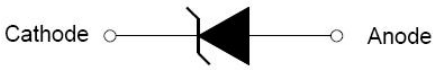
SMB

Bi-directional



Uni-direction

Symbol

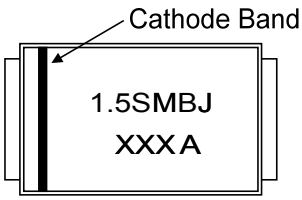
Features

Peak power disspation 1500W@10 x 1000 us Pluse
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

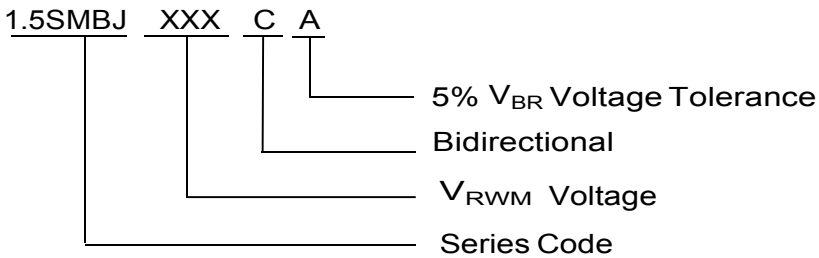
Mechanical Data

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

Making Code & information



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



Maximum Ratings & Thermal Characteristics

(Ratings at 25℃ 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	℃/W	
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	℃/W	
Operating Temperature Range	T_J	-55 to 150	℃	
Storage Temperature Range	T_{STG}	-55 to 150	℃	

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°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} ≤200V and V_{FM}<6.5V for V_{BR}≥201V.

Electrical Characteristics

（Ratings at 25℃ 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 (μA)
			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 VBR is ± 10% and VC is 5% higher than with A parts.

Ratings and Characteristic Curves

（Ratings at 25℃ ambient temperature unless otherwise specified).

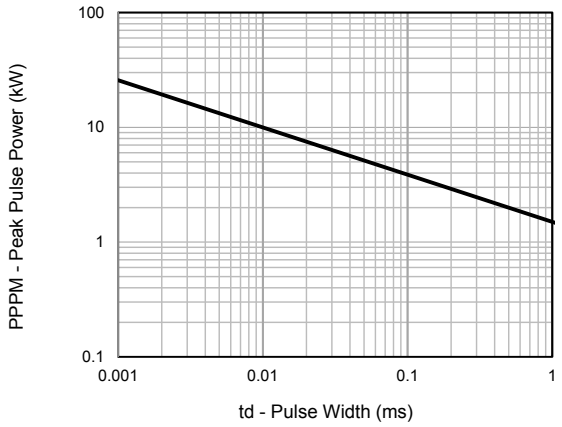


Fig.1 - Peak Pulse Power Rating

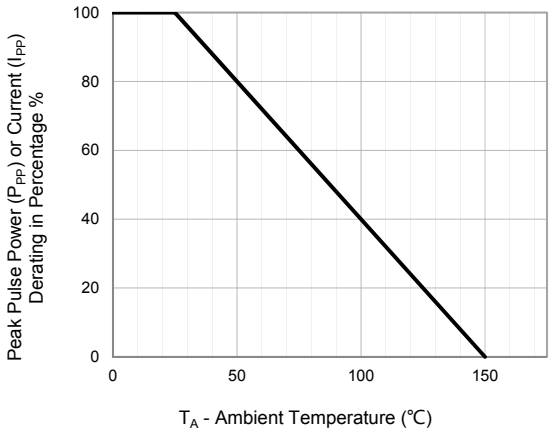


Fig.2 - Pulse Derating Cure

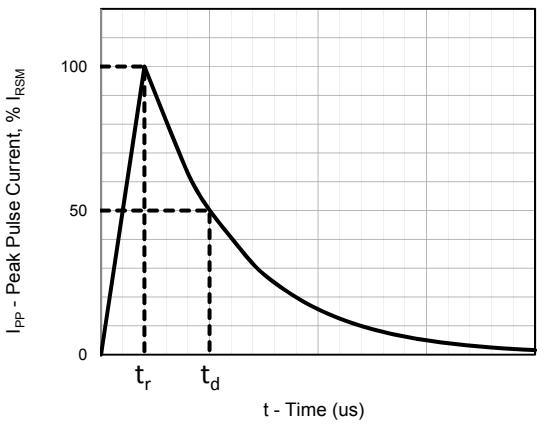


Fig.3 – Pulse Waveform

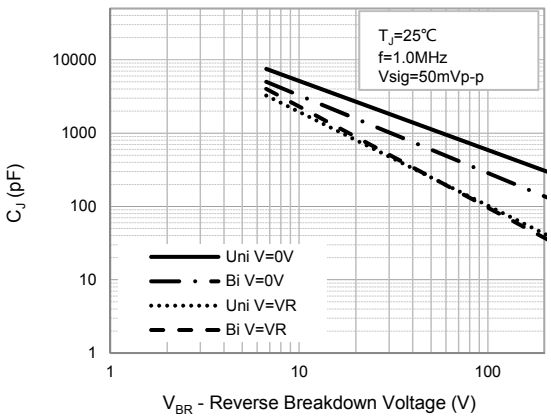
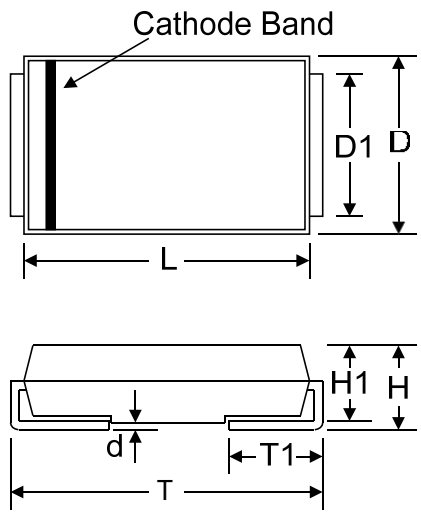


Fig.4 - Typical Junction Capacitance

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