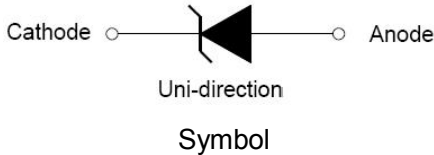


SMB

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

YXXX

GDE

Date Code

Marking Code

YXXX

BDE

Date Code

Marking Code

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

1.5SMBJ XXX C A

- 1.5SMBJ — Series Code
- XXX — V_{RWM} Voltage
- C — Bidirectional
- A — 5% V_{BR} Voltage Tolerance

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, $V_{FM}<3.5\text{V}$ for $V_{BR} \leq 200\text{V}$ and $V_{FM}<6.5\text{V}$ for $V_{BR} \geq 201\text{V}$.

Electrical Characteristics

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

Part Number (Uni)	Part Number (Bi)	Marking Code		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)
		Uni	Bi		V _{BR} @ I _T (V)					
					Min	Max				
1.5SMBJ5.0A	1.5SMBJ5.0CA	GDE	BDE	5	6.4	7	10	9.2	163.0	500
1.5SMBJ6.0A	1.5SMBJ6.0CA	GDG	BDG	6	6.67	7.37	10	10.3	145.6	500
1.5SMBJ6.5A	1.5SMBJ6.5CA	GDK	BDK	6.5	7.22	7.98	10	11.2	134.0	300
1.5SMBJ7.0A	1.5SMBJ7.0CA	GDM	BDM	7	7.78	8.6	10	12	125.0	200
1.5SMBJ7.5A	1.5SMBJ7.5CA	GDP	BDP	7.5	8.33	9.21	1	12.9	116.3	100
1.5SMBJ8.0A	1.5SMBJ8.0CA	GDR	BDR	8	8.89	9.83	1	13.6	110.3	50
1.5SMBJ8.5A	1.5SMBJ8.5CA	GDT	BDT	8.5	9.44	10.4	1	14.4	104.2	20
1.5SMBJ9.0A	1.5SMBJ9.0CA	GDV	BDV	9	10	11.1	1	15.4	97.4	10
1.5SMBJ10A	1.5SMBJ10CA	GDX	BDX	10	11.1	12.3	1	17	88.2	5
1.5SMBJ11A	1.5SMBJ11CA	GDZ	BDZ	11	12.2	13.5	1	18.2	82.4	1
1.5SMBJ12A	1.5SMBJ12CA	GEE	BEE	12	13.3	14.7	1	19.9	75.4	1
1.5SMBJ13A	1.5SMBJ13CA	GEG	BEG	13	14.4	15.9	1	21.5	69.8	1
1.5SMBJ14A	1.5SMBJ14CA	GEK	BEK	14	15.6	17.2	1	23.2	64.7	1
1.5SMBJ15A	1.5SMBJ15CA	GEM	FMM	15	16.7	18.5	1	24.4	61.5	1
1.5SMBJ16A	1.5SMBJ16CA	GEP	BEP	16	17.8	19.7	1	26	57.7	1
1.5SMBJ17A	1.5SMBJ17CA	GER	BER	17	18.9	20.9	1	27.6	54.4	1
1.5SMBJ18A	1.5SMBJ18CA	GET	BET	18	20	22.1	1	29.2	51.4	1
1.5SMBJ20A	1.5SMBJ20CA	GEV	BEV	20	22.2	24.5	1	32.4	46.3	1
1.5SMBJ22A	1.5SMBJ22CA	FTT	BEX	22	24.4	26.9	1	35.5	42.3	1
1.5SMBJ24A	1.5SMBJ24CA	GEZ	BEZ	24	26.7	29.5	1	38.9	38.6	1
1.5SMBJ26A	1.5SMBJ26CA	GFE	BFE	26	28.9	31.9	1	42.1	35.6	1
1.5SMBJ28A	1.5SMBJ28CA	GFG	BFG	28	31.1	34.4	1	45.4	33.1	1
1.5SMBJ30A	1.5SMBJ30CA	GFK	BFK	30	33.3	36.8	1	48.4	31.0	1
1.5SMBJ33A	1.5SMBJ33CA	GFM	BFM	33	36.7	40.6	1	53.3	28.2	1
1.5SMBJ36A	1.5SMBJ36CA	GFP	BFP	36	40	44.2	1	58.1	25.8	1
1.5SMBJ40A	1.5SMBJ40CA	GFR	BFR	40	44.4	49.1	1	64.5	23.3	1
1.5SMBJ43A	1.5SMBJ43CA	GFT	BFT	43	47.8	52.8	1	69.4	21.6	1
1.5SMBJ45A	1.5SMBJ45CA	GFV	BFV	45	50	55.3	1	72.7	20.6	1
1.5SMBJ48A	1.5SMBJ48CA	FMF	BJT	48	53.3	58.9	1	77.4	19.4	1
1.5SMBJ51A	1.5SMBJ51CA	GJV	BJV	51	56.7	62.7	1	82.4	18.2	1
1.5SMBJ54A	1.5SMBJ54CA	FFF	BFX	54	60	66.3	1	87.1	17.2	1
1.5SMBJ58A	1.5SMBJ58CA	GFZ	BFZ	58	64.4	71.2	1	93.6	16.1	1
1.5SMBJ60A	1.5SMBJ60CA	GGE	BGE	60	66.7	73.7	1	96.8	15.5	1
1.5SMBJ64A	1.5SMBJ64CA	GGG	BGG	64	71.1	78.6	1	103	14.6	1
1.5SMBJ70A	1.5SMBJ70CA	GGK	BGK	70	77.8	86	1	113	13.3	1
1.5SMBJ75A	1.5SMBJ75CA	GGM	BGM	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 ± 10% and V_C is 5% higher than with A parts.

