

Features

- P_{PP} 600W
- V_{RWM} 5.8V- 513V
- Glass passivated chip

Applications

- Clamping Voltage

SMB


Bi-directional

Uni-direction

Limiting values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Peak pulse power dissipation	P_{PPM}	W	with a 10/1000us waveform	600
Peak pulse current (1)	I_{PPM}	A	with a 10/1000us waveform	See Next Table
Power dissipation	P_D	W	On infinite heat sink at $T_L=75^{\circ}\text{C}$	5.0
Peak forward surge current(2)	I_{FSM}	A	8.3 ms single half sine-wave unidirectional only	100
Operating junction and storage temperature range	T_J, T_{STG}	$^{\circ}\text{C}$		-55 to +150

Electrical Characteristics ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Max
Maximum instantaneous forward Voltage (3)	V_F	V	at 35A for unidirectional only	3.5/5.0
Thermal resistance	$R_{\theta JL}$	$^{\circ}\text{C/W}$	junction to lead	20
	$R_{\theta JA}$	$^{\circ}\text{C/W}$	junction to ambient, $L_{Lead} = 10\text{ mm}$	100

Electrical Characteristics (T_A=25°C unless otherwise noted)

Number UNI		Number BI		Breakdown Voltage V _{BR} @I _T			Reverse Leakage I _R @ V _{WM} (μA)	Working Peak Reverse Voltage V _{RWM} (V)	Reverse Surge Current I _{PP} (A)	Clamping Voltage V _C @ I _{PP} (V)
				Min(V)	Max (V)	IT (mA)				
P6 SMB6 .8A	6V8A	P6 SMB6 .8 CA	6V8C	6.46	7.14	10	1000	5.8	57.1	10.5
P6 SMB7 .5A	7V5A	P6 SMB7 .5 CA	7V5C	7.13	7.88	10	500	6.4	53.1	11.3
P6 SMB8 .2A	8V2A	P6 SMB8 .2 CA	8V2C	7.79	8.61	10	200	7.0	49.6	12.1
P6 SMB9 .1A	9V1A	P6 SMB9 .1 CA	9V1C	8.65	9.56	1	50	7.8	44.7	13.4
P6 SMB10A	10A	P6 SMB10 CA	10C	9.50	10.50	1	10	8.6	41.3	14.5
P6 SMB11A	11A	P6 SMB11 CA	11C	10.45	11.55	1	5	9.4	38.4	15.6
P6 SMB12A	12A	P6 SMB12 CA	12C	11.40	12.60	1	5	10.2	35.9	16.7
P6 SMB13A	13A	P6 SMB13 CA	13C	12.35	13.65	1	5	11.1	32.9	18.2
P6 SMB15A	15A	P6 SMB15 CA	15C	14.25	15.75	1	5	12.8	28.3	21.2
P6 SMB16A	16A	P6 SMB16 CA	16C	15.20	16.80	1	5	13.6	26.6	22.5
P6 SMB18A	18A	P6 SMB18 CA	18C	17.10	18.90	1	5	15.3	23.8	25.2
P6 SMB20A	20A	P6 SMB20 CA	20C	19.00	21.00	1	5	17.1	21.6	27.7
P6 SMB22A	22A	P6 SMB22 CA	22C	20.90	23.10	1	5	18.8	19.6	30.6
P6 SMB24A	24A	P6 SMB24 CA	24C	22.80	25.20	1	5	20.5	18.1	33.2
P6 SMB27A	27A	P6 SMB27 CA	27C	25.65	28.35	1	5	23.1	16.0	37.5
