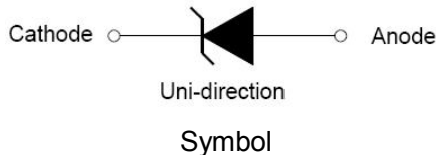


**SMB**

**Features**

- Peak power dissipation 600W@10 x 1000 us Pulse
- Low incremental surge resistance
- Excellent clamping capability
- Glass passivated junction
- Fast response time
- Typical IR less than 1uA above 13V
- 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**

P6SMB  
XXA

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

P6SMB  
XXCA

P6SMB    XXX    C    A

5%  $V_{BR}$  Voltage Tolerance

Bidirectional

$V_{BR}$  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	$P_{PPM}$	600	W	(Note1)(Note2)
Steady State Power Dissipation	$P_D$	5	W	(Note3)
Peak Forward Surge Current	$I_{FSM}$	100	A	(Note4)
Maximum Instantaneous Forward Voltage at 50A	$V_{FM}$	3.5/5	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 per minute 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 <sub>R</sub> (V)	Breakdown Voltage V <sub>BR</sub> @ I <sub>T</sub> (V)		Test Current I <sub>T</sub> (mA)	Maximum Clamping Voltage V <sub>C</sub> @ I <sub>PP</sub> (V)	Maximum Peak Pulse Current I <sub>PP</sub> (A)	Maximum Reverse Leakage I <sub>R</sub> @ V <sub>R</sub> (μA)
		Uni	Bi		Min	Max				
		P6SMB6.8A	P6SMB6.8CA		6V8A	6V8C				
P6SMB7.5A	P6SMB7.5CA	7V5A	7V5C	6.4	7.13	7.88	10	11.3	54	500
P6SMB8.2A	P6SMB8.2CA	8V2A	8V2C	7.02	7.79	8.61	10	12.1	50.4	200
P6SMB9.1A	P6SMB9.1CA	9V1A	9V1C	7.78	8.65	9.55	1	13.4	45.5	50
P6SMB10A	P6SMB10CA	10A	10C	8.55	9.5	10.5	1	14.5	42.1	10
P6SMB11A	P6SMB11CA	11A	11C	9.4	10.5	11.6	1	15.6	39.1	5
P6SMB12A	P6SMB12CA	12A	12C	10.2	11.4	12.6	1	16.7	36.5	5
P6SMB13A	P6SMB13CA	13A	13C	11.1	12.4	13.7	1	18.2	33.5	1
P6SMB15A	P6SMB15CA	15A	15C	12.8	14.3	15.8	1	21.2	28.8	1
P6SMB16A	P6SMB16CA	16A	16C	13.6	15.2	16.8	1	22.5	27.1	1
P6SMB18A	P6SMB18CA	18A	18C	15.3	17.1	18.9	1	25.5	24.2	1
P6SMB20A	P6SMB20CA	20A	20C	17.1	19	21	1	27.7	22	1
P6SMB22A	P6SMB22CA	22A	22C	18.8	20.9	23.1	1	30.6	19.9	1
P6SMB24A	P6SMB24CA	24A	24C	20.5	22.8	25.2	1	33.2	18.4	1
P6SMB27A	P6SMB27CA	27A	27C	23.1	25.7	28.4	1	37.5	16.3	1
P6SMB30A	P6SMB30CA	30A	30C	25.6	28.5	31.5	1	41.4	14.7	1
P6SMB33A	P6SMB33CA	33A	33C	28.2	31.4	34.7	1	45.7	13.3	1
P6SMB36A	P6SMB36CA	36A	36C	30.8	34.2	37.8	1	49.9	12.2	1
P6SMB39A	P6SMB39CA	39A	39C	33.3	37.1	41	1	53.9	11.3	1
P6SMB43A	P6SMB43CA	43A	43C	36.8	40.9	45.2	1	59.3	10.3	1
P6SMB47A	P6SMB47CA	47A	47C	40.2	44.7	49.4	1	64.8	9.4	1
P6SMB51A	P6SMB51CA	51A	51C	43.6	48.5	53.6	1	70.1	8.7	1
P6SMB56A	P6SMB56CA	56A	56C	47.8	53.2	58.8	1	77	7.9	1
P6SMB58A	P6SMB58CA	58A	58C	52.78	55.1	60.9	1	79.8	7.7	1
P6SMB62A	P6SMB62CA	62A	62C	53	58.9	65.1	1	85	7.2	1
P6SMB68A	P6SMB68CA	68A	68C	58.1	64.6	71.4	1	92	6.6	1
P6SMB75A	P6SMB75CA	75A	75C	64.1	71.3	78.8	1	103	5.9	1
P6SMB82A	P6SMB82CA	82A	82C	70.1	77.9	86.1	1	113	5.4	1
P6SMB91A	P6SMB91CA	91A	91C	77.8	86.5	95.5	1	125	4.9	1
P6SMB100A	P6SMB100CA	100A	100C	85.5	95	105	1	137	4.5	1
P6SMB110A	P6SMB110CA	110A	110C	94	105	116	1	152	4	1
P6SMB120A	P6SMB120CA	120A	120C	102	114	126	1	165	3.7	1
P6SMB130A	P6SMB130CA	130A	130C	111	124	137	1	179	3.4	1
P6SMB150A	P6SMB150CA	150A	150C	128	143	158	1	207	2.9	1
P6SMB160A	P6SMB160CA	160A	160C	136	152	168	1	219	2.8	1
P6SMB170A	P6SMB170CA	170A	170C	145	162	179	1	234	2.6	1
P6SMB180A	P6SMB180CA	180A	180C	154	171	189	1	246	2.5	1
P6SMB200A	P6SMB200CA	200A	200C	171	190	210	1	274	2.2	1
P6SMB220A	P6SMB220CA	220A	220C	185	209	231	1	328	1.9	1
P6SMB250A	P6SMB250CA	250A	250C	214	237	263	1	344	1.8	1
P6SMB300A	P6SMB300CA	300A	300C	256	285	315	1	414	1.5	1
P6SMB350A	P6SMB350CA	350A	350C	300	332	368	1	482	1.3	1
P6SMB400A	P6SMB400CA	400A	400C	342	380	420	1	548	1.1	1
P6SMB440A	P6SMB440CA	440A	440C	376	418	462	1	602	1	1
P6SMB480A	P6SMB480CA	480A	480C	408	456	504	1	658	0.9	1
P6SMB510A	P6SMB510CA	510A	510C	434	485	535	1	698	0.9	1
P6SMB530A	P6SMB530CA	530A	530C	477	503.5	556.5	1	725	0.8	1
P6SMB540A	P6SMB540CA	540A	540C	486	513	567	1	740	0.8	1
P6SMB550A	P6SMB550CA	550A	550C	495	522.5	577.5	1	760	0.8	1

