

## Features

- Peak power dissipation 3000W@10 x 1000 us Pluse
- Low incremental surge resistance
- Excellent clamping capability
- Glass passivated junction
- Fast response time
- Low leakage current
- Halogen free and RoHS compliant



SMC top view



Bi-directional



Uni-direction

## Mechanical Data

- CASE: SMCJ(DO-214AB) Molded Plastic
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device
- Mounting Position:Any



Halogen-Free

## Maximum Ratings( $T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
$P_{PPM}$	Peak Pulse Power Dissipation on 10/1000 us Waveform (Note1,2)	3000	W
$P_D$	Steady State Power Dissipation (Note3)	6.5	W
$I_{FSM}$	Peak Forward Surge Current (Note4)	300	A
$V_{FM}$	Maximum Instantaneous Forward Voltage at 100A (Note5)	3.5/5	V
$R_{\theta JL}$	Typical Thermal Resistance Junction to Lead	15	$^\circ\text{C}/\text{W}$
$R_{\theta JA}$	Typical Thermal Resistance Junction to Ambient	75	$^\circ\text{C}/\text{W}$
$T_J$	Operating Junction Temperature Range	-55~+150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~+150	$^\circ\text{C}$

Notes: 1. Non-repetitive current pulse , 10/1000us Waveform.

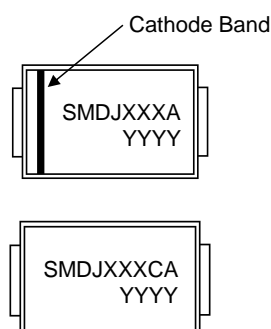
2: Mounted on copper pad area of  $8 \times 8\text{mm}$  to each terminal.

3: Infinite Heat Sink at  $T_a=50^\circ\text{C}$

4: Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 perminute maximum.

5: For Unidirectional Only,  $V_{FM}<3.5\text{V}$  for  $V_{BR} \leq 200\text{V}$  and  $V_{FM}<5.0\text{V}$  for  $V_{BR} \geq 201\text{V}$ .

## Making Code



SMDJ : Series Code

XXX : VRWM Voltage

C : Bidirectional

A : 5% VBR Voltage Tolerance

YYYY : Code

**T<sub>a</sub>=25°C unless otherwise specified**

Typ Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RMW</sub>
Uni	Bi	V <sub>RMW</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	IT (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SMDJ5.0A	SMDJ5.0CA	5.0	6.40	7.00	10	9.2	326.1	500
SMDJ6.0A	SMDJ6.0CA	6.0	6.67	7.37	10	10.3	291.3	500
SMDJ6.5A	SMDJ6.5CA	6.5	7.22	7.98	10	11.2	267.9	300
SMDJ7.0A	SMDJ7.0CA	7.0	7.78	8.60	10	12.0	250.0	200
SMDJ7.5A	SMDJ7.5CA	7.5	8.33	9.21	1	12.9	232.6	100
SMDJ8.0A	SMDJ8.0CA	8.0	8.89	9.83	1	13.6	220.6	50
SMDJ8.5A	SMDJ8.5CA	8.5	9.44	10.40	1	14.4	208.3	20
SMDJ9.0A	SMDJ9.0CA	9.0	10.00	11.10	1	15.4	194.8	10
SMDJ10A	SMDJ10CA	10	11.10	12.30	1	17.0	176.5	5
SMDJ11A	SMDJ11CA	11	12.20	13.50	1	18.2	164.8	2
SMDJ12A	SMDJ12CA	12	13.30	14.70	1	19.9	150.8	2
SMDJ13A	SMDJ13CA	13	14.40	15.90	1	21.5	139.5	2
SMDJ14A	SMDJ14CA	14	15.60	17.20	1	23.2	129.3	2
SMDJ15A	SMDJ15CA	15	16.70	18.50	1	24.4	123.0	2
SMDJ16A	SMDJ16CA	16	17.80	19.70	1	26.0	115.4	2
SMDJ17A	SMDJ17CA	17	18.90	20.90	1	27.6	108.7	2
SMDJ18A	SMDJ18CA	18	20.00	22.10	1	29.2	102.7	2
SMDJ20A	SMDJ20CA	20	22.20	24.50	1	32.4	92.6	2
SMDJ22A	SMDJ22CA	22	24.40	26.90	1	35.5	84.5	2
SMDJ24A	SMDJ24CA	24	26.70	29.50	1	38.9	77.1	2
SMDJ26A	SMDJ26CA	26	28.90	31.90	1	42.1	71.3	2
SMDJ28A	SMDJ28CA	28	31.10	34.40	1	45.4	66.1	2
SMDJ30A	SMDJ30CA	30	33.30	36.80	1	48.4	62.0	2
SMDJ33A	SMDJ33CA	33	36.70	40.60	1	53.3	56.3	2
SMDJ36A	SMDJ36CA	36	40.00	44.20	1	58.1	51.6	2
SMDJ40A	SMDJ40CA	40	44.40	49.10	1	64.5	46.5	2
SMDJ43A	SMDJ43CA	43	47.80	52.80	1	69.4	43.2	2
SMDJ45A	SMDJ45CA	45	50.00	55.30	1	72.7	41.3	2
SMDJ48A	SMDJ48CA	48	53.30	58.90	1	77.4	38.8	2
SMDJ51A	SMDJ51CA	51	56.70	62.70	1	82.4	36.4	2
SMDJ54A	SMDJ54CA	54	60.00	66.30	1	87.1	34.4	2
SMDJ58A	SMDJ58CA	58	64.40	71.20	1	93.6	32.1	2
SMDJ60A	SMDJ60CA	60	66.70	73.70	1	96.8	31.0	2
SMDJ64A	SMDJ64CA	64	71.10	78.60	1	103.0	29.1	2
SMDJ70A	SMDJ70CA	70	77.80	86.00	1	113.0	26.5	2
SMDJ75A	SMDJ75CA	75	83.30	92.10	1	121.0	24.8	2
SMDJ78A	SMDJ78CA	78	86.70	95.80	1	126.0	23.8	2
SMDJ85A	SMDJ85CA	85	94.40	104.00	1	137.0	21.9	2
SMDJ90A	SMDJ90CA	90	100.00	111.00	1	146.0	20.5	2
SMDJ100A	SMDJ100CA	100	111.00	123.00	1	162.0	18.5	2
SMDJ110A	SMDJ110CA	110	122.00	135.00	1	177.0	16.9	2
SMDJ120A	SMDJ120CA	120	133.00	147.00	1	193.0	15.5	2
SMDJ130A	SMDJ130CA	130	144.00	159.00	1	209.0	14.4	2
SMDJ150A	SMDJ150CA	150	167.00	185.00	1	243.0	12.3	2
SMDJ160A	SMDJ160CA	160	178.00	197.00	1	259.0	11.6	2
SMDJ170A	SMDJ170CA	170	189.00	209.00	1	275.0	10.9	2
SMDJ180A	SMDJ180CA	180	198.00	230.40	1	292.0	10.3	2
SMDJ220A	SMDJ220CA	220	242.00	281.60	1	356.0	8.4	2