P6 SMB30A	30A	P6 SMB30 CA	30C	28.50	31.50	1	5	25.6	14.5	41.4
P6 SMB33A	33A	P6 SMB33 CA	33C	31.35	34.65	1	5	28.2	13.1	45.7
P6 SMB36A	36A	P6 SMB36 CA	36C	34.20	37.80	1	5	30.8	12.0	49.9
P6 SMB39A	39A	P6 SMB39 CA	39C	37.05	40.95	1	5	33.3	11.1	53.9
P6 SMB43A	43A	P6 SMB43 CA	43C	40.85	45.15	1	5	36.8	10.1	59.3
P6 SMB47A	47A	P6 SMB47 CA	47C	44.65	49.35	1	5	40.2	9.2	64.8
P6 SMB51A	51A	P6 SMB51 CA	51C	48.45	53.55	1	5	43.6	8.5	70.1
P6 SMB56A	56A	P6 SMB56 CA	56C	53.20	58.80	1	5	47.8	7.8	77.0
P6 SMB62A	62A	P6 SMB62 CA	62C	58.90	65.10	1	5	53.0	7.0	85.0
P6 SMB68A	68A	P6 SMB68 CA	68C	64.60	71.40	1	5	58.1	6.5	92.0
P6 SMB75A	75A	P6 SMB75 CA	75C	71.25	78.75	1	5	64.1	5.8	103.0
P6 SMB82A	82A	P6 SMB82 CA	82C	77.90	86.10	1	5	70.1	5.3	113.0
P6 SMB91A	91A	P6 SMB91 CA	91C	86.45	95.35	1	5	77.8	4.8	125.0
P6 SMB100A	100A	P6 SMB100 CA	100C	95.00	105.00	1	5	85.5	4.3	137.0
P6 SMB110A	110A	P6 SMB110 CA	110C	104.50	115.50	1	5	94.0	3.9	152.0
P6 SMB120A	120A	P6 SMB120 CA	120C	114.00	126.00	1	5	102.0	3.6	165.0
P6 SMB130A	130A	P6 SMB130 CA	130C	123.50	136.50	1	5	111.0	3.3	179.0
P6 SMB150A	150A	P6 SMB150 CA	150C	142.50	157.50	1	5	128.0	2.9	207.0
P6 SMB160A	160A	P6 SMB160 CA	160C	152.00	168.00	1	5	136.0	2.7	219.0
P6 SMB170A	170A	P6 SMB170 CA	170C	161.50	178.50	1	5	145.0	2.5	234.0
P6 SMB180A	180A	P6 SMB180 CA	180C	171.00	189.00	1	5	154.0	2.4	246.0
P6 SMB200A	200A	P6 SMB200 CA	200C	190.00	210.00	1	5	171.0	2.2	274.0
P6 SMB220A	220A	P6 SMB220 CA	220C	209.00	231.00	1	5	185.0	1.8	328.0
P6 SMB250A	250A	P6 SMB250 CA	250C	237.50	262.50	1	5	214.0	1.7	344.0
P6 SMB300A	300A	P6 SMB300 CA	300C	285.00	315.00	1	5	256.0	1.4	414.0
P6 SMB350A	350A	P6 SMB350 CA	350C	332.50	367.50	1	5	299.3	1.2	482.0
P6 SMB400A	400A	P6 SMB400 CA	400C	380.00	420.00	1	5	342.0	1.1	548.0
P6 SMB440A	440A	P6 SMB440 CA	440C	418.00	462.00	1	5	376.2	1.0	607.2
P6 SMB480A	480A	P6 SMB480 CA	480C	456.00	504.00	1	5	408.0	0.9	658.0
P6 SMB510A	510A	P6 SMB510 CA	510C	485.00	535.00	1	5	434.5	0.9	698.0
P6 SMB530A	530A	P6 SMB530 CA	530C	503.50	556.50	1	5	451.6	0.8	725.0
P6 SMB540A	540A	P6 SMB540 CA	540C	513.00	567.00	1	5	460.0	0.8	740.0
P6 SMB550A	550A	P6 SMB550 CA	550C	522.50	577.50	1	5	470.3	0.8	759.0
P6 SMB600A	600A	P6 SMB600 CA	600C	570.00	630.00	1	5	513.0	0.7	828.0