## Ratings and Characteristic Curves

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

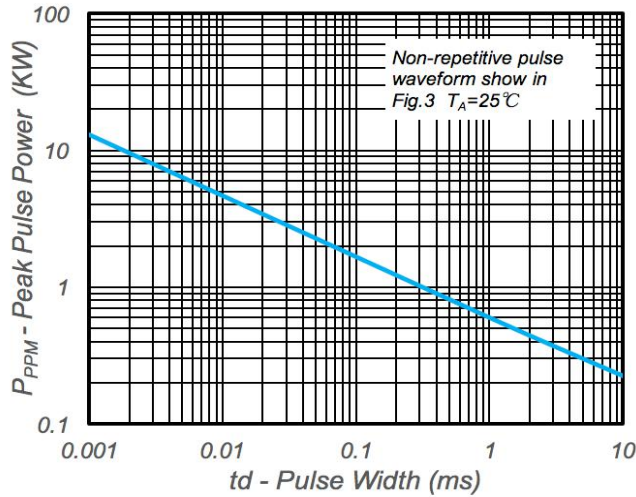


Fig. 1 - Peak Pulse Power Rating

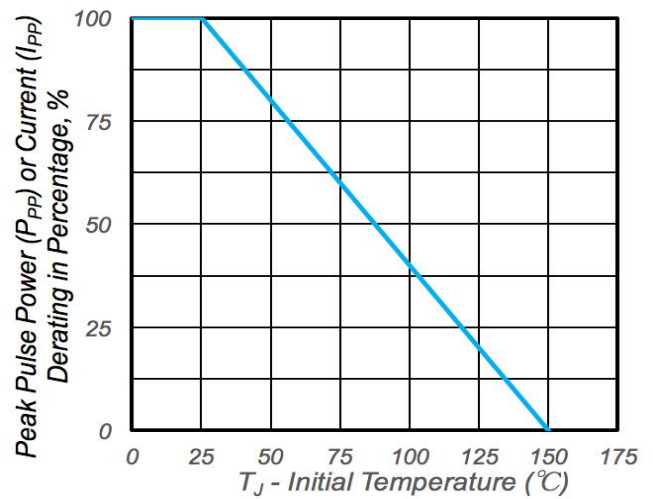


Fig. 2 - Pulse Derating Curve

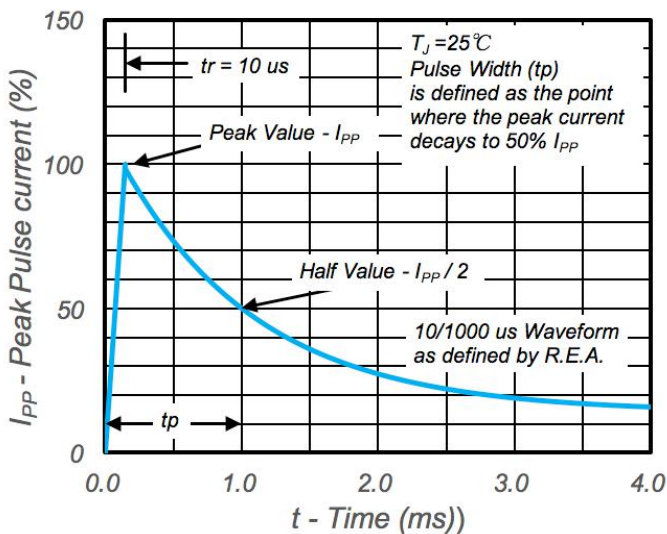


Fig. 3 - Pulse Waveform



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