

P6SMB6.8A~P6SMB550CA

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR POWER 600 Watt

BREAK DOWN VOLTAGE 6.8 to 550 Volt

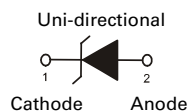
SMB / DO-214AC Unit:mm

FEATURES

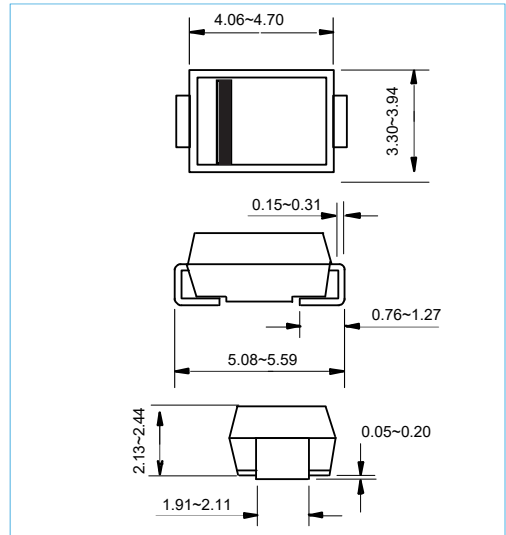
- Glass passivated junction
- Low inductance
- Plastic Material has UL Flammability Classification 94V-O
- Fast response time: typically less than 1.0ps from 0V to BV min
- High temperature soldering : 260°C /10 seconds at terminals
- ESD IEC-61000-4-2 Air ±30kV, Contact ±30kV
- Lead free in compliance with EU RoHS 2.0

MECHANICAL DATA

- Case: JEDEC DO-214AC, Molded plastic over passivated junction.
- Polarity: Color band denotes cathode end



For Uni-directional use A Suffix for types P6SMB6.8A thru types P6SMB550A.
For Bi-directional use CA Suffix for types P6SMB6.8CA thru types P6SMB550CA.



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation on $T_A = 25^\circ\text{C}$ (Notes 1,2,4, Fig.1)	P_{PP}	600	Watts
Steady State Power Dissipation	$P_{M(AV)}$	5.0	W
Peak Forward Surge Current per Fig.5 (Notes 3)	I_{FSM}	100	Amps
Peak Pulse Current on $t_p=10/1000\mu\text{s}$ waveform (Notes 1)Fig.3	I_{PPM}	see Table 1	Amps
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	60	$^\circ\text{C} / \text{W}$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

NOTES :

1. Non-repetitive current pulse, per Fig.3 and derated above $T_A = 25^\circ\text{C}$ per Fig. 2.
2. Mounted on 5mm² copper pads to each terminal.
3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle = 4 pulses per minutes maximum.
4. Peak pulse power waveform is 10/1000 μs .
5. A transient suppressor is selected according to the working peak reverse voltage (V_{RWM}), which should be equal to or greater than the DC or continuous peak operating voltage level.