Typical Characteristics

FIG1: Peak Pulse Power Rating Curve

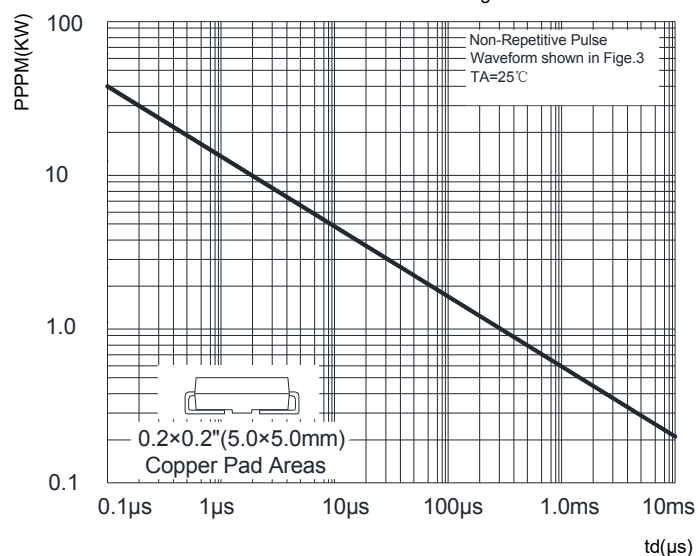


FIG2: Pulse Power or Current vs. Initial Junction Temperature

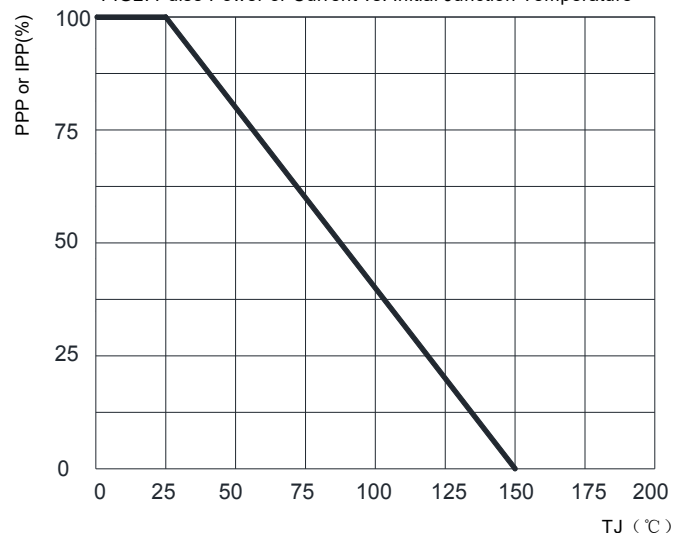


FIG3: Pulse Waveform

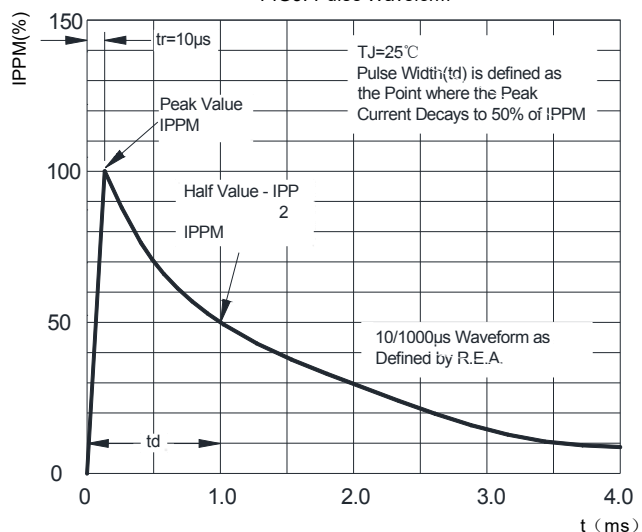


FIG4: Typical Transient Thermal Impedance

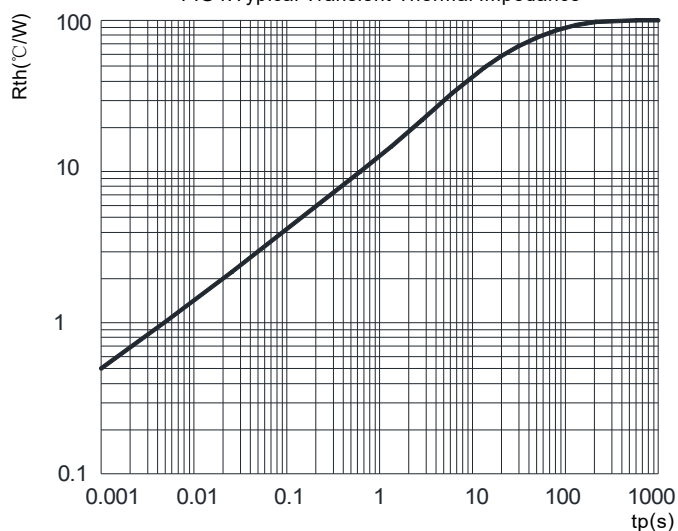
