MDE Semiconductor, Inc.

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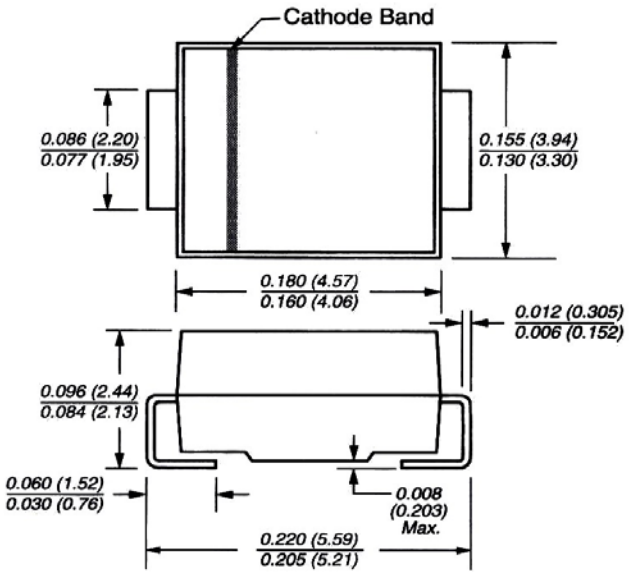
P6SMB SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR
VOLTAGE - 6.8 TO 550 Volts
600 Watt Peak Pulse Power

FEATURES

- For surface mounted applications in order to optimize board space
- Glass passivated junction
- Built-in strain relief
- Excellent clamping capability
- Low profile package
- Low inductance
- Excellent clamping capability
- Fast response time: typically less than 1.0 ps from 0 volts to BV min
- Typical I_R less than 1µA above 10V
- High temperature soldering guaranteed: 250°C/10 seconds at terminals

DO-214AA (SMB J-Bend)



Dimensions in inches (millimeters)

MECHANICAL DATA

Case: JEDEC DO-214AA Molded plastic
Terminal : Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode) except Bipolar
Standard Packaging: 12mm tape(EIA STD RS-481)
Weight: 0.003 ounces, 0.093 grams

DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use CA Suffix for types P6SMB6.8CA thru types P6SMB550CA
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation at T_A = 25 °C, T_P = 1ms (Note 1)	P_{PPM}	Minimum 600	Watts
Peak Pulse Current of on 10/1000 µs waveform (Note 1)	I_{PPM}	SEE TABLE 1	Amps
Steady State Power Dissipation at T_L = 75°C Lead lengths .375", 9.5mm (Note 2)	$P_{M(AV)}$	1.0	Watts
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load, (JEDEC Method)(Note 3)	I_{FSM}	100	Amps
Operatings and Storage Temperature Range	T_J, T_{STG}	-55 +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above Ta=25 °C per Fig.2.
2. Mounted on 5.0mm² (0.03mm thick) Copper Pads to each termina
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum.

