changes to any its product, specifications, to discontinue any integrated circuit product or service without notice, and advises its customers to obtain the latest version of relevant information to verify, before placing orders, that the information being relied on is current.

AiT Semiconductor Inc. integrated circuit products are not designed, intended, authorized, or warranted to be suitable for use in life support applications, devices or systems or other critical applications. Use of AiT products in such applications is understood to be fully at the risk of the customer. As used herein may involve potential risks of death, personal injury, or server property, or environmental damage. In order to minimize risks associated with the customer's applications, the customer should provide adequate design and operating safeguards.

AiT Semiconductor Inc. assumes to no liability to customer product design or application support. AiT warrants the performance of its products of the specifications applicable at the time of sale.