

RoHS Compliant Product

A suffix of "-C" specifies halogen-free and lead-free

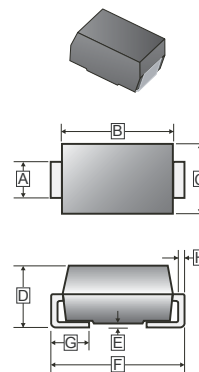
FEATURES

- For surface mount application
- Build-in strain relief
- Excellent clamping capability
- Low profile package
- Fast response time: Typically less than 1.0ps from 0 volt to BV min.
- Typical I_R less than 1mA above 10V
- High temperature soldering guaranteed:
260°C / 10 seconds at terminals

MECHANICAL DATA

- Case: Molded Plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solder-able per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end except Bidirectional
- Mounting position: Any
- Weight: 0.23 grams

SMC



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.75	3.15	E	-	.203
B	6.6	7.11	F	7.75	8.13
C	5.59	6.22	G	0.76	1.27
D	2.00	2.62	H	0.15	0.31

PACKAGE INFORMATION

Package	MPQ	Leader Size
SMC	3K	13 inch

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating 25°C ambient temperature unless otherwise specified. Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, de-rate current by 20%.)

Ratings	Symbol	Value	Units
Peak power dissipation with a 10/1000µs waveform	P_{PK}	1500 (Min.)	W
Peak Forward Surge Current @ 8.3ms single Half Sine-Wave superimposed on rated load (JEDEC method) ¹	I_{FSM}	200	A
Maximum instantaneous forward voltage at 100 A for unidirectional only @ $V_{BR} < 200V$	V_F	3.5	V
Power dissipation on infinite heatsink at $T_L = 75^\circ C$	P_D	6.5	W
Operating and Storage Temperature Range	T_J, T_{STG}	-55~150	°C

Notes:

1. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

RATINGS AND CHARACTERISTIC CURVES

FIG.1-PEAK PULSE POWER DERATING CURVE

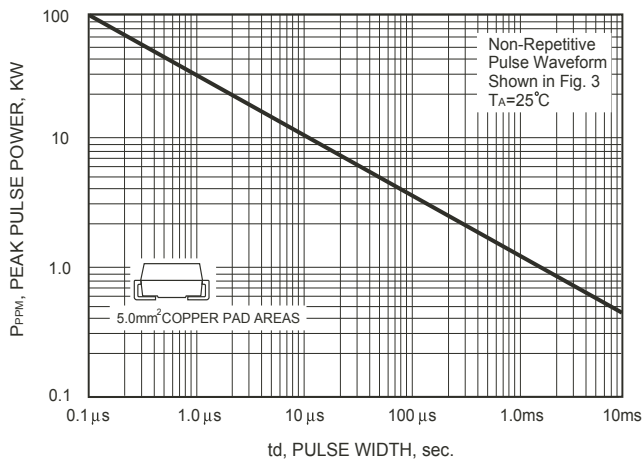


FIG.2-PULSE DERATING CURVE

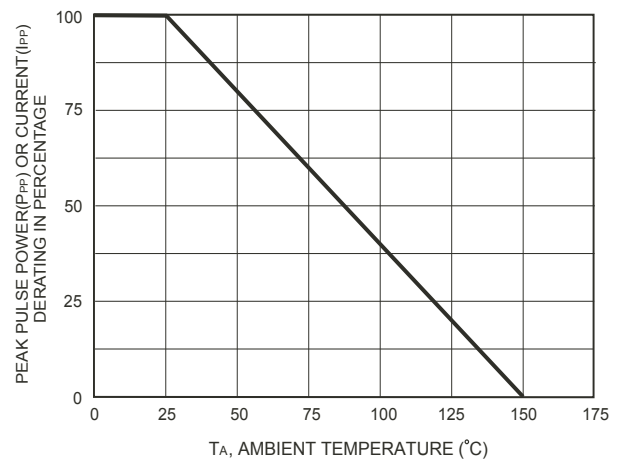


FIG.3-PULSE WAVE FORM

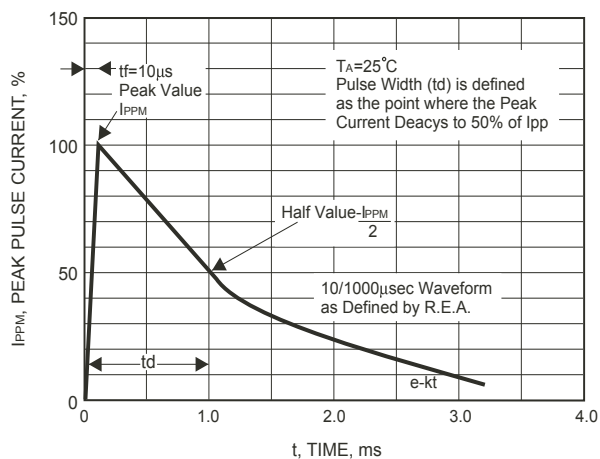


FIG.4-TYPICAL JUNCTION CAPACITANCE

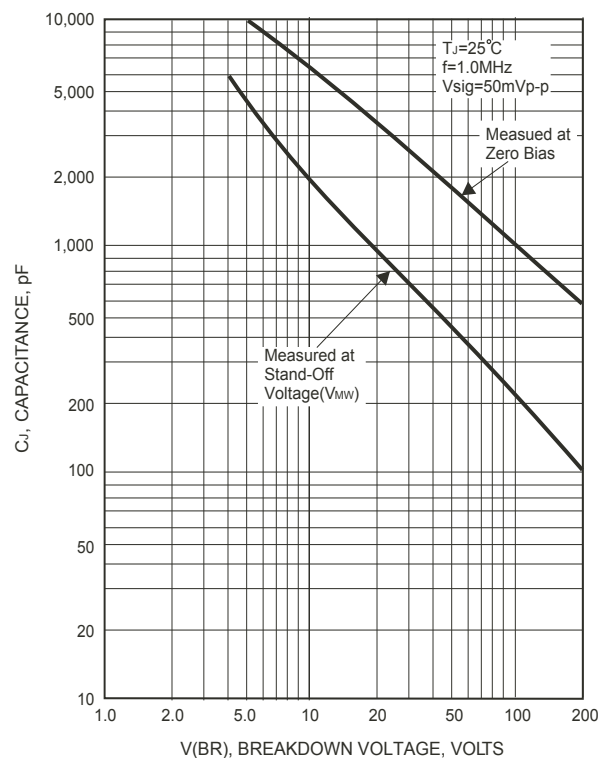
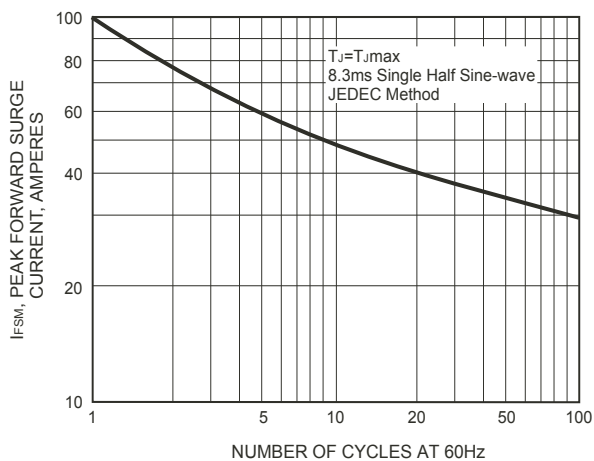


FIG.5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



ELECTRICAL CHARACTERISTICS (Rating TA=25°C unless otherwise specified)

PART NUMBER (See Note 1)		REVERSE STANDOFF VOLTAGE V _{RWM}	BREAKDOWN VOLTAGE		TEST CURRENT	MAX CLAMPING VOLTAGE V _C @I _{PP}	PEAK PULSE CURRENT I _{PP}	REVERSE LEAKAGE @V _{RWM} I _R
			Min V _{BR} @I _T	Max V _{BR} @I _T				
Uni -direction	Bi -direction	V	V	V	mA	V	A	µA
SMCJ5.0A	SMCJ5.0CA	5	6.40	7.25	10	9.2	163.0	1000
SMCJ6.0A	SMCJ6.0CA	6	6.67	7.67	10	10.3	145.6	1000
SMCJ6.5A	SMCJ6.5CA	6.5	7.22	8.3	10	11.2	133.9	500
SMCJ7.0A	SMCJ7.0CA	7	7.78	8.95	10	12.0	125.0	200
SMCJ7.5A	SMCJ7.5CA	7.5	8.33	9.58	1	12.9	116.3	100
SMCJ8.0A	SMCJ8.0CA	8	8.89	10.23	1	13.6	110.3	50
SMCJ8.5A	SMCJ8.5CA	8.5	9.44	10.82	1	14.4	104.2	20
SMCJ9.0A	SMCJ9.0CA	9	10.0	11.5	1	15.4	97.4	10
SMCJ10A	SMCJ10CA	10	11.1	12.8	1	17.0	88.2	5
SMCJ11A	SMCJ11CA	11	12.2	14.0	1	18.2	82.4	5
SMCJ12A	SMCJ12CA	12	13.3	15.3	1	19.9	75.3	5
SMCJ13A	SMCJ13CA	13	14.4	16.5	1	21.5	69.7	5
SMCJ14A	SMCJ14CA	14	15.6	17.9	1	23.2	64.7	5
SMCJ15A	SMCJ15CA	15	16.7	19.2	1	24.4	61.5	5
SMCJ16A	SMCJ16CA	16	17.8	20.5	1	26.0	57.7	5
SMCJ17A	SMCJ17CA	17	18.9	21.7	1	27.6	53.3	5
SMCJ18A	SMCJ18CA	18	20.0	23.3	1	29.2	51.4	5
SMCJ20A	SMCJ20CA	20	22.2	25.5	1	32.4	46.3	5
SMCJ22A	SMCJ22CA	22	24.4	28	1	35.5	42.2	5
SMCJ24A	SMCJ24CA	24	26.7	30.7	1	38.9	38.6	5
SMCJ26A	SMCJ26CA	26	28.9	33.2	1	42.1	35.6	5
SMCJ28A	SMCJ28CA	28	31.1	35.8	1	45.4	33.0	5
SMCJ30A	SMCJ30CA	30	33.3	38.3	1	48.4	31.0	5
SMCJ33A	SMCJ33CA	33	36.7	40.6	1	53.3	28.1	5
SMCJ36A	SMCJ36CA	36	40.0	46.0	1	58.1	25.8	5
SMCJ40A	SMCJ40CA	40	44.4	51.1	1	64.5	23.2	5
SMCJ43A	SMCJ43CA	43	47.8	54.9	1	69.4	21.6	5
SMCJ45A	SMCJ45CA	45	50	57.5	1	72.7	20.6	5