Certified RoHS Compliant

UL File # E223026

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RATING AND CHARACTERISTIC CURVES P6SMB SERIES

Fig. 1 - Peak Pulse Power Rating Curve

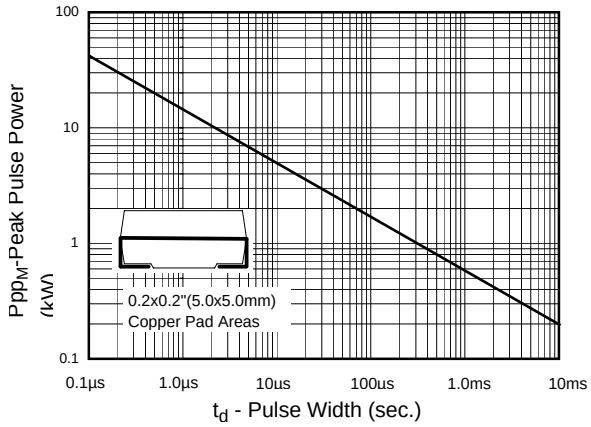


Fig.2 - Pulse Derating Curve

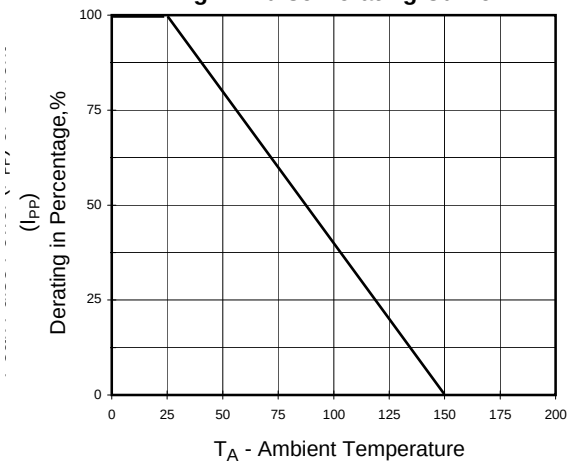


Fig.3 - Pulse Waveform

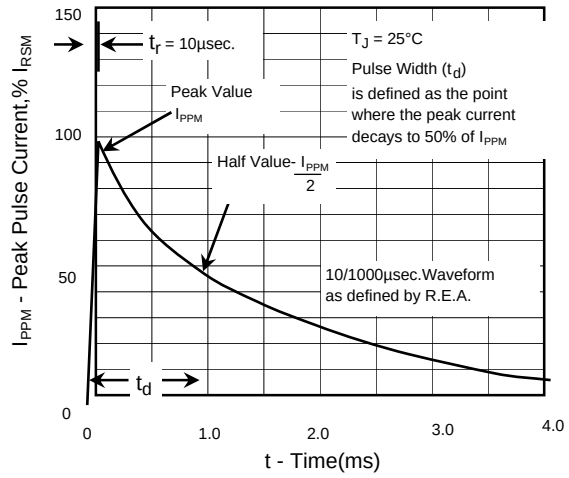


Fig.4 - Typical Junction Capacitance

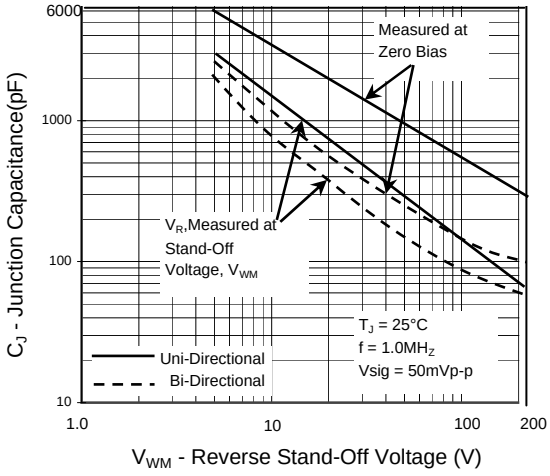


Fig. 5 - Typ.Transient Thermal Impedance

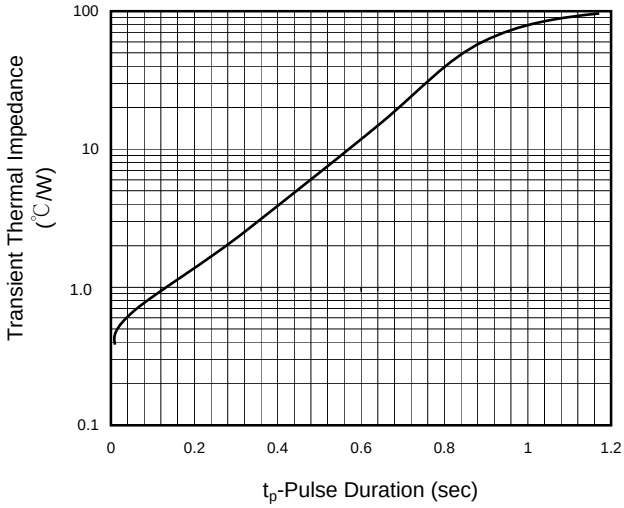
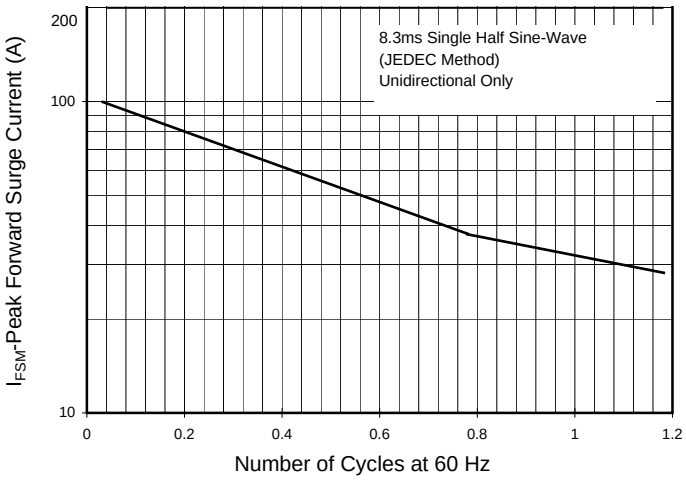


