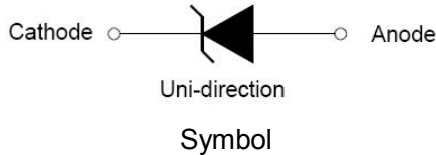


**SMB**

**Features**

Peak power dissipation 1500W@10 x 1000 us Pulse  
 Low incremental surge resistance  
 Excellent clamping capability  
 Glass passivated junction  
 Fast response time  
 Typical IR less than 1uA above 10V  
 Halogen free and RoHS compliant

**Mechanical Data**

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

**Making Code & information**

Cathode Band

1.5SMBJ  
XXXA

Package	Packing Description	Packing Quantity
SMB	Tape/Reel, 13" reel	3000

1.5SMBJ  
XXXCA

1.5SMBJ    XXX    C    A

- \_\_\_\_\_ 5%  $V_{BR}$  Voltage Tolerance
- \_\_\_\_\_ Bidirectional
- \_\_\_\_\_  $V_{RWM}$  Voltage
- \_\_\_\_\_ Series Code

**Maximum Ratings & Thermal Characteristics**

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Units	Remarks
Peak Pulse Power Dissipation	$P_{PPM}$	1500	W	(Note1)(Note2)
Steady State Power Dissipation	$P_D$	5	W	(Note3)
Peak Forward Surge Current	$I_{FSM}$	150	A	(Note4)
Maximum Instantaneous Forward Voltage at 50A	$V_{FM}$	5	V	(Note5)
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	20	°C/W	
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	°C/W	
Operating Temperature Range	$T_J$	-55 to 150	°C	
Storage Temperature Range	$T_{STG}$	-55 to 150	°C	

Notes1: Non-repetitive current pulse , 10/1000us Waveform.

Notes2: Mounted on copper pad area of 5×5mm to each terminal.

Notes3: Infinite HeatSink at  $T_A=50^\circ\text{C}$

Notes4: Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4 perminute maximum.

Notes5: For UnidirectionalOnly,  $V_{FM}<3.5V$  for  $V_{BR} \leq 200V$  and  $V_{FM}<6.5V$  for  $V_{BR} \geq 201V$ .

## Electrical Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified).

Part Number (Uni)	Part Number (Bi)	Reverse Stand off Voltage $V_R$ (V)	Breakdown Voltage $V_{BR}$ @ $I_T$ (V)		Test Current $I_T$ (mA)	Maximum Clamping Voltage $V_C @ I_{PP}$ (V)	Maximum Peak Pulse Current $I_{PP}$ (A)	Maximun Reverse Leakage $I_R$ @ $V_R$ ( $\mu$ A)
			Min	Max				
1.5SMBJ5.0A	1.5SMBJ5.0CA	5	6.4	7	10	9.2	163.0	500
1.5SMBJ6.0A	1.5SMBJ6.0CA	6	6.67	7.37	10	10.3	145.6	500
1.5SMBJ6.5A	1.5SMBJ6.5CA	6.5	7.22	7.98	10	11.2	134.0	300
1.5SMBJ7.0A	1.5SMBJ7.0CA	7	7.78	8.6	10	12	125.0	200
1.5SMBJ7.5A	1.5SMBJ7.5CA	7.5	8.33	9.21	1	12.9	116.3	100
1.5SMBJ8.0A	1.5SMBJ8.0CA	8	8.89	9.83	1	13.6	110.3	50
1.5SMBJ8.5A	1.5SMBJ8.5CA	8.5	9.44	10.4	1	14.4	104.2	20
1.5SMBJ9.0A	1.5SMBJ9.0CA	9	10	11.1	1	15.4	97.4	10
1.5SMBJ10A	1.5SMBJ10CA	10	11.1	12.3	1	17	88.2	5
1.5SMBJ11A	1.5SMBJ11CA	11	12.2	13.5	1	18.2	82.4	1
1.5SMBJ12A	1.5SMBJ12CA	12	13.3	14.7	1	19.9	75.4	1
1.5SMBJ13A	1.5SMBJ13CA	13	14.4	15.9	1	21.5	69.8	1
1.5SMBJ14A	1.5SMBJ14CA	14	15.6	17.2	1	23.2	64.7	1
1.5SMBJ15A	1.5SMBJ15CA	15	16.7	18.5	1	24.4	61.5	1
1.5SMBJ16A	1.5SMBJ16CA	16	17.8	19.7	1	26	57.7	1
1.5SMBJ17A	1.5SMBJ17CA	17	18.9	20.9	1	27.6	54.4	1
1.5SMBJ18A	1.5SMBJ18CA	18	20	22.1	1	29.2	51.4	1
1.5SMBJ20A	1.5SMBJ20CA	20	22.2	24.5	1	32.4	46.3	1
1.5SMBJ22A	1.5SMBJ22CA	22	24.4	26.9	1	35.5	42.3	1
1.5SMBJ24A	1.5SMBJ24CA	24	26.7	29.5	1	38.9	38.6	1
1.5SMBJ26A	1.5SMBJ26CA	26	28.9	31.9	1	42.1	35.6	1
1.5SMBJ28A	1.5SMBJ28CA	28	31.1	34.4	1	45.4	33.1	1
1.5SMBJ30A	1.5SMBJ30CA	30	33.3	36.8	1	48.4	31.0	1
1.5SMBJ33A	1.5SMBJ33CA	33	36.7	40.6	1	53.3	28.2	1
1.5SMBJ36A	1.5SMBJ36CA	36	40	44.2	1	58.1	25.8	1
1.5SMBJ40A	1.5SMBJ40CA	40	44.4	49.1	1	64.5	23.3	1
1.5SMBJ43A	1.5SMBJ43CA	43	47.8	52.8	1	69.4	21.6	1
1.5SMBJ45A	1.5SMBJ45CA	45	50	55.3	1	72.7	20.6	1
1.5SMBJ48A	1.5SMBJ48CA	48	53.3	58.9	1	77.4	19.4	1
1.5SMBJ51A	1.5SMBJ51CA	51	56.7	62.7	1	82.4	18.2	1
1.5SMBJ54A	1.5SMBJ54CA	54	60	66.3	1	87.1	17.2	1
1.5SMBJ58A	1.5SMBJ58CA	58	64.4	71.2	1	93.6	16.1	1
1.5SMBJ60A	1.5SMBJ60CA	60	66.7	73.7	1	96.8	15.5	1
1.5SMBJ64A	1.5SMBJ64CA	64	71.1	78.6	1	103	14.6	1
1.5SMBJ70A	1.5SMBJ70CA	70	77.8	86	1	113	13.3	1
1.5SMBJ75A	1.5SMBJ75CA	75	83.3	92.1	1	121	12.4	1