Ratings and Characteristic Curves

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

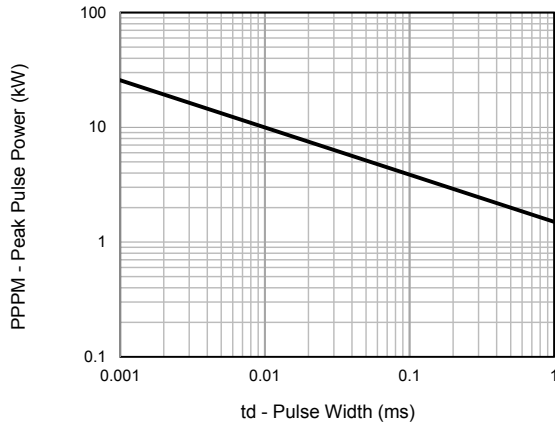


Fig. 1 - Peak Pulse Power Rating

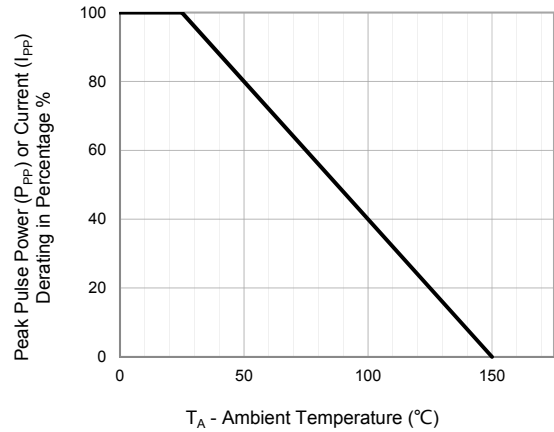


Fig. 2 - Pulse Derating Curve

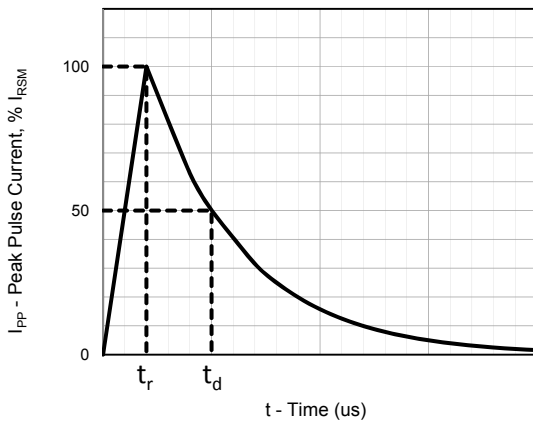


Fig. 3 - Pulse Waveform

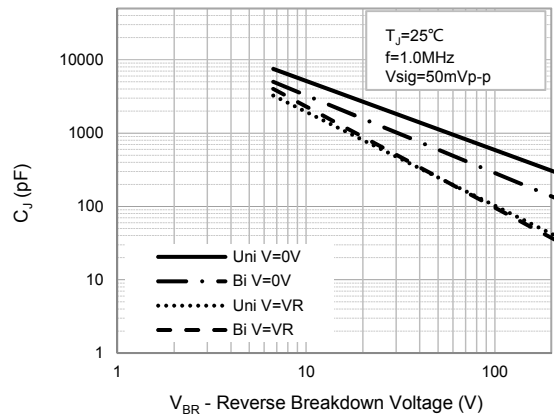


Fig. 4 - Typical Junction Capacitance

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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[P6KE13CA](#) [P6KE43CA](#) [P6KE6.8CA](#) [P6KE8.2](#) [P6SMBJ20CA](#) [JANTX1N6072A](#) [SR2835ESKG](#) [SA90CA](#)