Fig.6 - Maximum Non-Repetitive Peak Forward Surge Current



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600 Watts Surface Mount TVS

P6SMB PART NUMBER			MARKING CODE UNI-POLAR	MARKING CODE BI-POLAR	REVERSE STAND- OFF VOLTAGE V_{RWM}(V)	BREAKDOWN VOLTAGE V_{BR}(V) MIN.@I_T	BREAKDOWN VOLTAGE V_{BR}(V) MAX.@I_T	TEST CURRENT I_T (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc(V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @ VRWM IR(µA)
P6SMB	6.8A	6.8CA	6V8A	6V8C	5.80	6.45	7.14	10	10.5	58.1	1000
P6SMB	7.5A	7.5CA	7V5A	7V5C	6.40	7.13	7.88	10	11.3	54.0	500
P6SMB	8.2A	8.2CA	8V2A	8V2C	7.02	7.79	8.61	10	12.1	50.4	200
P6SMB	9.1A	9.1CA	9V1A	9V1C	7.78	8.65	9.55	1	13.4	45.5	50
P6SMB	10A	10CA	10A	10C	8.55	9.50	10.50	1	14.5	42.1	10
P6SMB	11A	11CA	11A	11C	9.40	10.50	11.60	1	15.6	39.1	5
P6SMB	12A	12CA	12A	12C	10.20	11.40	12.60	1	16.7	36.5	5
P6SMB	13A	13CA	13A	13C	11.10	12.40	13.70	1	18.2	33.5	5
P6SMB	15A	15CA	15A	15C	12.80	14.30	15.80	1	21.2	28.8	5
P6SMB	16A	16CA	16A	16C	13.60	15.20	16.80	1	22.5	27.1	5
P6SMB	18A	18CA	18A	18C	15.30	17.10	18.90	1	25.5	24.2	5
P6SMB	20A	20CA	20A	20C	17.10	19.00	21.00	1	27.7	22.0	5
P6SMB	22A	22CA	22A	22C	18.80	20.90	23.10	1	30.6	19.9	5
P6SMB	24A	24CA	24A	24C	20.50	22.80	25.20	1	33.2	18.4	5
P6SMB	27A	27CA	27A	27C	23.10	25.70	28.40	1	37.5	16.3	5
P6SMB	30A	30CA	30A	30C	25.60	28.50	31.50	1	41.4	14.7	5
P6SMB	33A	33CA	33A	33C	28.20	31.40	34.70	1	45.7	13.3	5
P6SMB	36A	36CA	36A	36C	30.80	34.20	37.80	1	49.9	12.2	5
P6SMB	39A	39CA	39A	39C	33.30	37.10	41.00	1	53.9	11.3	5
P6SMB	43A	43CA	43A	43C	36.80	40.90	45.20	1	59.3	10.3	5
P6SMB	47A	47CA	47A	47C	40.20	44.70	49.40	1	64.8	9.4	5
P6SMB	51A	51CA	51A	51C	43.60	48.50	53.60	1	70.1	8.7	5
P6SMB	56A	56CA	56A	56C	47.80	53.20	58.80	1	77.0	7.9	5
P6SMB	62A	62CA	62A	62C	53.00	58.90	65.10	1	85.0	7.2	5
P6SMB	68A	68CA	68A	68C	58.10	64.60	71.40	1	92.0	6.6	5
P6SMB	75A	75CA	75A	75C	64.10	71.30	78.80	1	103.0	5.9	5
P6SMB	82A	82CA	82A	82C	70.10	77.90	86.10	1	113.0	5.4	5
P6SMB	91A	91CA	91A	91C	77.80	86.50	95.50	1	125.0	4.9	5
P6SMB	100A	100CA	100A	100C	85.50	95.00	105.00	1	137.0	4.5	5
P6SMB	110A	110CA	110A	110C	94.00	105.00	116.00	1	152.0	4.0	5
P6SMB	120A	120CA	120A	120C	102.00	114.00	126.00	1	165.0	3.7	5
P6SMB	130A	130CA	130A	130C	111.00	124.00	137.00	1	179.0	3.4	5
P6SMB	150A	150CA	150A	150C	128.00	143.00	158.00	1	207.0	2.9	5
P6SMB	160A	160CA	160A	160C	136.00	152.00	168.00	1	219.0	2.7	5
P6SMB	170A	170CA	170A	170C	145.00	162.00	179.00	1	234.0	2.6	5
P6SMB	180A	180CA	180A	180C	154.00	171.00	189.00	1	246.0	2.5	5
P6SMB	200A	200CA	200A	200C	171.00	190.00	210.00	1	274.0	2.2	5
P6SMB	220A	220CA	220A	220C	185.00	209.00	231.00	1	328.0	1.9	5
P6SMB	250A	250CA	250A	250C	214.00	237.00	263.00	1	344.0	1.8	5
P6SMB	300A	300CA	300A	300C	256.00	285.00	315.00	1	414.0	1.5	5
P6SMB	350A	350CA	350A	350C	300.00	332.00	368.00	1	482.0	1.3	5
P6SMB	400A	400CA	400A	400C	342.00	380.00	420.00	1	548.0	1.1	5
P6SMB	440A	440CA	440A	440C	376.00	418.00	462.00	1	602.0	1	5
P6SMB	480A	480CA	480A	480C	408.00	456.00	504.00	1	658.0	0.9	5
P6SMB	510A	510CA	510A	510C	434.00	485.00	535.00	1	698.0	0.9	5
P6SMB	530A	530CA	530A	530C	450.00	503.50	556.50	1	725.0	0.8	5
P6SMB	540A	540CA	540A	540C	459.00	513.00	567.00	1	740.0	0.8	5
P6SMB	550A	550CA	550A	550C	467.00	522.50	577.50	1	760.0	0.8	5

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.

Certified RoHS Compliant

UL File # E223026