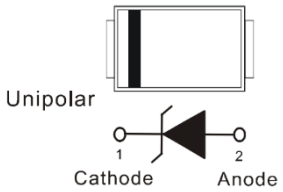
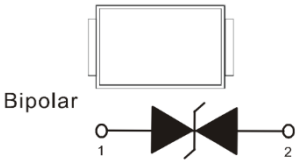
P6SMB6.8A-AU ~ P6SMB250CA-AU Series

Surface Mount Transient Voltage Suppressor

Voltage	6.8~250 V	Power	600 W

SMB





Features

- ISO10605(C=330 pF, R=330Ω): ±30kV Air, ±30kV Contact
- HBM ≧ ±8kV & CDM ≧ ±2kV
- ISO7637-2(Note 1) :
  -Pulse 1: V_S = -150V
  -Pulse 2a: V_S = +112V
  -Pulse 3a: V_S = -220V
  -Pulse 3b: V_S = +150V
- AEC-Q101 qualified
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

Mechanical Data

- Case : Molded plastic, SMB
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Approx. Weight : 0.092 grams

Maximum Ratings and Thermal Characteristics (T_A = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Peak Pulse Power Dissipation(tp=10/1000us)(Note 2,3)	P_{PP}	600	W
Power Dissipation on Infinite Heat Sink at T_L=50℃	P_D	5	W
Peak Forward Surge Current (8.3ms single half sine-wave)(Note 5)	I_{FSM}	100	A
Peak Pulse Current on tp=10/1000us Waveform(Note 2,3)	I_{PPM}	See next table	A
ISO10605(C = 330 pF, R = 330 Ω) (Air) ISO10605(C = 330 pF, R = 330 Ω) (Contact)	V_{ESD}	±30 ±30	kV
Typical Thermal Resistance Junction to Ambient(Note 4)	$R_{\theta JA}$	135	°C/W
Operating Junction Temperature Range	T_J	-55 to +150	°C
Storage Temperature Range	T_{STG}	-55 to +150	°C

NOTES： 1. Not applicable to parts with V_{RWM} lower than battery voltage.
2. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.
3. Mounted on 5mm x 5mm copper pads to each terminal.
4. Mounted on a FR4 PCB, single-sided copper, standard footprint.
5. Unidirectional device only.
6. 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 operation voltage level.
7. TVS is a transient protection device, it is strongly recommended not to use as a Zener.

P6SMB6.8A-AU ~ P6SMB250CA-AU Series

Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Part Number		V_{RWM}	V_{BR}			I_R @V_{RWM}		V_C@I_{PP}		Marking Code	
			Min.	Max.	I_T	uA					
UNI	BI	V	V	V	mA	UNI	BI	V	A	UNI	BI
P6SMB6.8A-AU	P6SMB6.8CA-AU	5.8	6.45	7.14	10	1000	2000	10.5	57	EZB	DZB
P6SMB7.5A-AU	P6SMB7.5CA-AU	6.4	7.13	7.88	10	500	1000	11.3	53	EZD	DZD
P6SMB8.2A-AU	P6SMB8.2CA-AU	7.02	7.79	8.61	10	200	400	12.1	50	EZF	DZF
P6SMB9.1A-AU	P6SMB9.1CA-AU	7.78	8.65	9.5	1	50	100	13.4	45	EZH	DZH
P6SMB10A-AU	P6SMB10CA-AU	8.55	9.5	10.5	1	10	20	14.5	41	EZX	DZX
P6SMB11A-AU	P6SMB11CA-AU	9.4	10.5	11.6	1	5	10	15.6	38	EZM	DZM
P6SMB12A-AU	P6SMB12CA-AU	10.2	11.4	12.6	1	5	5	16.7	36	EZP	DZP
P6SMB13A-AU	P6SMB13CA-AU	11.1	12.4	13.7	1	1	1	18.2	33	EZR	DZR
P6SMB15A-AU	P6SMB15CA-AU	12.8	14.3	15.8	1	1	1	21.2	28	EZT	DZT
P6SMB16A-AU	P6SMB16CA-AU	13.6	15.2	16.8	1	1	1	22.5	27	EZV	DZV
P6SMB18A-AU	P6SMB18CA-AU	15.3	17.1	18.9	1	1	1	25.2	24	EZX	DZX
P6SMB20A-AU	P6SMB20CA-AU	17.1	19	21	1	1	1	27.7	22	EZZ	DZZ
P6SMB22A-AU	P6SMB22CA-AU	18.8	20.9	23.1	1	1	1	30.6	20	EXB	DXB
P6SMB24A-AU	P6SMB24CA-AU	20.5	22.8	25.2	1	1	1	33.2	18	EXD	DXD
P6SMB27A-AU	P6SMB27CA-AU	23.1	25.7	28.4	1	1	1	37.5	16	EXF	DXF
P6SMB30A-AU	P6SMB30CA-AU	25.6	28.5	31.5	1	1	1	41.4	14.4	EXH	DXH
P6SMB33A-AU	P6SMB33CA-AU	28.2	31.4	34.7	1	1	1	45.7	13.2	EXK	DXK
P6SMB36A-AU	P6SMB36CA-AU	30.8	34.2	37.8	1	1	1	49.9	12	EXM	DXM
P6SMB39A-AU	P6SMB39CA-AU	33.3	37.1	41	1	1	1	53.9	11.2	EXP	DXP
P6SMB43A-AU	P6SMB43CA-AU	36.8	40.9	45.2	1	1	1	59.3	10.1	EXR	DXR
P6SMB47A-AU	P6SMB47CA-AU	40.2	44.7	49.4	1	1	1	64.8	9.3	EXT	DXT
P6SMB51A-AU	P6SMB51CA-AU	43.6	48.5	53.6	1	1	1	70.1	8.6	EXV	DXV
P6SMB56A-AU	P6SMB56CA-AU	47.8	53.2	58.8	1	1	1	77	7.8	EXX	DXX
P6SMB62A-AU	P6SMB62CA-AU	53	58.9	65.1	1	1	1	85	7.1	EXZ	DXZ
P6SMB68A-AU	P6SMB68CA-AU	58.1	64.6	71.4	1	1	1	92	6.5	EYB	DYB
P6SMB75A-AU	P6SMB75CA-AU	64.1	71.3	78.8	1	1	1	103	5.8	EYD	DYD
P6SMB82A-AU	P6SMB82CA-AU	70.1	77.9	86.1	1	1	1	113	5.3	EYF	DYF
P6SMB91A-AU	P6SMB91CA-AU	77.8	86.5	95.5	1	1	1	125	4.8	EYH	DYH
P6SMB100A-AU	P6SMB100CA-AU	85.5	95	105	1	1	1	137	4.4	EYK	DYK
P6SMB110A-AU	P6SMB110CA-AU	94	105	116	1	1	1	152	4	EYM	DYM

