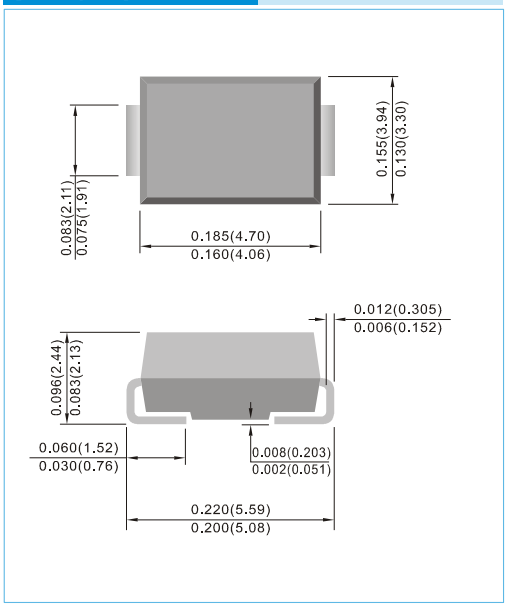
P6SMB SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR POWER 600 Watt

BREAK DOWN VOLTAGE | **6.8 to 400 Volt**

SMB / DO-214AA Unit : inch(mm)

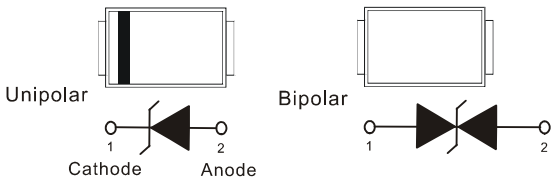


FEATURES

- 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
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

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°Cambient 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_{PP}	600	Watts
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (Notes 2,3)	I_{FSM}	100	Amps
Peak Pulse Current on tp=10/1000μs waveform (Notes 1) Fig.3	I_{PPM}	see Table 1	Amps
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	60	°C / W
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	V_{ESD}	±30 ±30	kV
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150	°C

NOTES :

1. Non-repetitive current pulse, per Fig.3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on 5mm^2 (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_{RWM}), which should be equal to or greater than the DC or continuous peak operating voltage level.