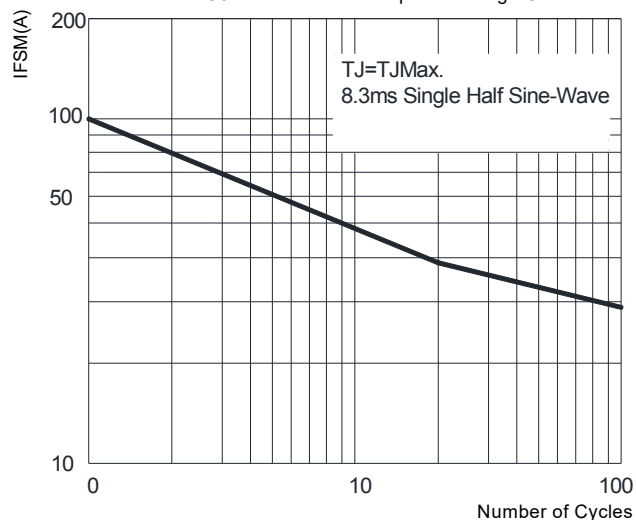
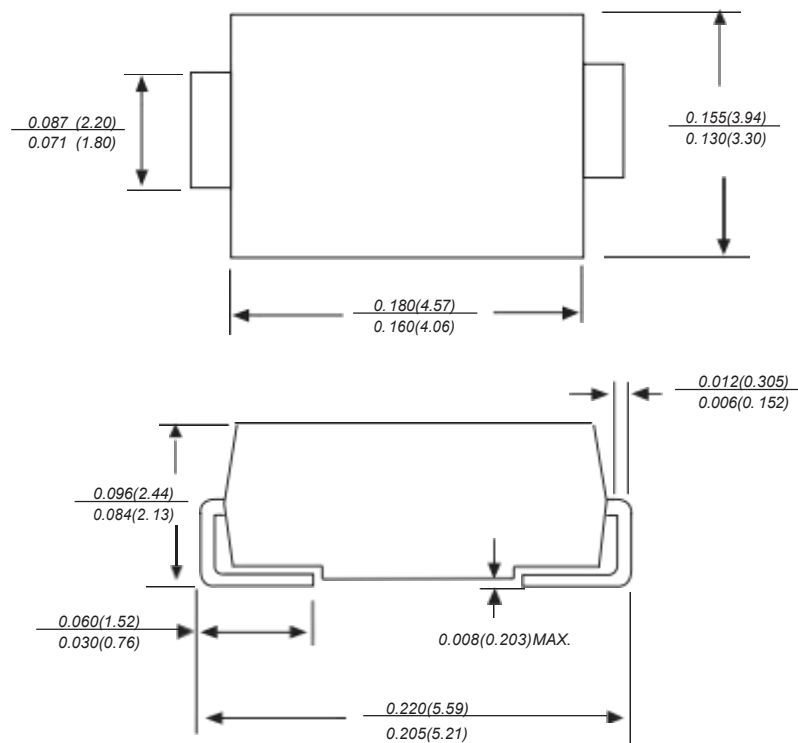


FIG5: Maximum Non-Repetitive Surge Current

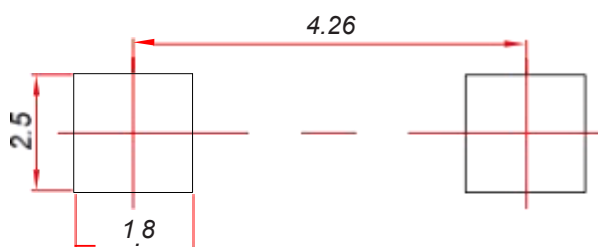


SMB Package outline Dimensions



Dimensions in inches and (millimeters)

SMB Suggested pad Layout



Note:

1. Controlling dimension: In millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.