

Stand-Off Voltage: 5.0 V~220 V

MECHANICAL DATA

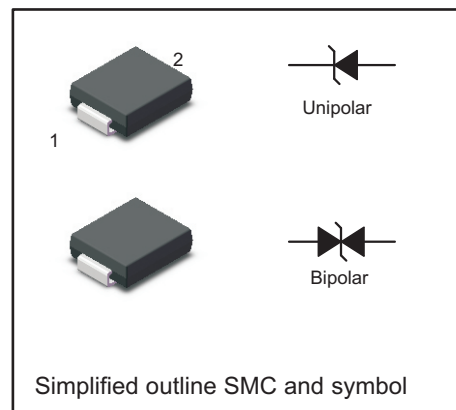
- Case: SMC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.22g / 0.0077oz

FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated chip junction
- 3000W peak pulse power capability at 10x1000uS waveform, repetition rate {duty cycles}:0.01 %
- Excellent clamping capability
- Low incremental surge resistance
- Matte Tin Lead-free Plated

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Maximum Ratings and Thermal Characteristics (TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at T _A =25°C by 10x1000 us waveform (Fig.1)(Note 1), (Note 2)	P _{PPM}	3000	W
Power Dissipation on infinite heat sink at TA=50°C	P _{M(AV)}	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 3)	I _{FSM}	300	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V _F	3.5	V
Typical Thermal Resistance Junction to Ambient(Note 4)	R _{θJA}	37	° C/W
	R _{θJC}	10	
	R _{θJL}	13	
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150	°C

Notes:

1. Non-repetitive current pulse . per Fig 3 and derated above Ta = 25°C per Fig. 2
2. Mounted on copper pad area of 0.31"x0.31" (8.0 x 8.0mm) to each terminal
3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only , duty cycle=4 per minute maximum
4. P.C.B. mounted with 1.5" X 1.5" (3.81 X 3.81 cm) copper pad areas.

