

P6SMB6.8(C)A~P6SMB600(C)A

600Watts

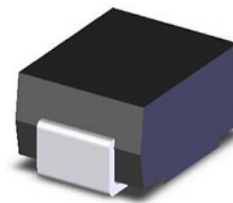
Automotive Transient Voltage Suppressors

PROSEMI offers AEC-Q101 qualified TVS diode device is specially designed to protect sensitive electronic devices from lightning and other transient voltage induced voltage transient events.



Features

- 600 watts Peak Pulse Power (10/1000 μ s)
- Unidirectional and Bidirectional Protection Fast
- Response Time : Typically < 1ps Excellent Clamping
- Capability
- Glass Passivated Junction
- Built-in Strain relief
- Low inductance
- Low profile package
- High temperature solder: 260 °C/20 seconds at terminal



**SMB
DO-214AA**

Mechanical Characteristics

- JEDEC DO-214AA(SMB) package
- Molding compound flammability rating:
UL 94V-0
- AEC-Q101 qualified
- Packaging: Tape and Reel per EIA 481
- RoHS/WEEE Compliant

Applications

- I/O Interfaces Power
- lines
- Automotive and Telecommunication Computers
- &Consumer Electronics
- Industrial Electronics

Maximum Ratings & Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified

Parameter	Symbols	Value	Unit
Peak power dissipation with a 10/1000 us waveform(1)	P_{PP}	600	W
Peak pulse current with a 10/1000 us waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75^{\circ}C$	P_D	5	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only(2)	I_{FSM}	100	A
Maximum instantaneous forward voltage at 25 A for unidirectional only(3)	V_F	3.5/6.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

Note:

- 1) Non-repetitive current pulse per Fig.5 and derated above $T_A = 25^{\circ}C$ per Fig.1;
- 2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum;
- 3) $V_F < 3.5V$ for devices of $V_{BR} < 200V$ and $V_F < 6.5V$ for devices of $V_{BR} > 201V$.

