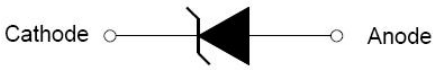
SMB

Bi-directional



Uni-direction

Symbol

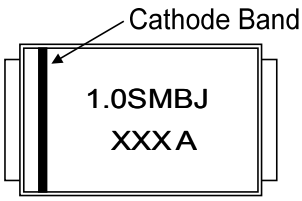
Features

Peak power disspation 1000W@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

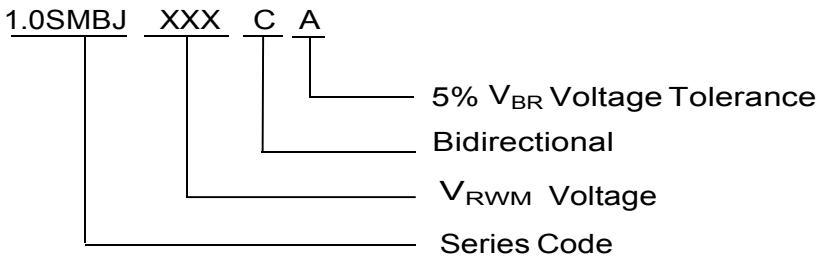
Mechanical Data

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
Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, 2, FIG.1)	P_{PPM}	Min1000	W
Power Dissipation on Infinite Heat Sink at T_L=50°C	P_D	5	W
Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3)	I_{PPM}	See Table 1	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note 2. 3)	I_{FSM}	100	A
Operating Junction Temperature Range	T_J	-55 to 150	°C
Storage Temperature Range	T_{STG}	-55 to 150	°C

Notes:
1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.
2. Mounted on 5.0x5.0mm^2 (0.03mm thick) Copper Pads to each terminal.
3. Measured on 8.3ms single half sine-wave, or equivalent square wave, for Unidirectional device only.