Notes: For Bi-directional type having  $V_{RWM}$  of 10 Volts and less, the  $I_R$  limit is double.  
For parts without A, the  $V_{BR}$  is  $\pm 10\%$  and  $V_C$  is 5% higher than with A parts.

## Ratings and Characteristic Curves

(Ratings at 25°C ambient temperature unless otherwise specified).

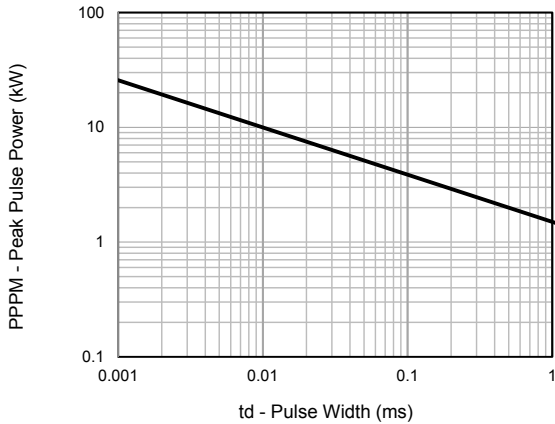


Fig. 1 - Peak Pulse Power Rating

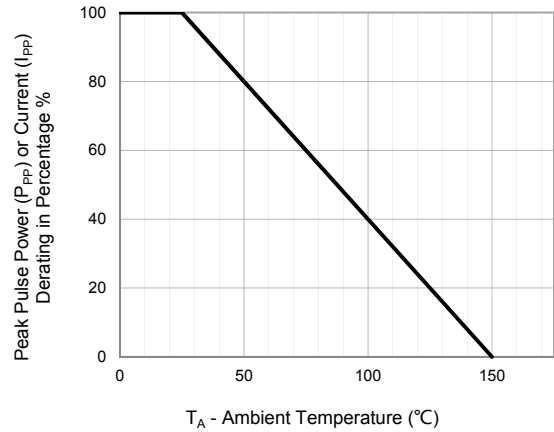


Fig. 2 - Pulse Derating Curve

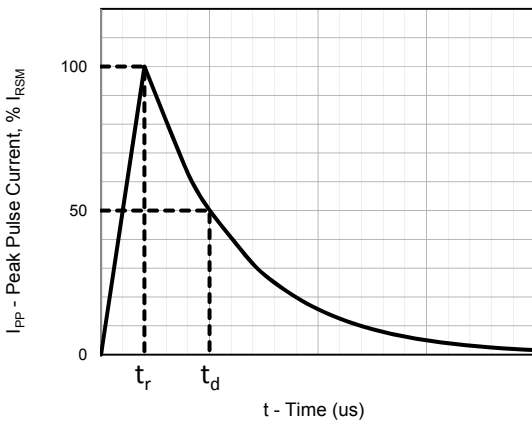


Fig. 3 - Pulse Waveform

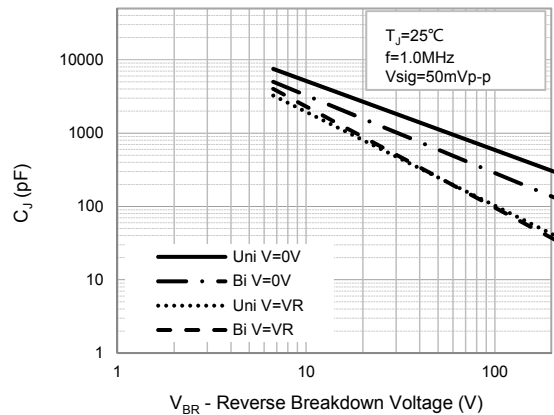


Fig. 4 - Typical Junction Capacitance

## Package Outline Dimensions: SMB(DO-214AA)

Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	4.4	4.6	0.173	0.181
D	3.5	3.7	0.138	0.146
D1	1.9	2.1	0.075	0.083
T	5.1	5.48	0.201	0.216
T1	1.0	1.6	0.039	0.063
d	-	0.2	-	0.008
H	2.2	2.45	0.087	0.096
H1	2.15	2.35	0.085	0.093

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