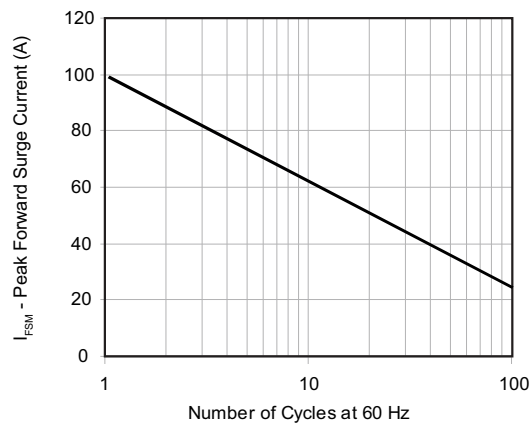
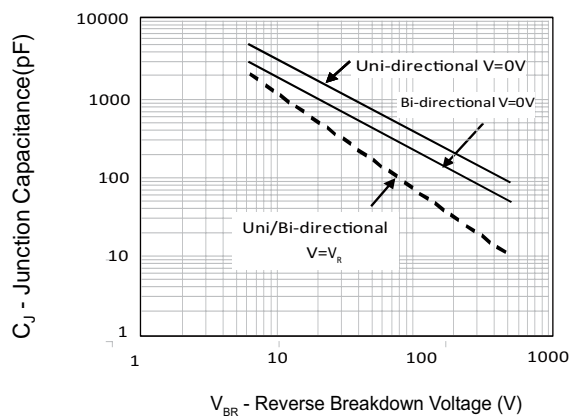
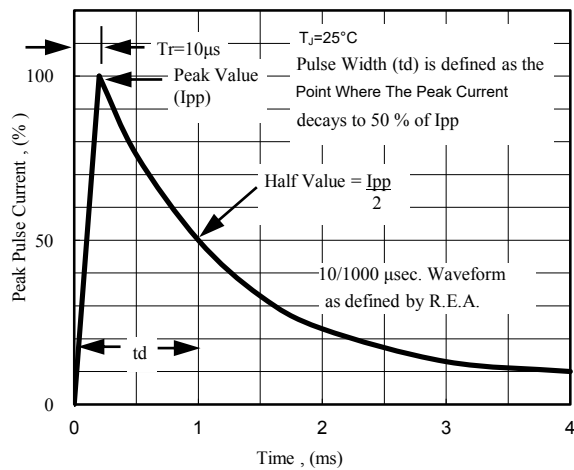
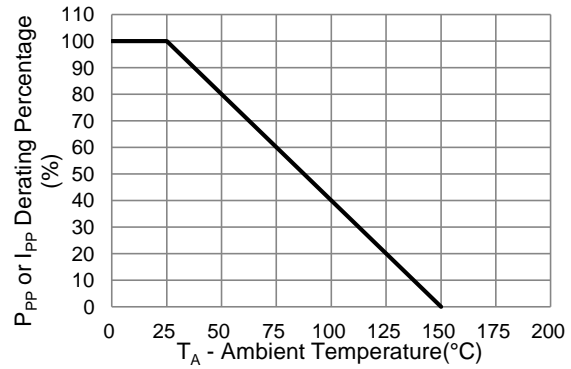
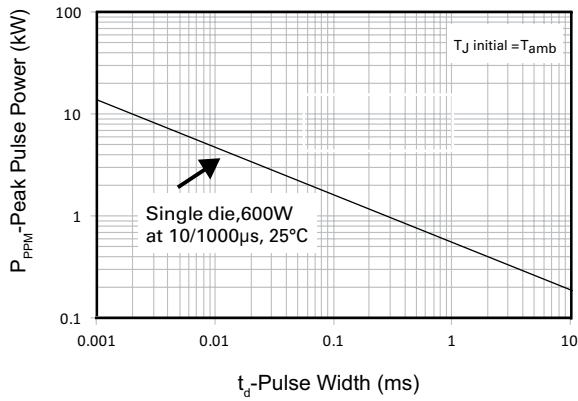
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ELECTRICAL CHARACTERISTICS @25°C