Electrical Characteristics

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

Type Number		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @I_{PP}	Peak Pulse Current	Reverse Leakage @V_{RMW}
(Uni)	(Bi)	V_{RMW}(V)	$V_{BR\ MIN}$(V)	$V_{BR\ MAX}$(V)	I_T (mA)	V_C(V)	I_{PP}(A)	I_R(uA)
1.0SMBJ5.0A	1.0SMBJ5.0CA	5	6.4	7	10	9.2	108.7	500
1.0SMBJ6.0A	1.0SMBJ6.0CA	6	6.67	7.37	10	10.3	97.1	500
1.0SMBJ6.5A	1.0SMBJ6.5CA	6.5	7.22	7.98	10	11.2	89.3	300
1.0SMBJ7.0A	1.0SMBJ7.0CA	7	7.78	8.6	10	12	83.3	200
1.0SMBJ7.5A	1.0SMBJ7.5CA	7.5	8.33	9.21	1	12.9	77.5	100
1.0SMBJ8.0A	1.0SMBJ8.0CA	8	8.89	9.83	1	13.6	73.5	50
1.0SMBJ8.5A	1.0SMBJ8.5CA	8.5	9.44	10.4	1	14.4	69.4	20
1.0SMBJ9.0A	1.0SMBJ9.0CA	9	10	11.1	1	15.4	64.9	10
1.0SMBJ10A	1.0SMBJ10CA	10	11.1	12.3	1	17	58.8	5
1.0SMBJ11A	1.0SMBJ11CA	11	12.2	13.5	1	18.2	54.9	1
1.0SMBJ12A	1.0SMBJ12CA	12	13.3	14.7	1	19.9	50.3	1
1.0SMBJ13A	1.0SMBJ13CA	13	14.4	15.9	1	21.5	46.5	1
1.0SMBJ14A	1.0SMBJ14CA	14	15.6	17.2	1	23.2	43.1	1
1.0SMBJ15A	1.0SMBJ15CA	15	16.7	18.5	1	24.4	41.0	1
1.0SMBJ16A	1.0SMBJ16CA	16	17.8	19.7	1	26	38.5	1
1.0SMBJ17A	1.0SMBJ17CA	17	18.9	20.9	1	27.6	36.2	1
1.0SMBJ18A	1.0SMBJ18CA	18	20	22.1	1	29.2	34.2	1
1.0SMBJ20A	1.0SMBJ20CA	20	22.2	24.5	1	32.4	30.9	1
1.0SMBJ22A	1.0SMBJ22CA	22	24.4	26.9	1	35.5	28.2	1
1.0SMBJ24A	1.0SMBJ24CA	24	26.7	29.5	1	38.9	25.7	1
1.0SMBJ26A	1.0SMBJ26CA	26	28.9	31.9	1	42.1	23.8	1
1.0SMBJ28A	1.0SMBJ28CA	28	31.1	34.4	1	45.4	22.0	1
1.0SMBJ30A	1.0SMBJ30CA	30	33.3	36.8	1	48.4	20.7	1
1.0SMBJ33A	1.0SMBJ33CA	33	36.7	40.6	1	53.3	18.8	1
1.0SMBJ36A	1.0SMBJ36CA	36	40	44.2	1	58.1	17.2	1
1.0SMBJ40A	1.0SMBJ40CA	40	44.4	49.1	1	64.5	15.5	1
1.0SMBJ43A	1.0SMBJ43CA	43	47.8	52.8	1	69.4	14.4	1
1.0SMBJ45A	1.0SMBJ45CA	45	50	55.3	1	72.7	13.8	1
1.0SMBJ48A	1.0SMBJ48CA	48	53.3	58.9	1	77.4	12.9	1
1.0SMBJ51A	1.0SMBJ51CA	51	56.7	62.7	1	82.4	12.1	1
1.0SMBJ54A	1.0SMBJ54CA	54	60	66.3	1	87.1	11.5	1
1.0SMBJ58A	1.0SMBJ58CA	58	64.4	71.2	1	93.6	10.7	1
1.0SMBJ60A	1.0SMBJ60CA	60	66.7	73.7	1	96.8	10.3	1
1.0SMBJ64A	1.0SMBJ64CA	64	71.1	78.6	1	103	9.7	1
1.0SMBJ70A	1.0SMBJ70CA	70	77.8	86	1	113	8.8	1
1.0SMBJ75A	1.0SMBJ75CA	75	83.3	92.1	1	121	8.3	1
1.0SMBJ78A	1.0SMBJ78CA	78	86.7	95.8	1	126	7.9	1
1.0SMBJ85A	1.0SMBJ85CA	85	94.4	104	1	137	7.3	1
1.0SMBJ90A	1.0SMBJ90CA	90	100	111	1	146	6.8	1
1.0SMBJ100A	1.0SMBJ100CA	100	111	123	1	162	6.2	1
1.0SMBJ110A	1.0SMBJ110CA	110	122	135	1	177	5.6	1
1.0SMBJ120A	1.0SMBJ120CA	120	133	147	1	193	5.2	1
1.0SMBJ130A	1.0SMBJ130CA	130	144	159	1	209	4.8	1
1.0SMBJ150A	1.0SMBJ150CA	150	167	185	1	243	4.1	1
1.0SMBJ160A	1.0SMBJ160CA	160	178	197	1	259	3.9	1
1.0SMBJ170A	1.0SMBJ170CA	170	189	209	1	275	3.6	1
1.0SMBJ180A	1.0SMBJ180CA	180	201	222	1	292	3.5	1
1.0SMBJ190A	1.0SMBJ190CA	190	211	234	1	307	3.3	1
1.0SMBJ200A	1.0SMBJ200CA	200	224	247	1	324	3.1	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).

