



# P6SMB-AU SERIES

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR POWER 600 Watt

**BREAK DOWN VOLTAGE**

**6.8 to 250 Volt**

**SMB / DO-214AA**

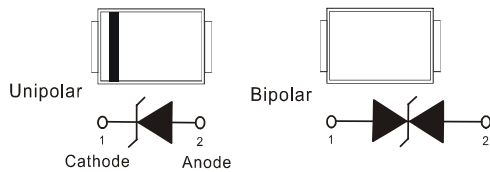
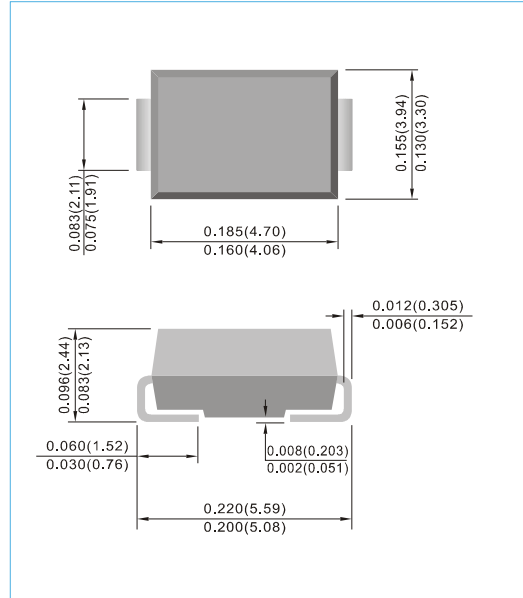
Unit : inch(mm)

### FEATURES

- For surface mounted applications in order to optimize board space.
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Fammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: JEDEC DO-214AA ,Molded plastic over passivated junction
- Terminals: Solder plated,solderable per MIL-STD-750,Method 2026
- Polarity: Color band denotes cathode end
- Standard Packaging: 12mm tape (EIA-481)
- Weight: 0.003 ounce, 0.093 gram



### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types  
 Electrical characteristics apply in both directions.

### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.  
 For Capacitive load derate current by 20%.

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation on tp=10/1000µs waveform (Notes 1,2, Fig.1)	P <sub>PP</sub>	600	Watts
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (Notes 2,3)	I <sub>FSM</sub>	100	Amps
Peak Pulse Current on tp=10/1000µs waveform (Notes 1) Fig.3	I <sub>PPM</sub>	see Table 1	Amps
Typical Thermal Resistance Junction to Air (Notes 2)	R <sub>θJA</sub>	60	°C / W
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	V <sub>ESD</sub>	±30 ±30	kV
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

#### NOTES :

1. Non-repetitive current pulse, per Fig.3 and derated above T<sub>A</sub> = 25°C per Fig. 2.
2. Mounted on 5mm<sup>2</sup> (0.13mm thick) land areas.
3. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
4. A transient suppressor is selected according to the working peak reverse voltage (V<sub>RWM</sub>), which should be equal to or greater than the DC or continuous peak operating voltage level.



