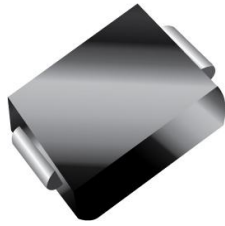


Transient Voltage Suppressors(5000W)



DO-214AB(SMC)

Primary Characteristics

V _{BR}	11~190	V
P _{PPM}	5000	W
P _D	6.5	W
T _J max	150	°C

Features

- Glass passivated chip
- 5000 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Very fast response time
- Excellent clamping capability
- AEC-Q101 Qualified

Mechanical Data

- Cases: DO-214AB(SMC)
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Lead free Plating (Tin Finish)
Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 0.231 grams (approximate)

Ordering Information

Part No.	Remark	Package	Packing
5.0SMDJ SERIES	General	SOD523	3000 / Tape & Reel
5.0SMDJ SERIES-H	Halogen Free		
5.0SMDJ SERIES-Q	AEC-Q101 qualified		

Maximum Ratings (T_A=25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Peak power dissipation with a 10/1000 μ s waveform	P _{PP}	5000	W
Power dissipation on infinite heatsink at T _L =75°C	P _D	6.5	W
Peak forward surge current, 8.3ms single half sine-wave unidirectional only(1)	I _{FSM}	300	A
Maximum instantaneous forward voltage at 100A for unidirectional only(2)	V _F	3.5 / 5.0	V
Operating and Storage Temperature Range	T _J , T _{STG}	-55 ~ +150	°C

Note:

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

(2) V_F<3.5V for devices of V_{BR}<200V and V_F<5.0V for devices of V_{BR}>201V

Transient Voltage Suppressors(5000W)