P6SMB SERIES

Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	Marking Code	
		V_{RWM} (Notes 4)	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		V_C @ I_{PP}	I_{PP}		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI
600W Transient Voltage Suppressor											
P6SMB6.8	P6SMB6.8C	5.5	6.12	7.48	10	1000	2000	10.8	56	EZA	DZA
P6SMB6.8A	P6SMB6.8CA	5.8	6.45	7.14	10	1000	2000	10.5	57	EZB	DZB
P6SMB7.5	P6SMB7.5C	6.05	6.75	8.25	10	500	1000	11.7	51	EZC	DZC
P6SMB7.5A	P6SMB7.5CA	6.4	7.13	7.88	10	500	1000	11.3	53	EZD	DZD
P6SMB8.2	P6SMB8.2C	6.63	7.38	9.02	10	200	400	12.5	48	EZE	DZE
P6SMB8.2A	P6SMB8.2CA	7.02	7.79	8.61	10	200	400	12.1	50	EZF	DZF
P6SMB9.1	P6SMB9.1C	7.37	8.19	10	1	50	100	13.8	44	EZG	DZG
P6SMB9.1A	P6SMB9.1CA	7.78	8.65	9.5	1	50	100	13.4	45	EZH	DZH
P6SMB10	P6SMB10C	8.1	9	11	1	10	20	15	40	EZJ	DZJ
P6SMB10A	P6SMB10CA	8.55	9.5	10.5	1	10	20	14.5	41	EZK	DZK
P6SMB11	P6SMB11C	8.92	9.9	12.1	1	5	10	16.2	37	EZL	DZL
P6SMB11A	P6SMB11CA	9.4	10.5	11.6	1	5	10	15.6	38	EZM	DZM
P6SMB12	P6SMB12C	9.72	10.8	13.2	1	5	5	17.3	35	EZN	DZN
P6SMB12A	P6SMB12CA	10.2	11.4	12.6	1	5	5	16.7	36	EZP	DZP
P6SMB13	P6SMB13C	10.5	11.7	14.3	1	1	1	19	32	EZQ	DZQ
P6SMB13A	P6SMB13CA	11.1	12.4	13.7	1	1	1	18.2	33	EZR	DZR
P6SMB15	P6SMB15C	12.1	13.5	16.5	1	1	1	22	27	EZS	DZS
P6SMB15A	P6SMB15CA	12.8	14.3	15.8	1	1	1	21.2	28	EZT	DZT
P6SMB16	P6SMB16C	12.9	14.4	17.6	1	1	1	23.5	26	EZU	DZU
P6SMB16A	P6SMB16CA	13.6	15.2	16.8	1	1	1	22.5	27	EZV	DZV
P6SMB18	P6SMB18C	14.5	16.2	19.8	1	1	1	26.5	23	EZW	DZW
P6SMB18A	P6SMB18CA	15.3	17.1	18.9	1	1	1	25.2	24	EZX	DZX
P6SMB20	P6SMB20C	16.2	18	22	1	1	1	29.1	21	EZY	DZY
P6SMB20A	P6SMB20CA	17.1	19	21	1	1	1	27.7	22	EZZ	DZZ
P6SMB22	P6SMB22C	17.8	19.8	24.2	1	1	1	31.9	19	EXA	DXA
P6SMB22A	P6SMB22CA	18.8	20.9	23.1	1	1	1	30.6	20	EXB	DXB
P6SMB24	P6SMB24C	19.4	21.6	26.4	1	1	1	34.7	17	EXC	DXC
P6SMB24A	P6SMB24CA	20.5	22.8	25.2	1	1	1	33.2	18	EXD	DXD
P6SMB27	P6SMB27C	21.8	24.3	29.7	1	1	1	39.1	15	EXE	DXE
P6SMB27A	P6SMB27CA	23.1	25.7	28.4	1	1	1	37.5	16	EXF	DXF
P6SMB30	P6SMB30C	24.3	27	33	1	1	1	43.5	14	EXG	DXG
P6SMB30A	P6SMB30CA	25.6	28.5	31.5	1	1	1	41.4	14.4	EXH	DXH
P6SMB33	P6SMB33C	26.8	29.7	36.3	1	1	1	47.7	12.6	EXJ	DXJ
P6SMB33A	P6SMB33CA	28.2	31.4	34.7	1	1	1	45.7	13.2	EXK	DXK
P6SMB36	P6SMB36C	29.1	32.4	39.6	1	1	1	52	11.6	EXL	DXL
P6SMB36A	P6SMB36CA	30.8	34.2	37.8	1	1	1	49.9	12	EXM	DXM
P6SMB39	P6SMB39C	31.6	35.1	42.9	1	1	1	56.4	10.6	EXN	DXN
P6SMB39A	P6SMB39CA	33.3	37.1	41	1	1	1	53.9	11.2	EXP	DXP
P6SMB43	P6SMB43C	34.8	38.7	47.3	1	1	1	61.9	9.6	EXQ	DXQ
P6SMB43A	P6SMB43CA	36.8	40.9	45.2	1	1	1	59.3	10.1	EXR	DXR
P6SMB47	P6SMB47C	38.1	42.3	51.7	1	1	1	67.8	8.9	EXS	DXS
P6SMB47A	P6SMB47CA	40.2	44.7	49.4	1	1	1	64.8	9.3	EXT	DXT
P6SMB51	P6SMB51C	41.3	45.9	56.1	1	1	1	73.5	8.2	EXU	DXU
P6SMB51A	P6SMB51CA	43.6	48.5	53.6	1	1	1	70.1	8.6	EXV	DXV
P6SMB56	P6SMB56C	45.6	50.4	61.6	1	1	1	80.5	7.4	EXW	DXW