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Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000 $\mu$ s	Peak Pulse Current 10/1000 $\mu$ s	Marking Code	
			$V_{BR} @ I_T$			$I_R @ V_{RWM}$					
		$V_{RWM}$ (Notes 4)	Min.	Max.	$I_T$	UNI	BI	$V_C @ I_{PP}$	$I_{PP}$	UNI	BI
UNI	BI	V	V	V	mA	$\mu$ A	$\mu$ A	V	A	UNI	BI
<b>600W Transient Voltage Suppressor</b>											
P6SMB6.8-AU	P6SMB6.8CA-AU	5.5	6.12	7.48	10	1000	2000	10.8	56	EZA	DZA
P6SMB6.8A-AU	P6SMB6.8CA-AU	5.8	6.45	7.14	10	1000	2000	10.5	57	EZB	DZB
P6SMB7.5-AU	P6SMB7.5CA-AU	6.05	6.75	8.25	10	500	1000	11.7	51	EZC	DZC
P6SMB7.5A-AU	P6SMB7.5CA-AU	6.4	7.13	7.88	10	500	1000	11.3	53	EZD	DZD
P6SMB8.2-AU	P6SMB8.2CA-AU	6.63	7.38	9.02	10	200	400	12.5	48	EZE	DZE
P6SMB8.2A-AU	P6SMB8.2CA-AU	7.02	7.79	8.61	10	200	400	12.1	50	EZF	DZF
P6SMB9.1-AU	P6SMB9.1CA-AU	7.37	8.19	10	1	50	100	13.8	44	EZG	DZG
P6SMB9.1A-AU	P6SMB9.1CA-AU	7.78	8.65	9.5	1	50	100	13.4	45	EZH	DZH
P6SMB10-AU	P6SMB10CA-AU	8.1	9	11	1	10	20	15	40	EZJ	DZJ
P6SMB10A-AU	P6SMB10CA-AU	8.55	9.5	10.5	1	10	20	14.5	41	EZK	DZK
P6SMB11-AU	P6SMB11CA-AU	8.92	9.9	12.1	1	5	10	16.2	37	EZL	DZL
P6SMB11A-AU	P6SMB11CA-AU	9.4	10.5	11.6	1	5	10	15.6	38	EZM	DZM
P6SMB12-AU	P6SMB12CA-AU	9.72	10.8	13.2	1	5	5	17.3	35	EZN	DZN
P6SMB12A-AU	P6SMB12CA-AU	10.2	11.4	12.6	1	5	5	16.7	36	EZP	DZP
P6SMB13-AU	P6SMB13CA-AU	10.5	11.7	14.3	1	1	1	19	32	EZQ	DZQ
P6SMB13A-AU	P6SMB13CA-AU	11.1	12.4	13.7	1	1	1	18.2	33	EZR	DZR
P6SMB15-AU	P6SMB15CA-AU	12.1	13.5	16.5	1	1	1	22	27	EZS	DZS
P6SMB15A-AU	P6SMB15CA-AU	12.8	14.3	15.8	1	1	1	21.2	28	EZT	DZT
P6SMB16-AU	P6SMB16CA-AU	12.9	14.4	17.6	1	1	1	23.5	26	EZU	DZU
P6SMB16A-AU	P6SMB16CA-AU	13.6	15.2	16.8	1	1	1	22.5	27	EZV	DZV
P6SMB18-AU	P6SMB18CA-AU	14.5	16.2	19.8	1	1	1	26.5	23	EZW	DZW
P6SMB18A-AU	P6SMB18CA-AU	15.3	17.1	18.9	1	1	1	25.2	24	EZX	DZX
P6SMB20-AU	P6SMB20CA-AU	16.2	18	22	1	1	1	29.1	21	EZY	DZY
P6SMB20A-AU	P6SMB20CA-AU	17.1	19	21	1	1	1	27.7	22	EZZ	DZZ
P6SMB22-AU	P6SMB22CA-AU	17.8	19.8	24.2	1	1	1	31.9	19	EXA	DXA
P6SMB22A-AU	P6SMB22CA-AU	18.8	20.9	23.1	1	1	1	30.6	20	EXB	DXB
P6SMB24-AU	P6SMB24CA-AU	19.4	21.6	26.4	1	1	1	34.7	17	EXC	DXC
P6SMB24A-AU	P6SMB24CA-AU	20.5	22.8	25.2	1	1	1	33.2	18	EXD	DXD
P6SMB27-AU	P6SMB27CA-AU	21.8	24.3	29.7	1	1	1	39.1	15	EXE	DXE
P6SMB27A-AU	P6SMB27CA-AU	23.1	25.7	28.4	1	1	1	37.5	16	EXF	DXF
P6SMB30-AU	P6SMB30CA-AU	24.3	27	33	1	1	1	43.5	14	EXG	DXG
P6SMB30A-AU	P6SMB30CA-AU	25.6	28.5	31.5	1	1	1	41.4	14.4	EXH	DXH
P6SMB33-AU	P6SMB33CA-AU	26.8	29.7	36.3	1	1	1	47.7	12.6	EXJ	DXJ
P6SMB33A-AU	P6SMB33CA-AU	28.2	31.4	34.7	1	1	1	45.7	13.2	EXK	DXK
P6SMB36-AU	P6SMB36CA-AU	29.1	32.4	39.6	1	1	1	52	11.6	EXL	DXL
P6SMB36A-AU	P6SMB36CA-AU	30.8	34.2	37.8	1	1	1	49.9	12	EXM	DXM
P6SMB39-AU	P6SMB39CA-AU	31.6	35.1	42.9	1	1	1	56.4	10.6	EXN	DXN
P6SMB39A-AU	P6SMB39CA-AU	33.3	37.1	41	1	1	1	53.9	11.2	EXP	DXP
P6SMB43-AU	P6SMB43CA-AU	34.8	38.7	47.3	1	1	1	61.9	9.6	EXQ	DXQ
P6SMB43A-AU	P6SMB43CA-AU	36.8	40.9	45.2	1	1	1	59.3	10.1	EXR	DXR
P6SMB47-AU	P6SMB47CA-AU	38.1	42.3	51.7	1	1	1	67.8	8.9	EXS	DXS
P6SMB47A-AU	P6SMB47CA-AU	40.2	44.7	49.4	1	1	1	64.8	9.3	EXT	DXT
P6SMB51-AU	P6SMB51CA-AU	41.3	45.9	56.1	1	1	1	73.5	8.2	EXU	DXU
P6SMB51A-AU	P6SMB51CA-AU	43.6	48.5	53.6	1	1	1	70.1	8.6	EXV	DXV
P6SMB56-AU	P6SMB56CA-AU	45.6	50.4	61.6	1	1	1	80.5	7.4	EXW	DXW