Electrical Characteristics

Part Number		Marking		Reverse Stand Off Voltage V_R (V)	Breakdown Voltage		Test Current I_T (mA)	Maximum Clamping Voltage V_C (V) @ I_{PP}	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R (A) @ V_R
Uni	Bi	Uni	Bi		Min.	Max.				
P6SMB6.8A-T	P6SMB6.8CA-T	6V8AT	6V8CT	5.8	6.45	7.14	10	10.5	58.10	1000
P6SMB7.5A-T	P6SMB7.5CA-T	7V5AT	7V5CT	6.4	7.13	7.88	10	11.3	54.00	500
P6SMB8.2A-T	P6SMB8.2CA-T	8V2AT	8V2CT	7.0	7.79	8.61	10	12.1	50.40	200
P6SMB9.1A-T	P6SMB9.1CA-T	9V1AT	9V1CT	7.8	8.65	9.55	1	13.4	45.50	50
P6SMB10A-T	P6SMB10CA-T	10AT	10CT	8.6	9.50	10.50	1	14.5	42.10	10
P6SMB11A-T	P6SMB11CA-T	11AT	11CT	9.4	10.50	11.6	1	15.6	39.10	5
P6SMB12A-T	P6SMB12CA-T	12AT	12CT	10.2	11.40	12.60	1	16.7	36.50	5
P6SMB13A-T	P6SMB13CA-T	13AT	13CT	11.1	12.40	13.70	1	18.2	33.50	1
P6SMB15A-T	P6SMB15CA-T	15AT	15CT	12.8	14.30	15.80	1	21.2	28.80	1
P6SMB16A-T	P6SMB16CA-T	16AT	16CT	13.6	15.20	16.80	1	22.5	27.10	1
P6SMB18A-T	P6SMB18CA-T	18AT	18CT	15.3	17.10	18.90	1	25.5	24.20	1
P6SMB20A-T	P6SMB20CA-T	20AT	20CT	17.1	19.00	21.00	1	27.7	22.00	1
P6SMB22A-T	P6SMB22CA-T	22AT	22CT	18.8	20.9	23.10	1	30.6	19.90	1
P6SMB24A-T	P6SMB24CA-T	24AT	24CT	20.5	22.80	25.20	1	33.2	18.40	1
P6SMB27A-T	P6SMB27CA-T	27AT	27CT	23.1	25.70	28.40	1	37.5	16.30	1
P6SMB30A-T	P6SMB30CA-T	30AT	30CT	25.6	28.50	31.50	1	41.4	14.70	1
P6SMB33A-T	P6SMB33CA-T	33AT	33CT	28.2	31.40	34.70	1	45.7	13.30	1
P6SMB36A-T	P6SMB36CA-T	36AT	36CT	30.8	34.20	37.80	1	49.9	12.20	1
P6SMB39A-T	P6SMB39CA-T	39AT	39CT	33.3	37.10	41.00	1	53.9	11.30	1
P6SMB43A-T	P6SMB43CA-T	43AT	43CT	36.8	40.90	45.20	1	59.3	10.30	1
P6SMB47A-T	P6SMB47CA-T	47AT	47CT	40.2	44.70	49.40	1	64.8	9.40	1
P6SMB51A-T	P6SMB51CA-T	51AT	51CT	43.6	48.50	53.60	1	70.1	8.70	1
P6SMB56A-T	P6SMB56CA-T	56AT	56CT	47.8	53.20	58.80	1	77.0	7.90	1
P6SMB62A-T	P6SMB62CA-T	62AT	62CT	53.0	58.90	65.10	1	85.0	7.20	1
P6SMB68A-T	P6SMB68CA-T	68AT	68CT	58.1	64.60	71.40	1	92.0	6.60	1
P6SMB75A-T	P6SMB75CA-T	75AT	75CT	64.1	71.30	78.80	1	103.0	5.90	1
P6SMB82A-T	P6SMB82CA-T	82AT	82CT	70.1	77.90	86.10	1	113.0	5.40	1
P6SMB91A-T	P6SMB91CA-T	91AT	91CT	77.8	86.50	95.50	1	125.0	4.90	1
P6SMB100A-T	P6SMB100CA-T	100AT	100CT	85.5	95.00	105.0	1	137.0	4.50	1
P6SMB110A-T	P6SMB110CA-T	110AT	110CT	94.0	105.0	116.0	1	152.0	4.00	1
P6SMB120A-T	P6SMB120CA-T	120AT	120CT	102.0	114.0	126.0	1	165.0	3.70	1
P6SMB130A-T	P6SMB130CA-T	130AT	130CT	111.0	124.0	137.0	1	179.0	3.40	1
P6SMB150A-T	P6SMB150CA-T	150AT	150CT	128.0	143.0	158.0	1	207.0	2.90	1
P6SMB160A-T	P6SMB160CA-T	160AT	160CT	136.0	152.0	168.0	1	219.0	2.80	1
P6SMB170A-T	P6SMB170CA-T	170AT	170CT	145.0	162.0	179.0	1	234.0	2.60	1
P6SMB180A-T	P6SMB180CA-T	180AT	180CT	154.0	171.0	189.0	1	246.0	2.50	1
P6SMB200A-T	P6SMB200CA-T	200AT	200CT	171.0	190.0	210.0	1	274.0	2.20	1
P6SMB220A-T	P6SMB220CA-T	220AT	220CT	185.0	209.0	231.0	1	328.0	1.90	1
P6SMB250A-T	P6SMB250CA-T	250AT	250CT	214.0	237.0	263.0	1	344.0	1.80	1
P6SMB300A-T	P6SMB300CA-T	300AT	300CT	256.0	285.0	315.0	1	414.0	1.50	1
P6SMB350A-T	P6SMB350CA-T	350AT	350CT	300.0	332.0	368.0	1	482.0	1.30	1
P6SMB400A-T	P6SMB400CA-T	400AT	400CT	342.0	380.0	420.0	1	548.0	1.10	1
P6SMB440A-T	P6SMB440CA-T	440AT	440CT	376.0	418.0	462.0	1	602.0	1.00	1
P6SMB480A-T	P6SMB480CA-T	480AT	480CT	408.0	456.0	504.0	1	658.0	0.90	1
P6SMB510A-T	P6SMB510CA-T	510AT	510CT	434.0	485.0	535.0	1	698.0	0.90	1
P6SMB530A-T	P6SMB530CA-T	530AT	530CT	450.0	503.0	556.0	1	725.0	0.80	1
P6SMB540A-T	P6SMB540CA-T	540AT	540CT	459.0	513.0	567.0	1	740.0	0.80	1
P6SMB550A-T	P6SMB550CA-T	550AT	550CT	467.0	522.5	577.5	1	760.0	0.80	1
P6SMB600A-T	P6SMB600CA-T	600AT	600CT	509.0	570.0	630.0	1	820.0	0.75	1