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Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	Marking Code	
		V_{RWM} (Notes 4)	V_{BR} @ I_T		I_T	I_R @ V_{RWM}		V_C @ I_{PP}	I_{PP}		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI
600W Transient Voltage Suppressor											
P6SMB56A	P6SMB56CA	47.8	53.2	58.8	1	1	1	77	7.8	EXX	DXX
P6SMB62	P6SMB62C	50.2	55.8	68.2	1	1	1	89	6.8	EXY	DXY
P6SMB62A	P6SMB62CA	53	58.9	65.1	1	1	1	85	7.1	EXZ	DXZ
P6SMB68	P6SMB68C	55.1	61.2	74.8	1	1	1	98	6.1	EYA	DYA
P6SMB68A	P6SMB68CA	58.1	64.6	71.4	1	1	1	92	6.5	EYB	DYB
P6SMB75	P6SMB75C	60.7	67.5	82.5	1	1	1	108	5.5	EYC	DYC
P6SMB75A	P6SMB75CA	64.1	71.3	78.8	1	1	1	103	5.8	EYD	DYD
P6SMB82	P6SMB82C	66.4	73.8	90.2	1	1	1	118	5.1	EYE	DYE
P6SMB82A	P6SMB82CA	70.1	77.9	86.1	1	1	1	113	5.3	EYF	DYF
P6SMB91	P6SMB91C	73.7	81.9	100	1	1	1	131	4.5	EYG	DYG
P6SMB91A	P6SMB91CA	77.8	86.5	95.5	1	1	1	125	4.8	EYH	DYH
P6SMB100	P6SMB100C	81	90	110	1	1	1	144	4.2	EYJ	DYJ
P6SMB100A	P6SMB100CA	85.5	95	105	1	1	1	137	4.4	EYK	DYK
P6SMB110	P6SMB110C	89.2	99	121	1	1	1	158	3.8	EYL	DYL
P6SMB110A	P6SMB110CA	94	105	116	1	1	1	152	4	EYM	DYM
P6SMB120	P6SMB120C	97.2	108	132	1	1	1	173	3.5	EYN	DYN
P6SMB120A	P6SMB120CA	102	114	126	1	1	1	165	3.6	EYP	DYP
P6SMB130	P6SMB130C	105	117	143	1	1	1	187	3.2	EYQ	DYQ
P6SMB130A	P6SMB130CA	111	124	137	1	1	1	179	3.3	EYR	DYR
P6SMB150	P6SMB150C	121	135	165	1	1	1	215	2.8	EYS	DYS
P6SMB150A	P6SMB150CA	128	143	158	1	1	1	207	2.9	EYT	DYT
P6SMB160	P6SMB160C	130	144	176	1	1	1	230	2.6	EYU	DYU
P6SMB160A	P6SMB160CA	136	152	168	1	1	1	219	2.7	EYV	DYV
P6SMB170	P6SMB170C	138	153	187	1	1	1	244	2.5	EYW	DYW
P6SMB170A	P6SMB170CA	145	162	179	1	1	1	234	2.6	EYX	DYX
P6SMB180	P6SMB180C	146	162	198	1	1	1	258	2.3	EYY	DYY
P6SMB180A	P6SMB180CA	154	171	189	1	1	1	246	2.4	EYZ	DYZ
P6SMB200	P6SMB200C	162	180	220	1	1	1	287	2.1	EWA	DWA
P6SMB200A	P6SMB200CA	171	190	210	1	1	1	274	2.2	EWB	DWB
P6SMB220	P6SMB220C	175	198	242	1	1	1	344	1.8	EWC	DWC
P6SMB220A	P6SMB220CA	185	209	231	1	1	1	328	1.9	EWD	DWD
P6SMB250	P6SMB250C	202	225	275	1	1	1	360	1.7	EWE	DWE
P6SMB250A	P6SMB250CA	214	237	263	1	1	1	344	1.8	EWF	DWF
P6SMB300A	-	256	285	315	1	1	-	414	1.5	EWH	-
P6SMB350A	-	300	332	368	1	1	-	482	1.3	EWK	-
P6SMB400A	-	342	380	420	1	1	-	548	1.1	EWM	-

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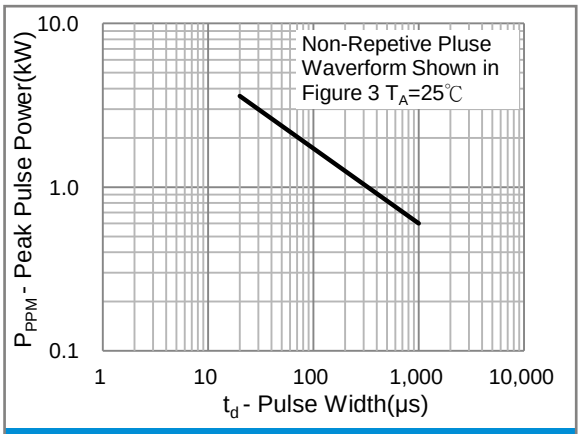