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			$V_{RWM}$ (Notes 4)	$V_{BR} @ I_T$		$I_T$	$I_R @ V_{RWM}$				
		Min.		Max.	UNI		BI	$V_C @ I_{PP}$	$I_{PP}$		
UNI	BI	V	V	V	mA	$\mu$ A	$\mu$ A	V	A	UNI	BI
<b>600W Transient Voltage Suppressor</b>											
P6SMB56A-AU	P6SMB56CA-AU	47.8	53.2	58.8	1	1	1	77	7.8	EXX	DXX
P6SMB62A-AU	P6SMB62CA-AU	50.2	55.8	68.2	1	1	1	89	6.8	EXY	DXY
P6SMB62A-AU	P6SMB62CA-AU	53	58.9	65.1	1	1	1	85	7.1	EXZ	DXZ
P6SMB68A-AU	P6SMB68CA-AU	55.1	61.2	74.8	1	1	1	98	6.1	EYA	DYA
P6SMB68A-AU	P6SMB68CA-AU	58.1	64.6	71.4	1	1	1	92	6.5	EYB	DYB
P6SMB75A-AU	P6SMB75CA-AU	60.7	67.5	82.5	1	1	1	108	5.5	EYC	DYC
P6SMB75A-AU	P6SMB75CA-AU	64.1	71.3	78.8	1	1	1	103	5.8	EYD	DYD
P6SMB82A-AU	P6SMB82CA-AU	66.4	73.8	90.2	1	1	1	118	5.1	EYE	DYE
P6SMB82A-AU	P6SMB82CA-AU	70.1	77.9	86.1	1	1	1	113	5.3	EYF	DYF
P6SMB91A-AU	P6SMB91CA-AU	73.7	81.9	100	1	1	1	131	4.5	EYG	DYG
P6SMB91A-AU	P6SMB91CA-AU	77.8	86.5	95.5	1	1	1	125	4.8	EYH	DYH
P6SMB100A-AU	P6SMB100CA-AU	81	90	110	1	1	1	144	4.2	EYJ	DYJ
P6SMB100A-AU	P6SMB100CA-AU	85.5	95	105	1	1	1	137	4.4	EYK	DYK
P6SMB110A-AU	P6SMB110CA-AU	89.2	99	121	1	1	1	158	3.8	EYL	DYL
P6SMB110A-AU	P6SMB110CA-AU	94	105	116	1	1	1	152	4	EYM	DYM
P6SMB120A-AU	P6SMB120CA-AU	97.2	108	132	1	1	1	173	3.5	EYN	DYN
P6SMB120A-AU	P6SMB120CA-AU	102	114	126	1	1	1	165	3.6	EYP	DYP
P6SMB130A-AU	P6SMB130CA-AU	105	117	143	1	1	1	187	3.2	EYQ	DYQ
P6SMB130A-AU	P6SMB130CA-AU	111	124	137	1	1	1	179	3.3	EYR	DYR
P6SMB150A-AU	P6SMB150CA-AU	121	135	165	1	1	1	215	2.8	EYS	DYS
P6SMB150A-AU	P6SMB150CA-AU	128	143	158	1	1	1	207	2.9	EYT	DYT
P6SMB160A-AU	P6SMB160CA-AU	130	144	176	1	1	1	230	2.6	EYU	DYU
P6SMB160A-AU	P6SMB160CA-AU	136	152	168	1	1	1	219	2.7	EYV	DYV
P6SMB170A-AU	P6SMB170CA-AU	138	153	187	1	1	1	244	2.5	EYW	DYW
P6SMB170A-AU	P6SMB170CA-AU	145	162	179	1	1	1	234	2.6	EYX	DYX
P6SMB180A-AU	P6SMB180CA-AU	146	162	198	1	1	1	258	2.3	EYY	DYY
P6SMB180A-AU	P6SMB180CA-AU	154	171	189	1	1	1	246	2.4	EYZ	DYZ
P6SMB200A-AU	P6SMB200CA-AU	162	180	220	1	1	1	287	2.1	EWA	DWA
P6SMB200A-AU	P6SMB200CA-AU	171	190	210	1	1	1	274	2.2	EWB	DWB
P6SMB220A-AU	P6SMB220CA-AU	175	198	242	1	1	1	344	1.8	EWC	DWC
P6SMB220A-AU	P6SMB220CA-AU	185	209	231	1	1	1	328	1.9	EWD	DWD
P6SMB250A-AU	P6SMB250CA-AU	202	225	275	1	1	1	360	1.7	EWE	DWE
P6SMB250A-AU	P6SMB250CA-AU	214	237	263	1	1	1	344	1.8	EFW	DWF