Note :

1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
2. For Bidirectional use CA suffix for types SMCJ5.0CA thru SMCJ440CA.
3. Electrical Characteristics apply in both directions.

ELECTRICAL CHARACTERISTICS (Rating TA=25°C unless otherwise specified)

PART NUMBER (See Note 1)		REVERSE STANDOFF VOLTAGE V_{RWM}	BREAKDOWN VOLTAGE		TEST CURRENT	MAX CLAMPING VOLTAGE $V_C @ I_{PP}$	PEAK PULSE CURRENT I_{PP}	REVERSE LEAKAGE $I_R @ V_{RWM}$
			Min $V_{BR} @ I_T$	Max $V_{BR} @ I_T$				
Uni -direction	Bi -direction	V	V	V	mA	V	A	µA
SMCJ48A	SMCJ48CA	48	53.3	61.3	1	77.4	19.4	5
SMCJ51A	SMCJ51CA	51	56.7	65.2	1	82.4	18.2	5
SMCJ54A	SMCJ54CA	54	60.0	69.0	1	87.1	17.2	5
SMCJ58A	SMCJ58CA	58	64.4	74.1	1	93.6	16.0	5
SMCJ60A	SMCJ60CA	60	66.7	76.7	1	96.8	15.5	5
SMCJ64A	SMCJ64CA	64	71.1	81.8	1	103	14.6	5
SMCJ70A	SMCJ70CA	70	77.8	89.5	1	113	13.3	5
SMCJ75A	SMCJ75CA	75	83.3	95.8	1	121	12.4	5
SMCJ78A	SMCJ78CA	78	86.7	99.7	1	126	11.4	5
SMCJ85A	SMCJ85CA	85	94.4	108.2	1	137	10.4	5
SMCJ90A	SMCJ90CA	90	100	115.5	1	146	10.3	5
SMCJ110A	SMCJ110CA	110	122	140.5	1	177	8.4	5
SMCJ120A	SMCJ120CA	120	133	153.0	1	193	7.9	5
SMCJ130A	SMCJ130CA	130	144	165.5	1	209	7.2	5
SMCJ150A	SMCJ150CA	150	167	192.5	1	243	6.2	5
SMCJ160A	SMCJ160CA	160	178	205	1	259	5.8	5
SMCJ180A	SMCJ180CA	180	200	220	1	292	5.14	5
SMCJ190A	SMCJ190CA	190	211	232	1	308	4.87	5
SMCJ200A	SMCJ200CA	200	224	247	1	324	4.6	5
SMCJ220A	SMCJ220CA	220	246	272	1	356	4.2	5
SMCJ250A	SMCJ250CA	250	279	309	1	405	3.7	5
SMCJ300A	SMCJ300CA	300	335	371	1	486	3.1	5
SMCJ350A	SMCJ350CA	350	391	432	1	567	2.6	5
SMCJ400A	SMCJ400CA	400	447	494	1	648	2.3	5
SMCJ440A	SMCJ440CA	440	492	543	1	713	2.1	5

Note :

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