## Typical Characteristics

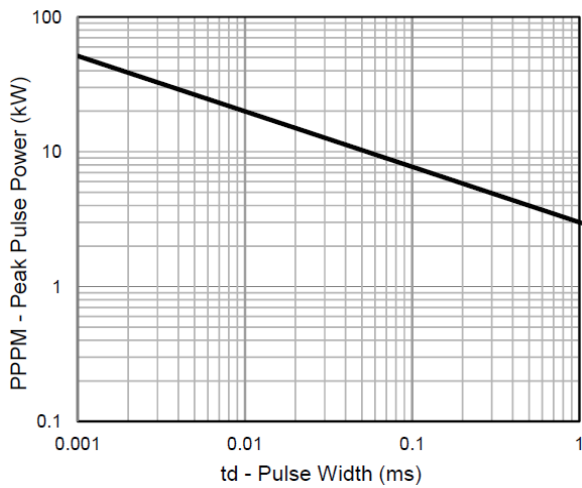


Fig.1 - Peak Pulse Power Rating

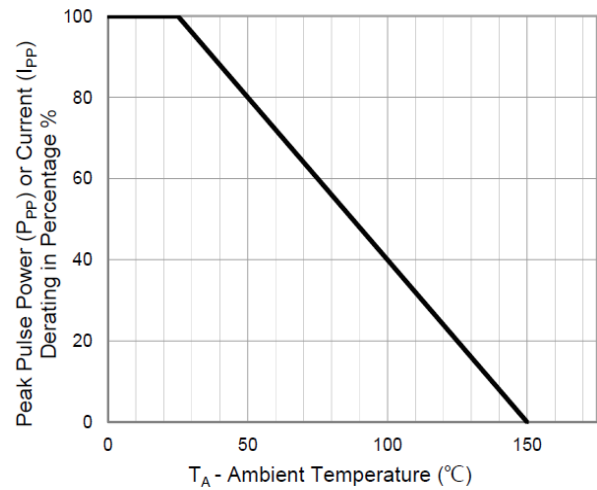


Fig.2 - Pulse Derating Curve

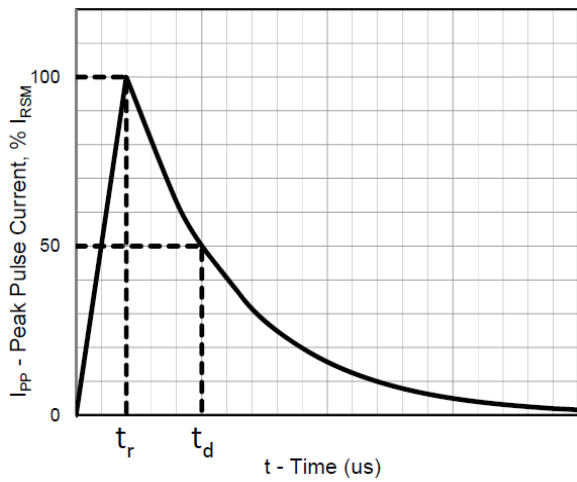


Fig.3 - Pulse Waveform

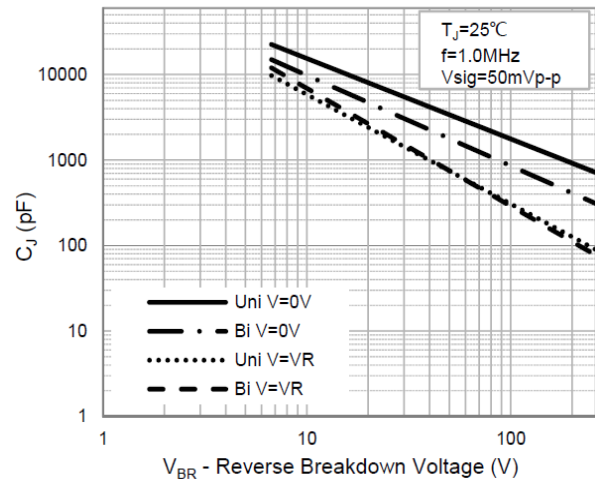
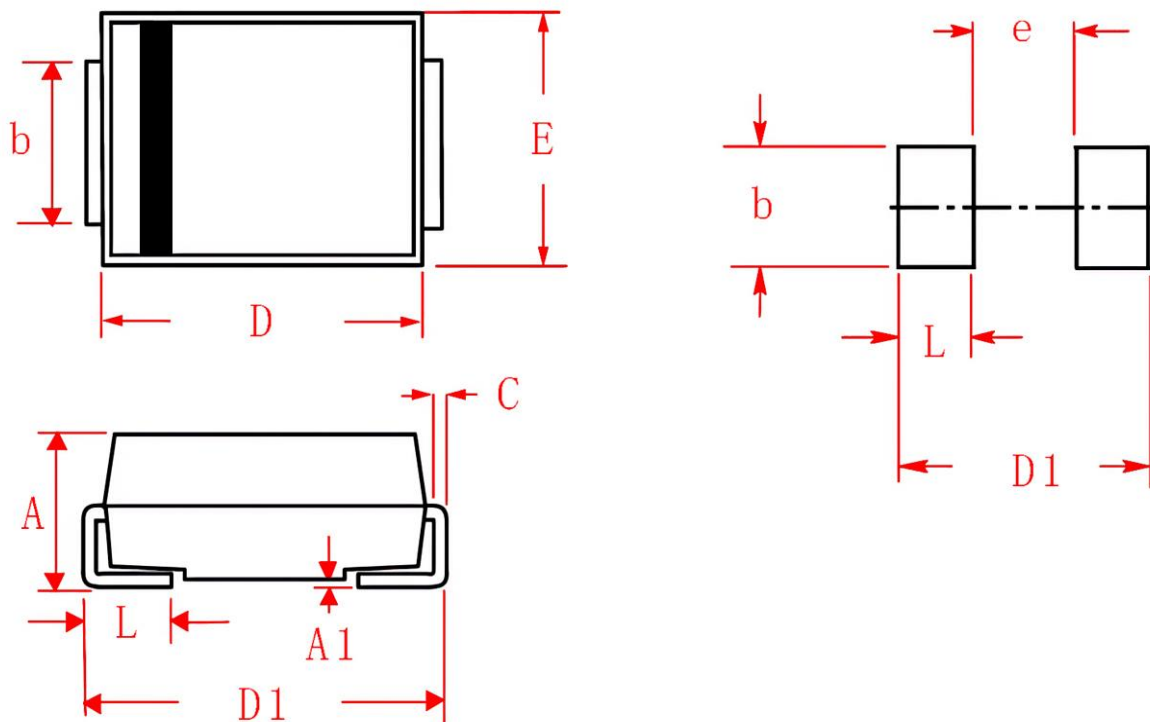


Fig.4 - Typical Junction Capacitance

**SMC Package information**
**SMC (DO-214AB)**


Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	2.000	2.620	0.079	0.103
A1	0.050	0.210	0.002	0.008
b	2.750	3.250	0.108	0.128
C	0.150	0.310	0.006	0.012
D	6.500	7.000	0.256	0.275
D1	7.600	8.000	0.299	0.315
E	5.600	6.200	0.220	0.244
e	-	4.690	-	0.185
L	0.900	1.600	0.035	0.063