Table 1

Type		Marking		V _{RWM}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
					V _{BR} @ I _T		I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}
					Min	Max				
UNI	BI	UNI	BI	V	V	V	mA	μA	V	A
SMDJ5.0A	SMDJ5.0CA	RDE	DDE	5.0	6.4	7	10	800	9.2	326.1
SMDJ6.0A	SMDJ6.0CA	RDG	DDG	6.0	6.67	7.37	10	800	10.3	291.3
SMDJ6.5A	SMDJ6.5CA	RDK	DDK	6.5	7.22	7.98	10	500	11.2	267.9
SMDJ7.0A	SMDJ7.0CA	PDM	DDM	7.0	7.78	8.6	10	200	12	250
SMDJ7.5A	SMDJ7.5CA	PDP	DDP	7.5	8.33	9.21	1	100	12.9	232.6
SMDJ8.0A	SMDJ8.0CA	PDR	DDR	8.0	8.89	9.83	1	50	13.6	220.6
SMDJ8.5A	SMDJ8.5CA	PDT	DDT	8.5	9.44	10.4	1	20	14.4	208.3
SMDJ9.0A	SMDJ9.0CA	PDV	DDV	9.0	10	11.1	1	10	15.4	194.8
SMDJ10A	SMDJ10CA	PDX	DDX	10.0	11.1	12.3	1	5	17	176.5
SMDJ11A	SMDJ11CA	PDZ	DDZ	11.0	12.2	13.5	1	2	18.2	164.8
SMDJ12A	SMDJ12CA	PEE	DEE	12.0	13.3	14.7	1	2	19.9	150.8
SMDJ13A	SMDJ13CA	PEG	DEG	13.0	14.4	15.9	1	2	21.5	139.5
SMDJ14A	SMDJ14CA	PEK	DEK	14.0	15.6	17.2	1	2	23.2	129.3
SMDJ15A	SMDJ15CA	PEM	DEM	15.0	16.7	18.5	1	2	24.4	123
SMDJ16A	SMDJ16CA	PEP	DEP	16.0	17.8	19.7	1	2	26	115.4
SMDJ17A	SMDJ17CA	PER	DER	17.0	18.9	20.9	1	2	27.6	108.7
SMDJ18A	SMDJ18CA	PET	DET	18.0	20	22.1	1	2	29.2	102.7
SMDJ20A	SMDJ20CA	PEV	DEV	20.0	22.2	24.5	1	2	32.4	92.6
SMDJ22A	SMDJ22CA	PEX	DEX	22.0	24.4	26.9	1	2	35.5	84.5
SMDJ24A	SMDJ24CA	PEZ	DEZ	24.0	26.7	29.5	1	2	38.9	77.1
SMDJ26A	SMDJ26CA	PFE	DFE	26.0	28.9	31.9	1	2	42.1	71.3
SMDJ28A	SMDJ28CA	PFG	DFG	28.0	31.1	34.4	1	2	45.4	66.1
SMDJ30A	SMDJ30CA	PFK	DFK	30.0	33.3	36.8	1	2	48.4	62
SMDJ33A	SMDJ33CA	PFM	DFM	33.0	36.7	40.6	1	2	53.3	56.3
SMDJ36A	SMDJ36CA	PFP	DFP	36.0	40	44.2	1	2	58.1	51.6
SMDJ40A	SMDJ40CA	PFR	DFR	40.0	44.4	49.1	1	2	64.5	46.5
SMDJ43A	SMDJ43CA	PFT	DFT	43.0	47.8	52.8	1	2	69.4	43.2
SMDJ45A	SMDJ45CA	PFV	DFV	45.0	50	55.3	1	2	72.7	41.3
SMDJ48A	SMDJ48CA	PFX	DFX	48.0	53.3	58.9	1	2	77.4	38.8
SMDJ51A	SMDJ51CA	PFZ	DFZ	51.0	56.7	62.7	1	2	82.4	36.4
SMDJ54A	SMDJ54CA	RGE	DGE	54.0	60	66.3	1	2	87.1	34.4
SMDJ58A	SMDJ58CA	PGG	DGG	58.0	64.4	71.2	1	2	93.6	32.1
SMDJ60A	SMDJ60CA	PGK	DGK	60.0	66.7	73.7	1	2	96.8	31
SMDJ64A	SMDJ64CA	PGM	DGM	64.0	71.1	78.6	1	2	103	29.1
SMDJ70A	SMDJ70CA	PGP	DGP	70.0	77.8	86	1	2	113	26.5
SMDJ75A	SMDJ75CA	PGR	DGR	75.0	83.3	92.1	1	2	121	24.8
SMDJ78A	SMDJ78CA	PGT	DGT	78.0	86.7	95.8	1	2	126	23.8
SMDJ85A	SMDJ85CA	PGV	DGV	85.0	94.4	104	1	2	137	21.9
SMDJ90A	SMDJ90CA	PGX	DGX	90.0	100	111	1	2	146	20.5
SMDJ100A	SMDJ100CA	PGZ	DGZ	100.0	111	123	1	2	162	18.5
SMDJ110A	SMDJ110CA	PHE	DHE	110.0	122	135	1	2	177	16.9
SMDJ120A	SMDJ120CA	PHG	DHG	120.0	133	147	1	2	193	15.5
SMDJ130A	SMDJ130CA	PHK	DHK	130.0	144	159	1	2	209	14.4
SMDJ150A	SMDJ150CA	PHM	DHM	150.0	167	185	1	2	243	12.3
SMDJ160A	SMDJ160CA	PHP	DHP	160.0	178	197	1	2	259	11.6
SMDJ170A	SMDJ170CA	PHR	DHR	170.0	189	209	1	2	275	10.9

Characteristics at Ta = 25°C

Table 1

Type		Marking		V _{RWM}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
					V _{BR} @ I _T					
					Min	Max	I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}
UNI	BI	UNI	BI	V	V	V	mA	μA	V	A
SMDJ180A	SMDJ180CA	PHT	DHT	180	201	222	1	2	292.0	10.3
SMDJ190A	SMDJ190CA	PHV	DHV	190	211	232	1	2	307.0	9.7
SMDJ200A	SMDJ200CA	PHX	DHX	200	224	247	1	2	324.0	9.3
SMDJ220A	SMDJ220CA	PHZ	DHZ	220	246	272	1	2	356.0	8.43