Typical Characteristics

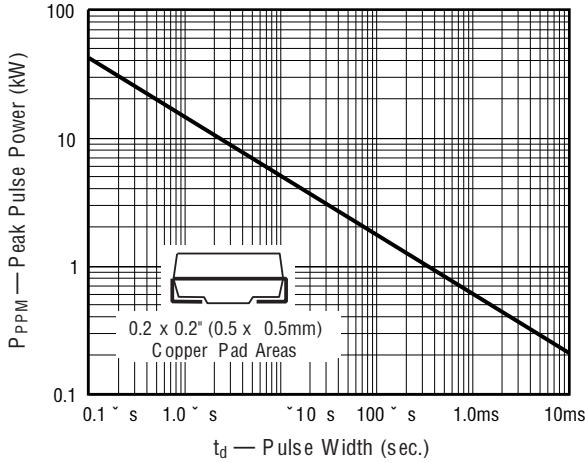


FIG. 1- Peak Pulse Power Rating Curve

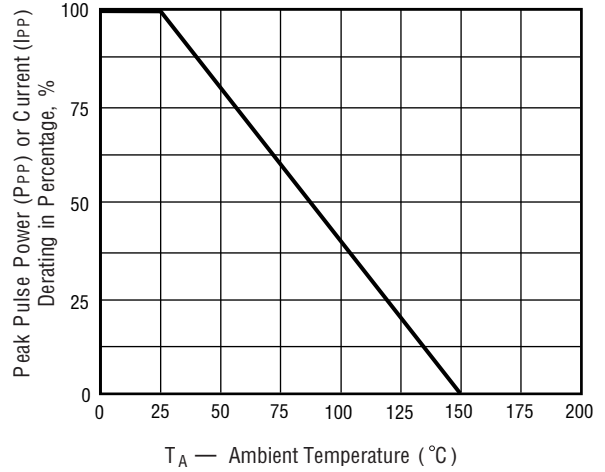


FIG. 2- Pulse Derating Curve

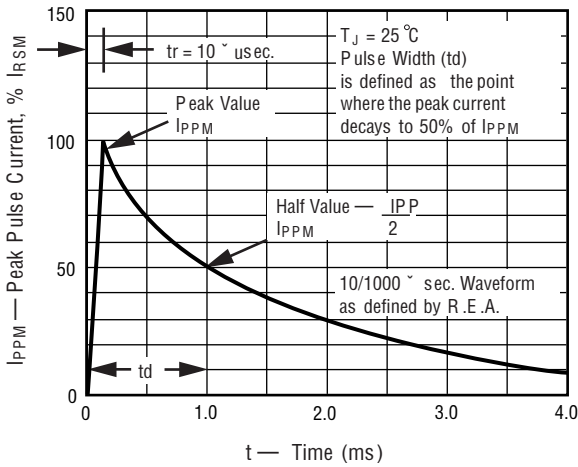


FIG. 3- Pulse Waveform

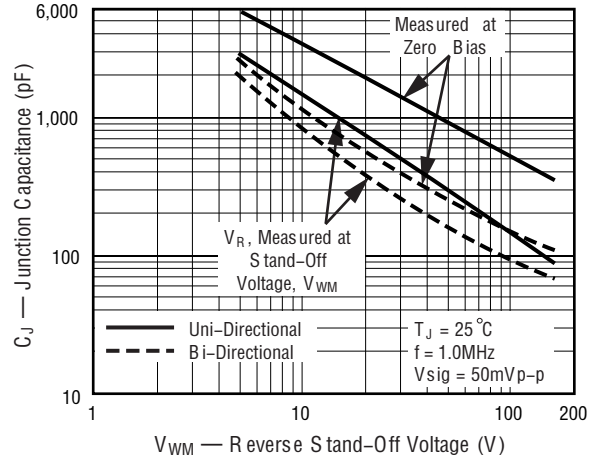


FIG. 4 - Typical Junction Capacitance

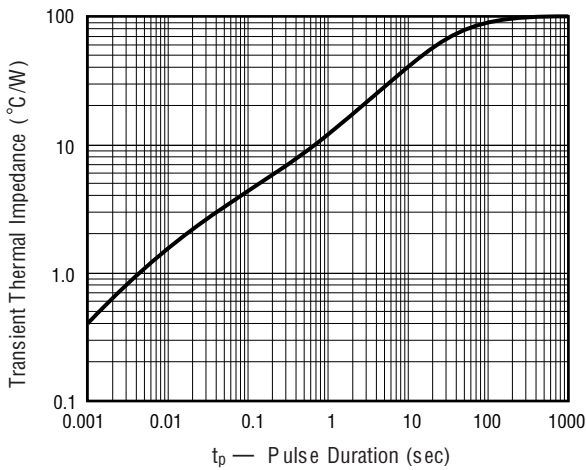


FIG. 5 - Typical Transient Thermal Impedance