Part Number (Uni)	Part Number (Bi)	Marking		Reverse Stand off Voltage V_R (Volts)	Breakdown Voltage V_{BR} (Volts) @ I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_C @ I_{PP} (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage I_R @ V_R (μ A)	Maximum Temperature Coefficient of V_{BR} (%/°C)
		UNI	BI		MIN	MAX					
P6SMB6.8A	P6SMB6.8CA	6V8A	6V8C	5.80	6.45	7.14	10	10.5	58.1	1000	0.041
P6SMB7.5A	P6SMB7.5CA	7V5A	7V5C	6.40	7.13	7.88	10	11.3	54.0	500	0.052
P6SMB8.2A	P6SMB8.2CA	8V2A	8V2C	7.02	7.79	8.61	10	12.1	50.4	200	0.058
P6SMB9.1A	P6SMB9.1CA	9V1A	9V1C	7.78	8.65	9.55	1	13.4	45.5	50	0.063
P6SMB10A	P6SMB10CA	10A	10C	8.55	9.50	10.50	1	14.5	42.1	10	0.066
P6SMB11A	P6SMB11CA	11A	11C	9.40	10.50	11.60	1	15.6	39.1	5	0.069
P6SMB12A	P6SMB12CA	12A	12C	10.20	11.40	12.60	1	16.7	36.5	5	0.071
P6SMB13A	P6SMB13CA	13A	13C	11.10	12.40	13.70	1	18.2	33.5	1	0.074
P6SMB15A	P6SMB15CA	15A	15C	12.80	14.30	15.80	1	21.2	28.8	1	0.076
P6SMB16A	P6SMB16CA	16A	16C	13.60	15.20	16.80	1	22.5	27.1	1	0.080
P6SMB18A	P6SMB18CA	18A	18C	15.30	17.10	18.90	1	25.5	24.2	1	0.083
P6SMB20A	P6SMB20CA	20A	20C	17.10	19.00	21.00	1	27.7	22.0	1	0.085
P6SMB22A	P6SMB22CA	22A	22C	18.80	20.90	23.10	1	30.6	19.9	1	0.088
P6SMB24A	P6SMB24CA	24A	24C	20.50	22.80	25.20	1	33.2	18.4	1	0.091
P6SMB27A	P6SMB27CA	27A	27C	23.10	25.70	28.40	1	37.5	16.3	1	0.092
P6SMB30A	P6SMB30CA	30A	30C	25.60	28.50	31.50	1	41.4	14.7	1	0.093
P6SMB33A	P6SMB33CA	33A	33C	28.20	31.40	34.70	1	45.7	13.3	1	0.094
P6SMB36A	P6SMB36CA	36A	36C	30.80	34.20	37.80	1	49.9	12.2	1	0.096
P6SMB39A	P6SMB39CA	39A	39C	33.30	37.10	41.00	1	53.9	11.3	1	0.097
P6SMB43A	P6SMB43CA	43A	43C	36.80	40.90	45.20	1	59.3	10.3	1	0.098
P6SMB47A	P6SMB47CA	47A	47C	40.20	44.70	49.40	1	64.8	9.4	1	0.099
P6SMB51A	P6SMB51CA	51A	51C	43.60	48.50	53.60	1	70.1	8.7	1	0.100
P6SMB56A	P6SMB56CA	56A	56C	47.80	53.20	58.80	1	77.0	7.9	1	0.101
P6SMB58A	P6SMB58CA	58A	58C	52.78	55.10	60.90	1	79.8	7.7	1	0.101
P6SMB62A	P6SMB62CA	62A	62C	53.00	58.90	65.10	1	85.0	7.2	1	0.102
P6SMB68A	P6SMB68CA	68A	68C	58.10	64.60	71.40	1	92.0	6.6	1	0.103
P6SMB75A	P6SMB75CA	75A	75C	64.10	71.30	78.80	1	103.0	5.9	1	0.104
P6SMB82A	P6SMB82CA	82A	82C	70.10	77.90	86.10	1	113.0	5.4	1	0.105
P6SMB91A	P6SMB91CA	91A	91C	77.80	86.50	95.50	1	125.0	4.9	1	0.106
P6SMB100A	P6SMB100CA	100A	100C	85.50	95.00	105.00	1	137.0	4.5	1	0.106
P6SMB110A	P6SMB110CA	110A	110C	94.00	105.00	116.00	1	152.0	4.0	1	0.107
P6SMB120A	P6SMB120CA	120A	120C	102.00	114.00	126.00	1	165.0	3.7	1	0.107
P6SMB130A	P6SMB130CA	130A	130C	111.00	124.00	137.00	1	179.0	3.4	1	0.107
P6SMB150A	P6SMB150CA	150A	150C	128.00	143.00	158.00	1	207.0	2.9	1	0.108
P6SMB160A	P6SMB160CA	160A	160C	136.00	152.00	168.00	1	219.0	2.8	1	0.108
P6SMB170A	P6SMB170CA	170A	170C	145.00	162.00	179.00	1	234.0	2.6	1	0.108
P6SMB180A	P6SMB180CA	180A	180C	154.00	171.00	189.00	1	246.0	2.5	1	0.108
P6SMB200A	P6SMB200CA	200A	200C	171.00	190.00	210.00	1	274.0	2.2	1	0.108
P6SMB220A	P6SMB220CA	220A	220C	185.00	209.00	231.00	1	328.0	1.9	1	0.110
P6SMB250A	P6SMB250CA	250A	250C	214.00	237.00	263.00	1	344.0	1.8	1	0.110
P6SMB300A	P6SMB300CA	300A	300C	256.00	285.00	315.00	1	414.0	1.5	1	0.110
P6SMB350A	P6SMB350CA	350A	350C	300.00	332.00	368.00	1	482.0	1.3	1	0.112
P6SMB400A	P6SMB400CA	400A	400C	342.00	380.00	420.00	1	548.0	1.1	1	0.112
P6SMB440A	P6SMB440CA	440A	440C	376.00	418.00	462.00	1	602.0	1.0	1	0.112
P6SMB480A	P6SMB480CA	480A	480C	408.00	456.00	504.00	1	658.0	0.9	1	0.112
P6SMB510A	P6SMB510CA	510A	510C	434.00	485.00	535.00	1	698.0	0.9	1	0.112
P6SMB530A	P6SMB530CA	530A	530C	451.00	503.50	556.50	1	725.0	0.8	1	0.112
P6SMB540A	P6SMB540CA	540A	540C	460.00	513.00	567.00	1	740.0	0.8	1	0.112
P6SMB550A	P6SMB550CA	550A	550C	468.00	522.50	577.50	1	760.0	0.8	1	0.112

For bidirectional type having V_R of 10 volts and less, the I_R limit is double.

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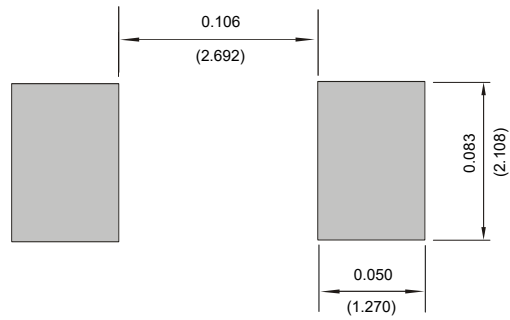


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MOUNTING PAD LAYOUT

SMB / DO-214AA

Unit:Inch(mm)



ORDER INFORMATION

- Packing information

Part Number	Case	Reel Size	QUANTITY
P6SMB6.8A~P6SMB550CA	SMB	13 Inch	3000