Fig.1 Peak Pulse Power Rating Curve

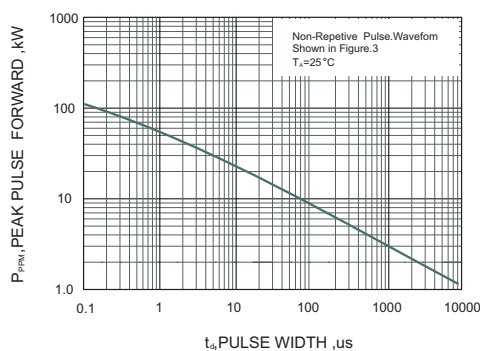


Fig.2 Forward Current Derating Curve

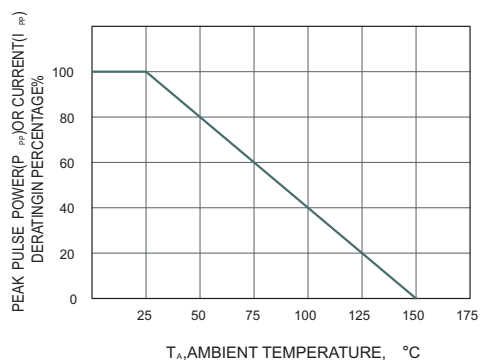


Fig.3 Pulse Waveform

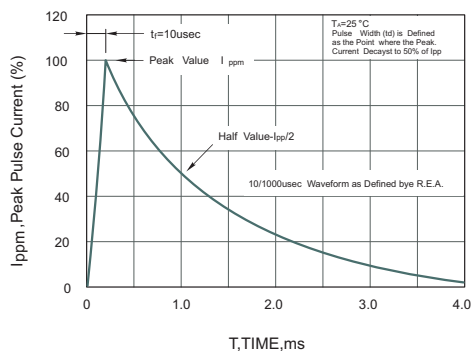
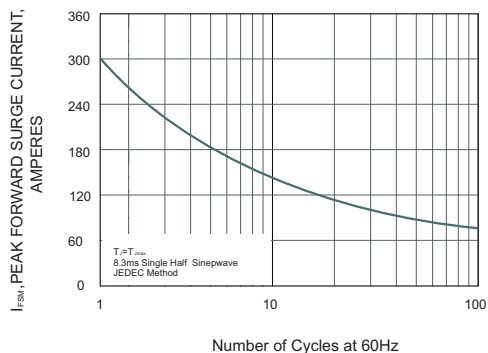


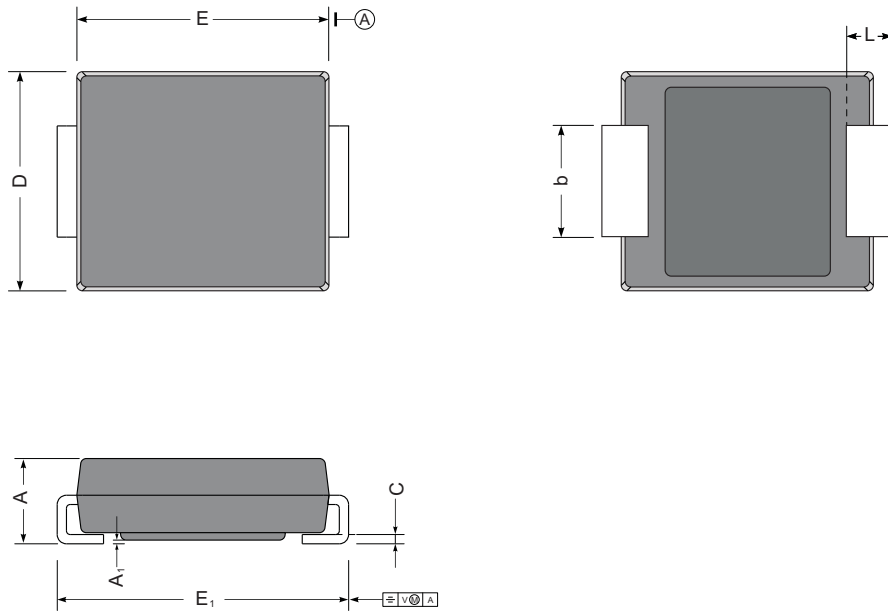
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SMC



SMC mechanical data

UNIT		A	E	D	E ₁	A ₁	C	L	b
mm	max	2.62	7.0	6.2	8.0	0.21	0.31	1.6	3.25
	min	2.00	6.5	5.6	7.6	0.05	0.15	0.9	2.75
mil	max	103	276	244	315	8.3	12	63	128
	min	79	256	220	299	2.0	5.9	35	108

The recommended mounting pad size