Electrical Characteristics (TA=25°C unless otherwise noted)										
Part Number		Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min@I _T	Breakdown Voltage Max@I _T	Test Current	Max Clamping Voltage V _C @I _{PP}	Peak Pulse Current	Reverse Leakage I _R @V _{RRM}
DIRECTIONAL		DIRECTIONAL		V _{RRM}	V _{BR}	V _{BR}	I _T	V _C	I _{PP}	I _R
UNI	BI	UNI	BI	V	V	V	mA	V	A	uA
5.0SMDJ11A	5.0SMDJ11CA	5DJ11A	5DJ11CA	11.0	12.20	13.50	1.0	18.2	274.70	800
5.0SMDJ12A	5.0SMDJ12CA	5DJ12A	5DJ12CA	12.0	13.30	14.70	1.0	19.9	251.30	800
5.0SMDJ13A	5.0SMDJ13CA	5DJ13A	5DJ13CA	13.0	14.40	15.90	1.0	21.5	232.60	500
5.0SMDJ14A	5.0SMDJ14CA	5DJ14A	5DJ14CA	14.0	15.60	17.20	1.0	23.2	215.50	200
5.0SMDJ15A	5.0SMDJ15CA	5DJ15A	5DJ15CA	15.0	16.70	18.50	1.0	24.4	204.90	100
5.0SMDJ16A	5.0SMDJ16CA	5DJ16A	5DJ16CA	16.0	17.80	19.70	1.0	26.0	192.30	50
5.0SMDJ17A	5.0SMDJ17CA	5DJ17A	5DJ17CA	17.0	18.90	20.90	1.0	27.6	181.20	20
5.0SMDJ18A	5.0SMDJ18CA	5DJ18A	5DJ18CA	18.0	20.00	22.10	1.0	29.2	171.20	10
5.0SMDJ19A	5.0SMDJ19CA	5DJ19A	5DJ19CA	19.0	21.10	23.30	1.0	30.8	162.40	10
5.0SMDJ20A	5.0SMDJ20CA	5DJ20A	5DJ20CA	20.0	22.20	24.50	1.0	32.4	154.30	5
5.0SMDJ22A	5.0SMDJ22CA	5DJ22A	5DJ22CA	22.0	24.40	26.90	1.0	35.5	140.80	5
5.0SMDJ24A	5.0SMDJ24CA	5DJ24A	5DJ24CA	24.0	26.70	29.50	1.0	38.9	128.50	5
5.0SMDJ26A	5.0SMDJ26CA	5DJ26A	5DJ26CA	26.0	28.90	31.90	1.0	42.1	118.80	5
5.0SMDJ28A	5.0SMDJ28CA	5DJ28A	5DJ28CA	28.0	31.10	34.40	1.0	45.4	110.10	5
5.0SMDJ30A	5.0SMDJ30CA	5DJ30A	5DJ30CA	30.0	33.30	36.80	1.0	48.4	103.30	5
5.0SMDJ33A	5.0SMDJ33CA	5DJ33A	5DJ33CA	33.0	36.70	40.60	1.0	53.3	93.80	5
5.0SMDJ36A	5.0SMDJ36CA	5DJ36A	5DJ36CA	36.0	40.00	44.20	1.0	58.1	86.10	5
5.0SMDJ40A	5.0SMDJ40CA	5DJ40A	5DJ40CA	40.0	44.40	49.10	1.0	64.5	77.50	5
5.0SMDJ43A	5.0SMDJ43CA	5DJ43A	5DJ43CA	43.0	47.80	52.80	1.0	69.4	72.00	5
5.0SMDJ45A	5.0SMDJ45CA	5DJ45A	5DJ45CA	45.0	50.00	55.30	1.0	72.7	68.80	5
5.0SMDJ48A	5.0SMDJ48CA	5DJ48A	5DJ48CA	48.0	53.30	58.90	1.0	77.4	64.60	5
5.0SMDJ51A	5.0SMDJ51CA	5DJ51A	5DJ51CA	51.0	56.70	62.70	1.0	82.4	60.70	5
5.0SMDJ54A	5.0SMDJ54CA	5DJ54A	5DJ54CA	54.0	60.00	66.30	1.0	87.1	57.40	5
5.0SMDJ58A	5.0SMDJ58CA	5DJ58A	5DJ58CA	58.0	64.40	71.20	1.0	93.6	53.40	5
5.0SMDJ60A	5.0SMDJ60CA	5DJ60A	5DJ60CA	60.0	66.70	73.70	1.0	96.8	51.70	5
5.0SMDJ64A	5.0SMDJ64CA	5DJ64A	5DJ64CA	64.0	71.10	78.60	1.0	103.0	48.50	5
5.0SMDJ70A	5.0SMDJ70CA	5DJ70A	5DJ70CA	70.0	77.80	86.00	1.0	113.0	44.20	5
5.0SMDJ75A	5.0SMDJ75CA	5DJ75A	5DJ75CA	75.0	83.30	92.10	1.0	121.0	41.30	5
5.0SMDJ78A	5.0SMDJ78CA	5DJ78A	5DJ78CA	78.0	86.70	95.80	1.0	126.0	39.70	5
5.0SMDJ80A	5.0SMDJ80CA	5DJ80A	5DJ80CA	80.0	88.80	97.60	1.0	129.6	38.60	5
5.0SMDJ85A	5.0SMDJ85CA	5DJ85A	5DJ85CA	85.0	94.40	104.00	1.0	137.0	36.50	5
5.0SMDJ90A	5.0SMDJ90CA	5DJ90A	5DJ90CA	90.0	100.00	111.00	1.0	146.0	34.20	5
5.0SMDJ100A	5.0SMDJ100CA	5DJ100A	5DJ100CA	100.0	111.00	123.00	1.0	162.0	30.90	5
5.0SMDJ110A	5.0SMDJ110CA	5DJ110A	5DJ110CA	110.0	122.00	135.00	1.0	177.0	28.20	5
5.0SMDJ120A	5.0SMDJ120CA	5DJ120A	5DJ120CA	120.0	133.00	147.00	1.0	193.0	25.90	5
5.0SMDJ130A	5.0SMDJ130CA	5DJ130A	5DJ130CA	130.0	144.00	159.00	1.0	209.0	23.90	5
5.0SMDJ140A	5.0SMDJ140CA	5DJ140A	5DJ140CA	140.0	155.00	171.00	1.0	226.8	22.00	5
5.0SMDJ150A	5.0SMDJ150CA	5DJ150A	5DJ150CA	150.0	167.00	185.00	1.0	243.0	20.60	5
5.0SMDJ160A	5.0SMDJ160CA	5DJ160A	5DJ160CA	160.0	178.00	197.00	1.0	259.0	19.30	5
5.0SMDJ170A	5.0SMDJ170CA	5DJ170A	5DJ170CA	170.0	189.00	209.00	1.0	275.0	18.20	5