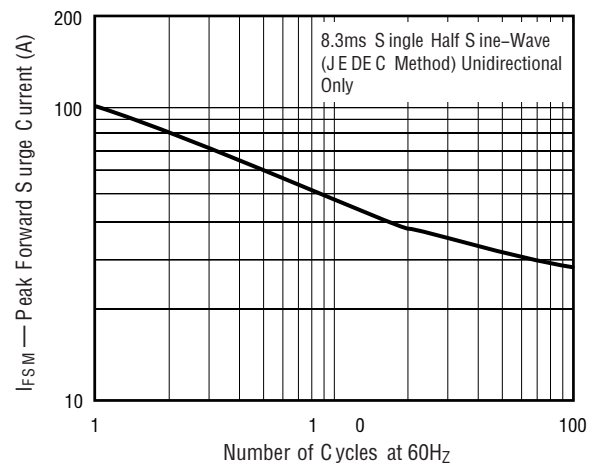
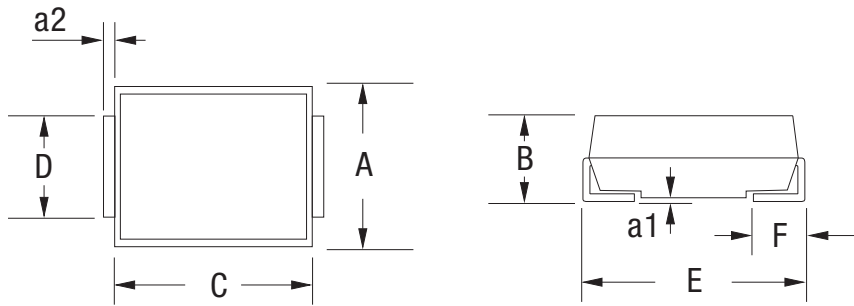


FIG. 6 - Maximum Non-Repetitive Peak Forward Surge Current

Dimension (Unit: mm)



A		B		C		D		E		F		a1		a2	
Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
3.300	3.940	2.050	2.450	4.050	4.650	1.800	2.200	5.210	5.590	0.760	1.520	-	0.203	0.152	0.305

Packaging

- Quantity: 3,000pcs
- 12mm wide tape on 330mm(13 inch) diameter reel –specification EIA Standard 481.