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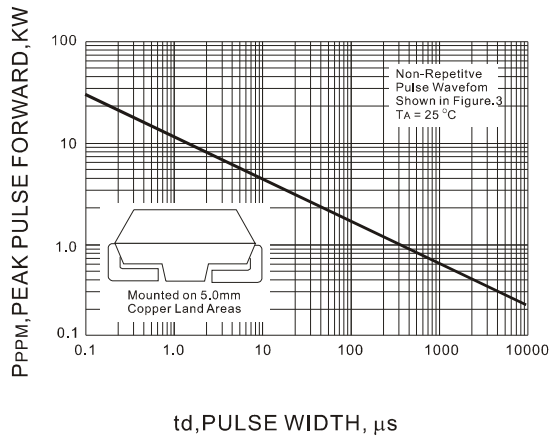


Fig.1 PEAK PULSE POWER RATING CURVE

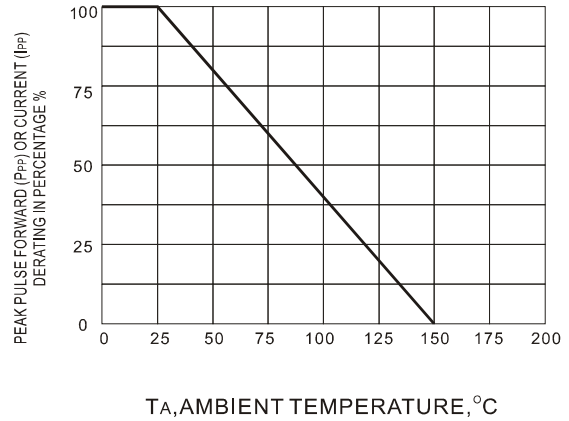


Fig.2 DERATING CURVE

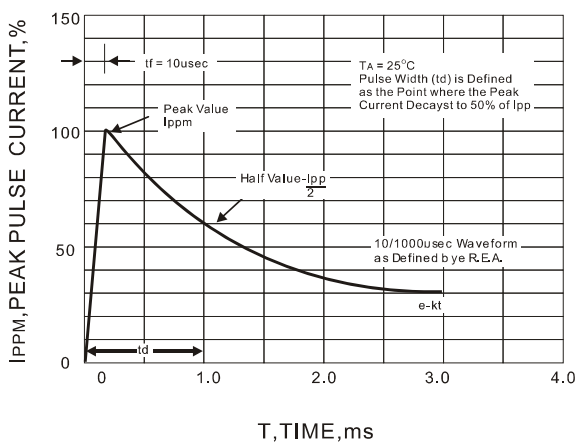


Fig.3 PULSE WAVEFORM

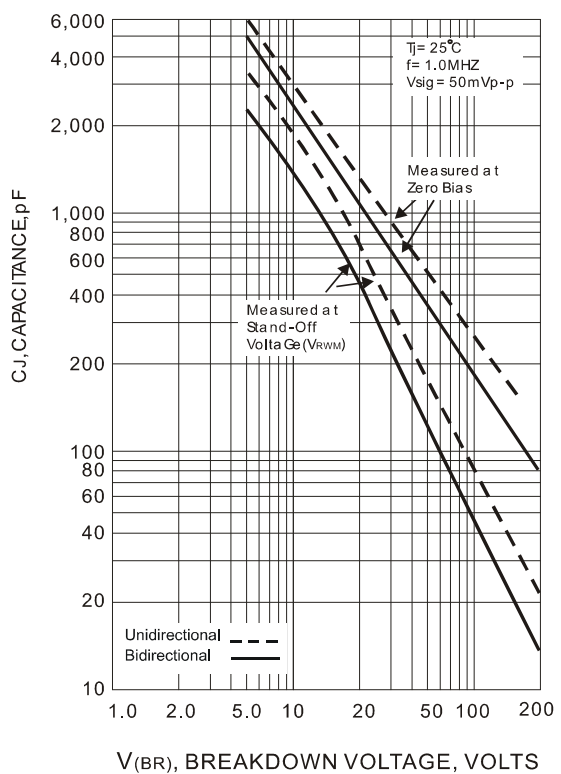


Fig.4 TYPICAL CAPACITANCE

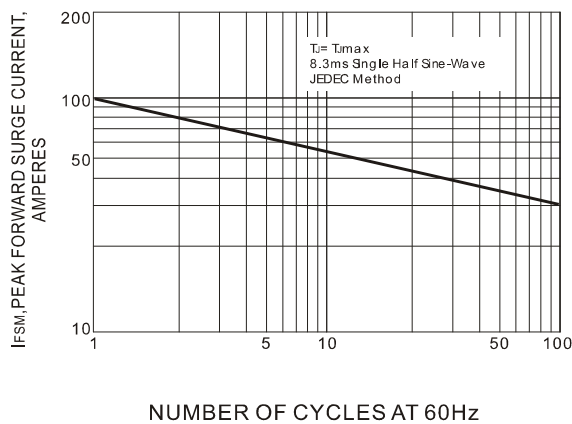


Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

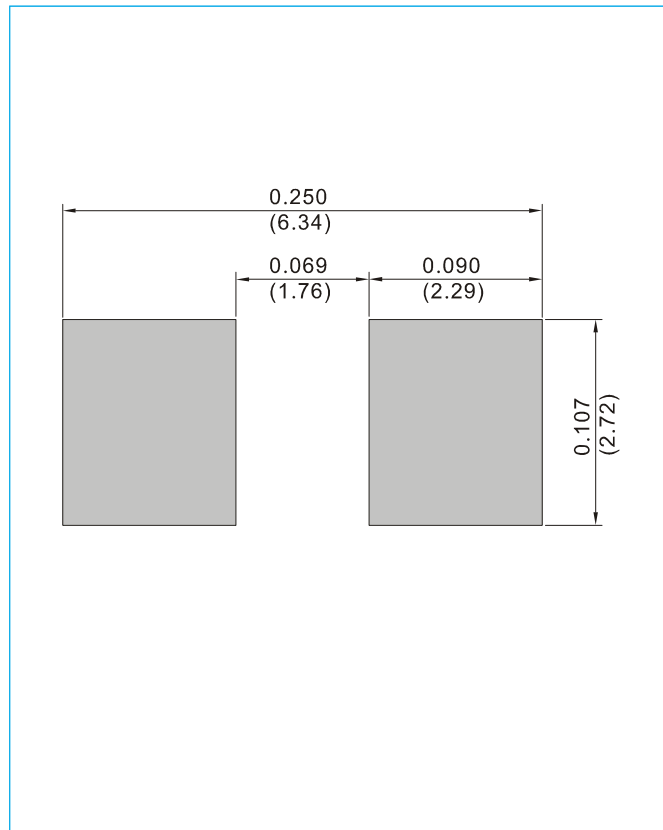


## P6SMB-AU SERIES

### MOUNTING PAD LAYOUT

SMB / DO-214AA

Unit : inch(mm)



### ORDER INFORMATION

- Packing information
  - T/R - 3K per 13" plastic Reel
  - T/R - 0.5K per 7" plastic Reel



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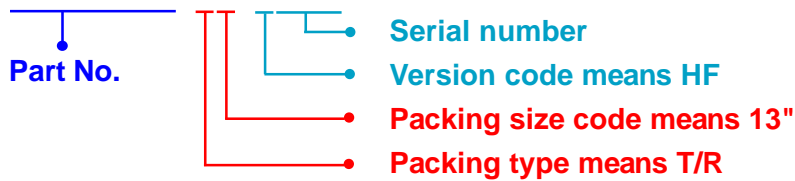
### Part No\_packing code\_Version

P6SMB6.8-AU\_R1\_000A1

P6SMB6.8-AU\_R2\_000A1

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



## P6SMB-AU SERIES

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