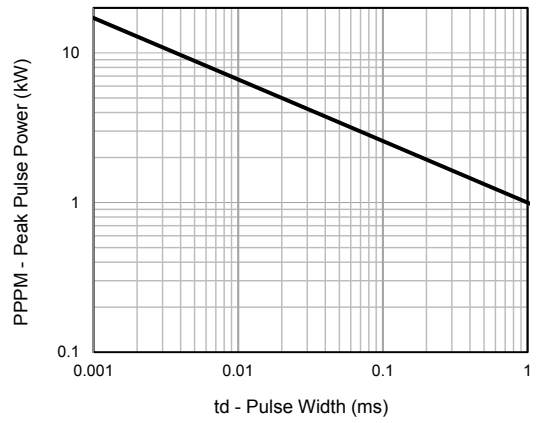


Fig.1 - Peak Pulse Power Rating

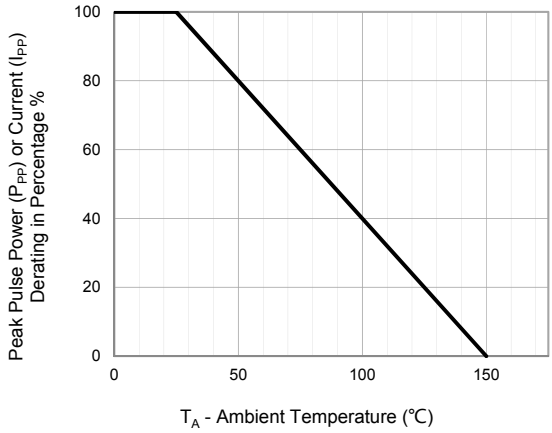


Fig.2 - Pulse Derating Cure

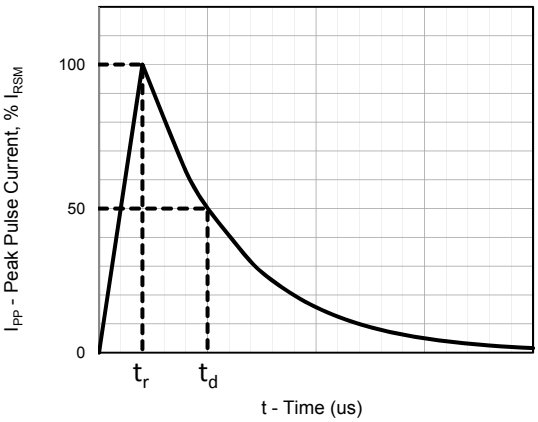


Fig.3 – Pulse Waveform

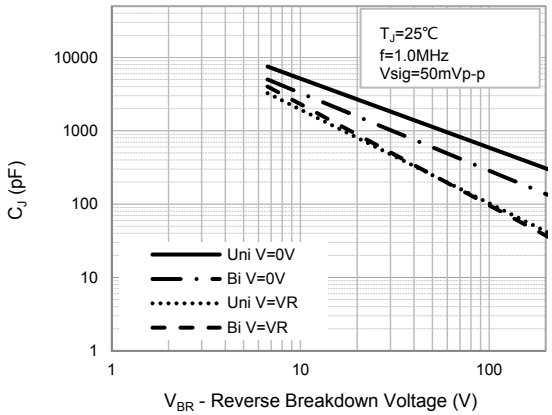
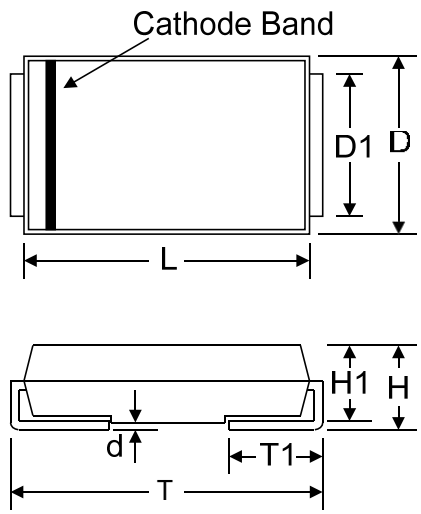


Fig.4 - Typical Junction Capacitance

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