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Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Part Number		V_{RWM}	V_{BR}			I_R @V_{RWM}		V_C@I_{PP}		Marking Code	
			Min.	Max.	I_T	uA					
UNI	BI	V	V	V	mA	UNI	BI	V	A	UNI	BI
P6SMB130A-AU	P6SMB130CA-AU	111	124	137	1	1	1	179	3.3	EYR	DYR
P6SMB150A-AU	P6SMB150CA-AU	128	143	158	1	1	1	207	2.9	YET	DYT
P6SMB160A-AU	P6SMB160CA-AU	136	152	168	1	1	1	219	2.7	EYV	DYV
P6SMB170A-AU	P6SMB170CA-AU	145	162	179	1	1	1	234	2.6	EYX	DYX
P6SMB180A-AU	P6SMB180CA-AU	154	171	189	1	1	1	246	2.4	EYZ	DYZ
P6SMB200A-AU	P6SMB200CA-AU	171	190	210	1	1	1	274	2.2	EWB	DWB
P6SMB220A-AU	P6SMB220CA-AU	185	209	231	1	1	1	328	1.9	EWD	DWD
P6SMB250A-AU	P6SMB250CA-AU	214	237	263	1	1	1	344	1.8	EWE	DWF

P6SMB6.8A-AU ~ P6SMB250CA-AU Series

TYPICAL CHARACTERISTIC CURVES