Transient Voltage Suppressors(5000W)

Electrical Characteristics (TA=25°C unless otherwise noted)										
Part Number		Marking Code		Reverse Stand-off Voltage	Breakdown Voltage Min@I _T	Breakdown Voltage Max@I _T	Test Current	Max Clamping Voltage V _C @I _{PP}	Peak Pulse Current	Reverse Leakage I _R @V _{RRM}
DIRECTIONAL		DIRECTIONAL		V _{RRM}	V _{BR}	V _{BR}	I _T	V _C	I _{PP}	I _R
UNI	BI	UNI	BI	V	V	V	mA	V	A	uA
5.0SMDJ180A	5.0SMDJ180CA	5DJ180A	5DJ180CA	180.0	200.00	220.00	1.0	291.6	17.10	5
5.0SMDJ190A	5.0SMDJ190CA	5DJ190A	5DJ190CA	190.0	211.00	232.00	1.0	307.8	16.20	5
5.0SMDJ200A	5.0SMDJ200CA	5DJ200A	5DJ200CA	200.0	224.00	247.00	1.0	324.0	15.40	5
5.0SMDJ220A	5.0SMDJ220CA	5DJ220A	5DJ220CA	220.0	246.00	272.00	1.0	356.0	14.00	5
5.0SMDJ250A	5.0SMDJ250CA	5DJ250A	5DJ250CA	250.0	279.00	309.00	1.0	405.0	12.30	5
5.0SMDJ300A	5.0SMDJ300CA	5DJ300A	5DJ300CA	300.0	335.00	371.00	1.0	486.0	10.30	5
5.0SMDJ350A	5.0SMDJ350CA	5DJ350A	5DJ350CA	350.0	391.00	432.00	1.0	567.0	8.80	5
5.0SMDJ400A	5.0SMDJ400CA	5DJ400A	5DJ400CA	400.0	447.00	494.00	1.0	648.0	7.70	5
5.0SMDJ440A	5.0SMDJ440CA	5DJ440A	5DJ440CA	440.0	492.00	543.00	1.0	713.0	7.00	5

Note:

1. Suffix 'A ' denotes 5% tolerance device.
2. Add suffix ' CA ' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having VR of 10 volts and under, the IR limit is double .

Transient Voltage Suppressors(5000W)