Fig.1 Peak Pulse Power Rating

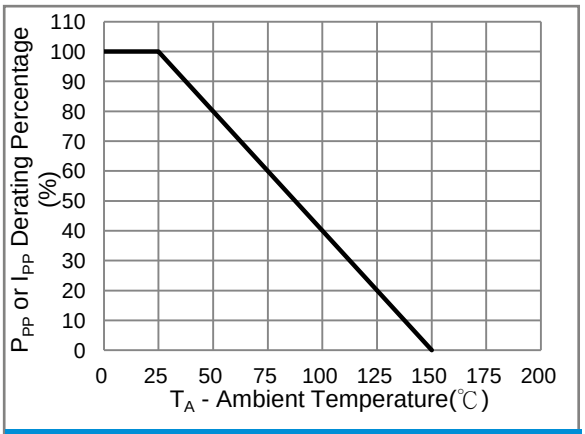

Fig.2 Derating Curve

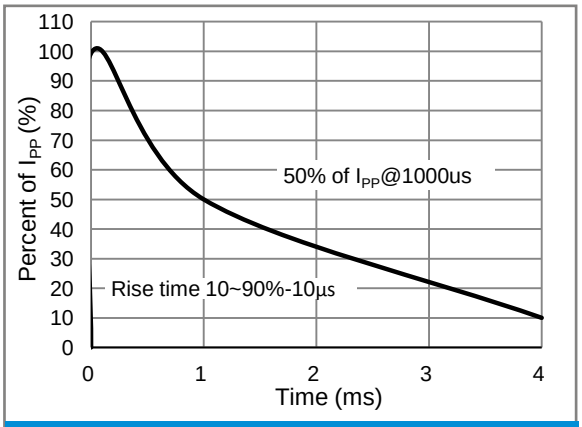

Fig.3 10/1000μs Pulse Waveform

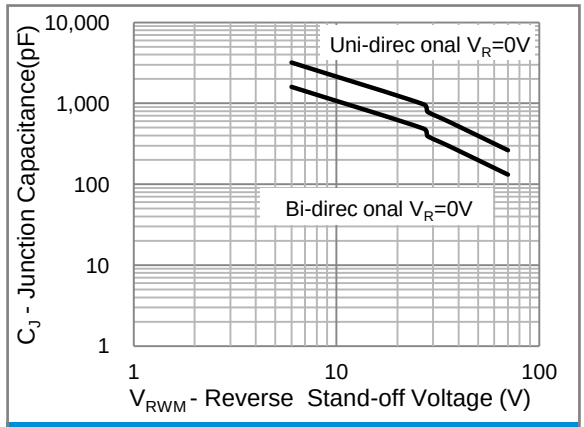

Fig.4 Typical Capacitance

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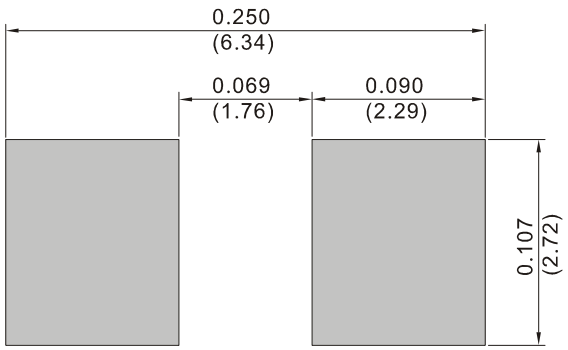
MOUNTING PAD LAYOUT

SMB / DO-214AA Unit : inch(mm)



ORDER INFORMATION

- Packing information

  T/R - 3K per 13" plastic Reel

  T/R - 0.8K per 7" plastic Reel

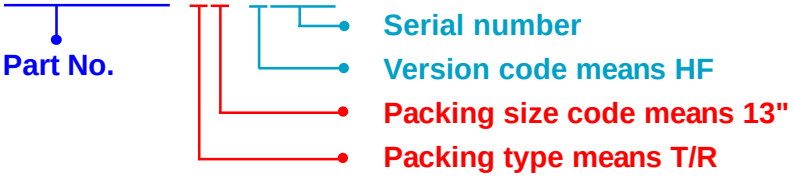
P6SMB SERIES

Part No_packing code_Version

P6SMB6.8_R1_00001
P6SMB6.8_R2_00001

For example :

RB500V-40_R2_00001



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

P6SMB SERIES

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