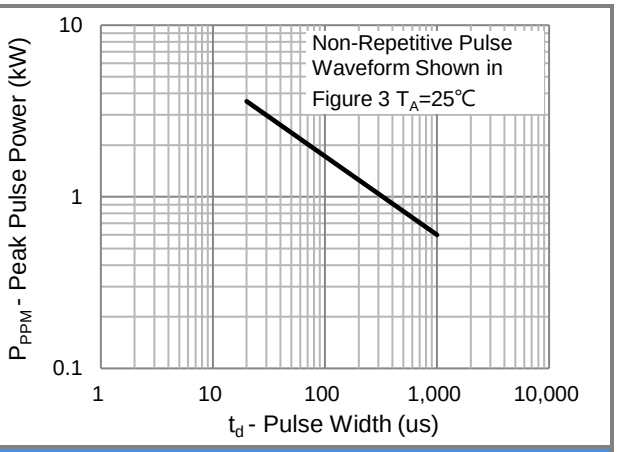


Fig.1 Pulse Power Rating Curve

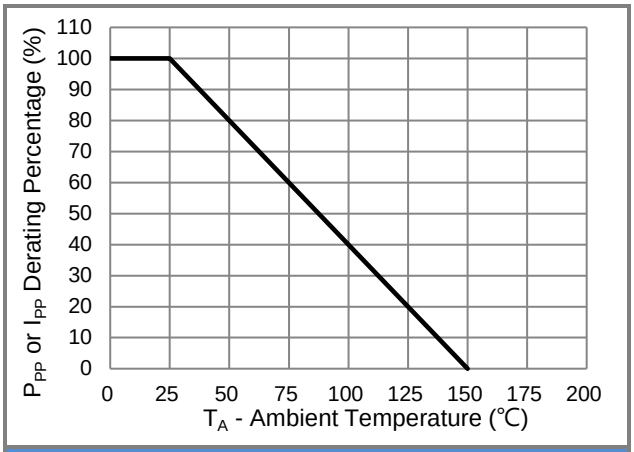


Fig.2 Derating Curve

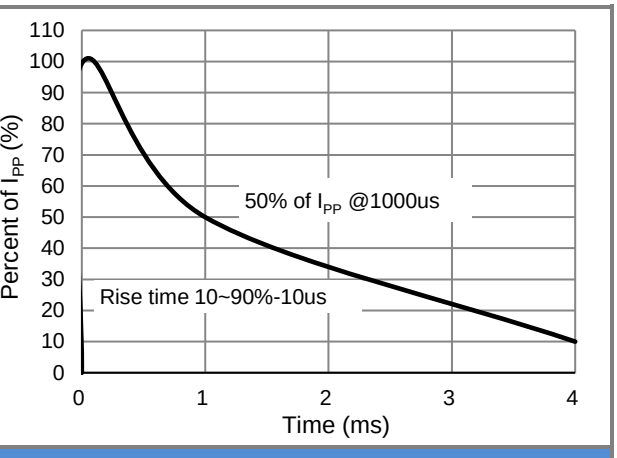


Fig.3 10/1000us Pulse Waveform

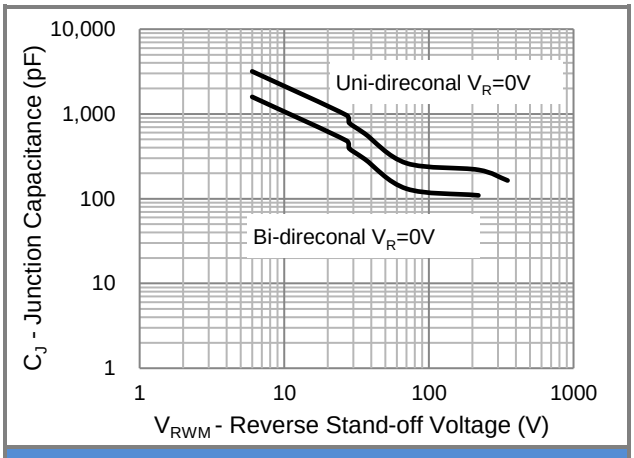


Fig.4 Typical Capacitance

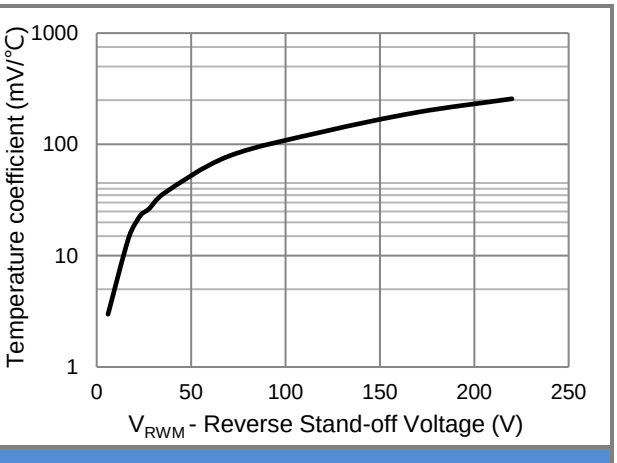


Fig.5 Typical Temperature coefficient

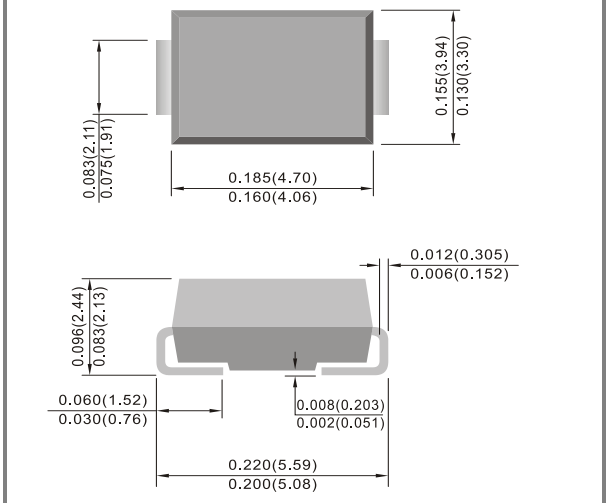
P6SMB6.8A-AU ~ P6SMB250CA-AU Series

Product and Packing Information

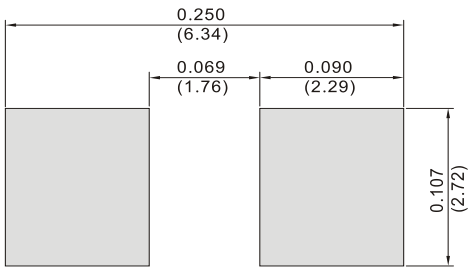
Part No.	Package Type	Packing Type	Marking
P6SMBxxxxA-AU	SMB	3K pcs / 13” reel	See Table

Packaging Information & Mounting Pad Layout

SMB Dimension — Unit: inch(mm)



SMB Pad Layout — Unit: inch(mm)



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