Fig. 1 - Pulse Derating Curve

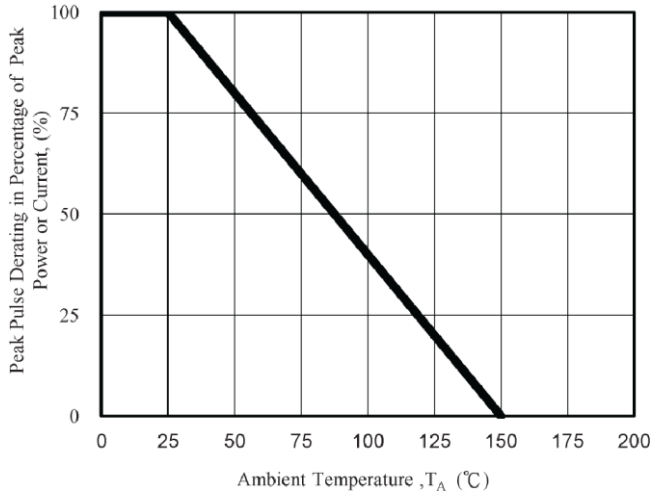


Fig. 2 - Maximum Non-Repetitive Surge Current

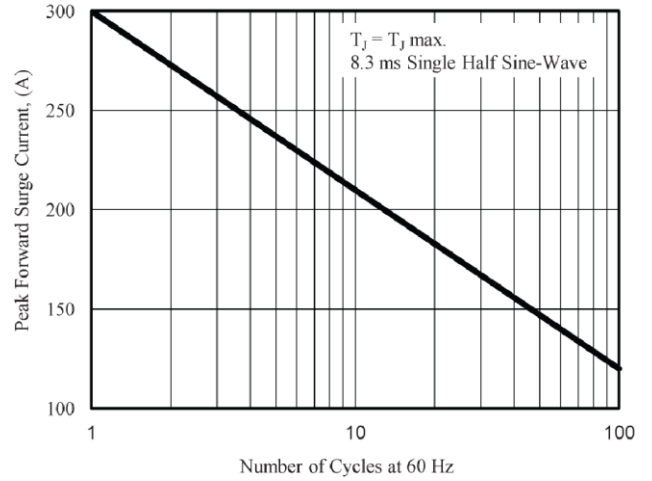


Fig. 3 - Steady State Power Derating Curve

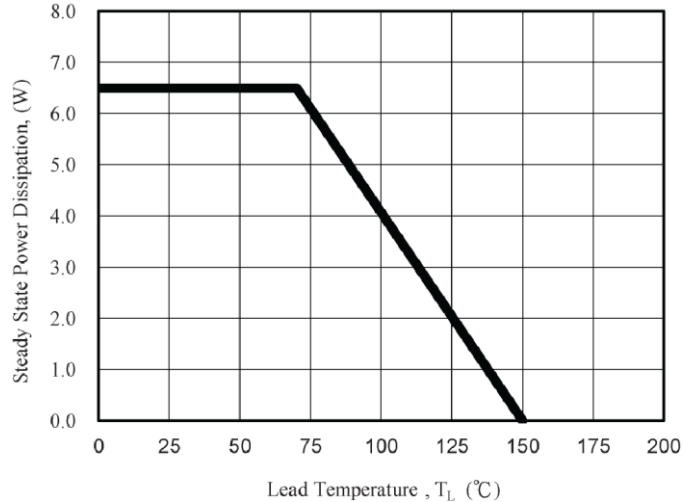


Fig. 4 - Peak Pulse Power Rating Curve

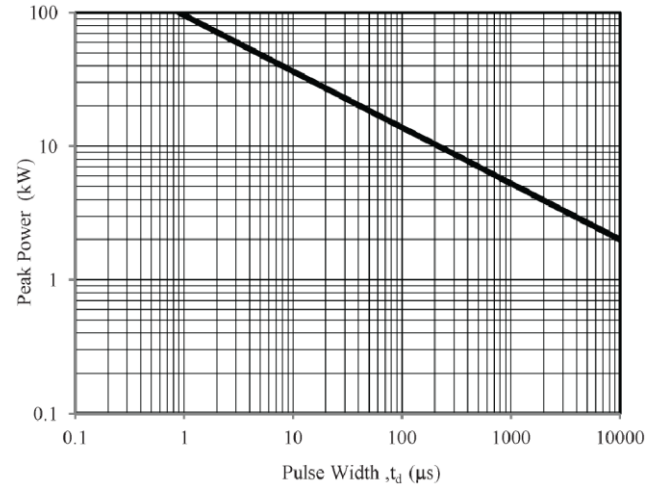


Fig. 5 - Pulse Waveform

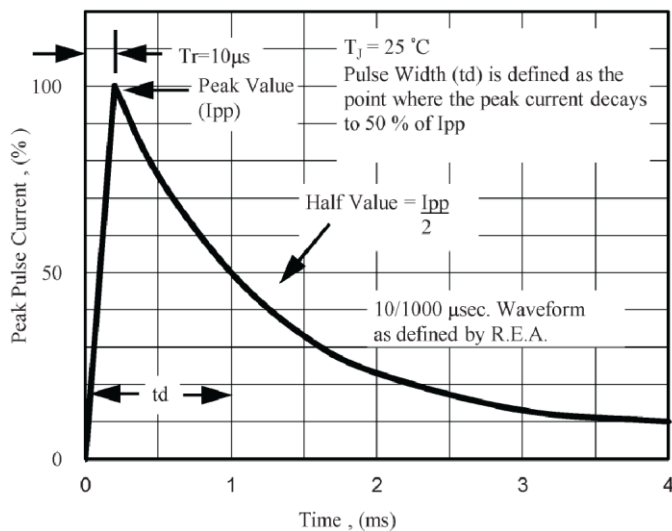
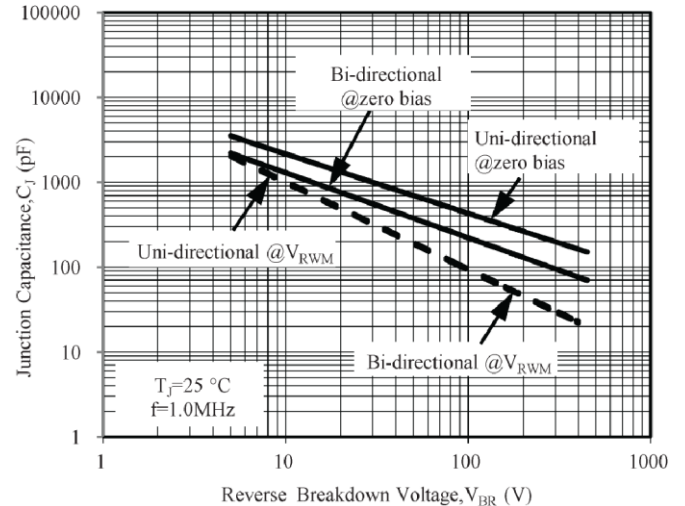
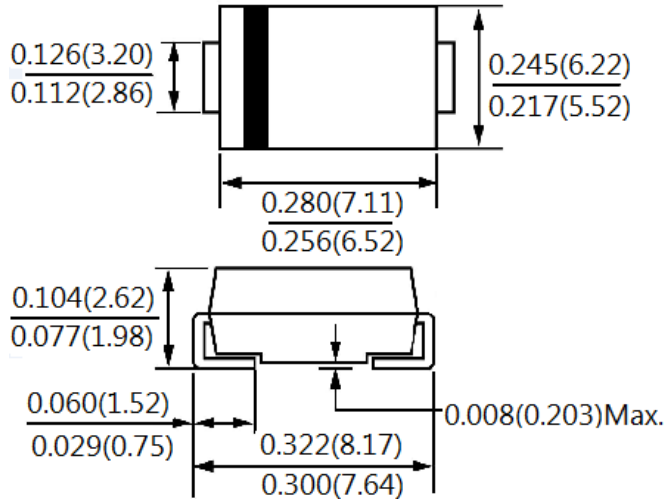


Fig. 6 - Typical junction Capacitance



Package Outline Dimensions

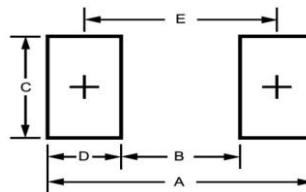


DO-214AB(SMC)

Dimensions in inches and (millimeters)

Suggested Pad Layout

Symbol	Outline	DO-214AB(SMC) millimeters
A		8.13
B		4.69
C		3.20
D		1.52
E		-



Tape & Reel Specification

Item	Symbol	Dimension millimeters
Carrier width	A	6.05 ±0.10
Carrier length	B	8.31 ±0.10
Carrier depth	C	3.29±0.10
Sprocket hole	d	1.55 ±0.10
Reel outside diameter	D	330 ±2
Reel inner diameter	D1	50min.
Feed hole width	D2	20.2max.
Sprocket hole position	E	1.75 ±0.10
Punch hole position	F	7.5 ±0.10
Punch hole pitch	P	8.0 ±0.10
Sprocket hole pitch	P0	4.0 ±0.10
Embossment center	P1	2.0 ±0.10
Tape width	W	16 ±0.30
Reel width	W1	16.4 ±2.0

