



# P6SMB6.8A-AU ~ P6SMB82CA-AU Series

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

**Voltage**

**6.8~82 V**

**Power**

**600 W**

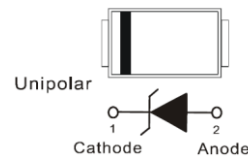
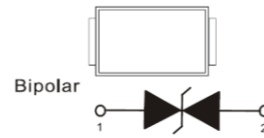
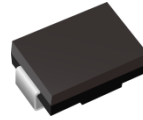
### Features

- ISO10605(C=330 pF,R=330Ω): ± 30kV Air, ± 30kV Contact
- HBM ≥ ± 8 kV & CDM ≥ ± 2 kV
- 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: 0.0032 ounces, 0.092 grams

SMB



### Maximum Ratings and Thermal Characteristics (T<sub>A</sub> = 25 °C unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNITS
Peak Pulse Power Dissipation(tp = 10 / 1000 us)	P <sub>PP</sub> <sup>(1)(2)</sup>	600	W
Peak Forward Surge Current(8.3 ms single half sine-wave)	I <sub>FSM</sub>	100	A
Peak Pulse Current on tp = 10 / 1000 us waveform <sup>(Fig.2)</sup>	I <sub>PPM</sub> <sup>(1)</sup>	See table 1	A
ISO10605(C = 330 pF, R = 330 Ω) (Air)	V <sub>ESD</sub>	±30	kV
ISO10605(C = 330 pF, R = 330 Ω) (Contact)		±30	
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub> <sup>(3)</sup>	60	°C/W
Operating Junction Temperature Range	T <sub>J</sub>	-55~150	°C
Storage Temperature Range	T <sub>STG</sub>	-55~150	°C



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### Electrical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Part Number		$V_{RWM}$	$V_{BR}$			$I_R$ @ $V_{RWM}$		$V_C @ I_{PP}$		Marking Code	
			Min.	Max.	$I_T$	uA		V	A	UNI	BI
UNI	BI	V	V	V	mA	UNI	BI	V	A	UNI	BI
600W Transient Voltage Suppressor											
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	EZK	DZK
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

**Note:**

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^\circ\text{C}$  per Fig.2
2. Mounted on  $5\text{mm}^2$  copper pads to each terminal
3. Mounted on a FR4 PCB, single-sided copper, mini pad



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## TYPICAL CHARACTERISTIC CURVES

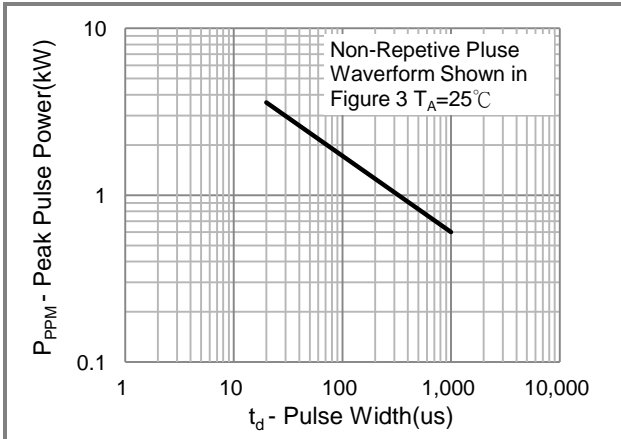


Fig.1 Pulse Power Rating Curve

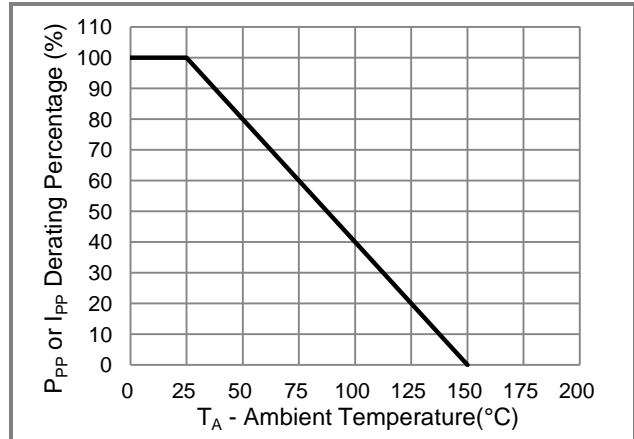


Fig.2 Derating Curve

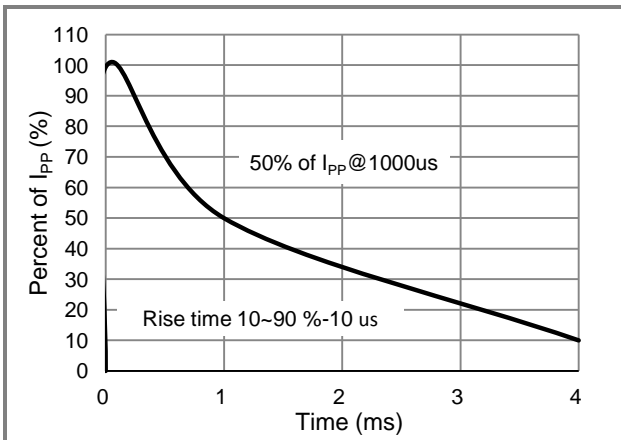


Fig.3 10/1000us Pulse Waveform

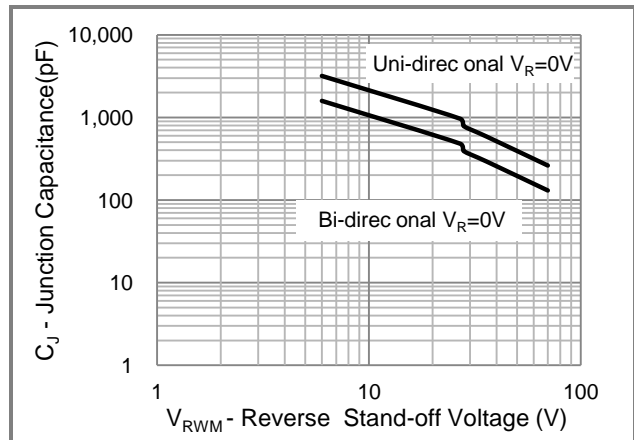


Fig.4 Typical Capacitance



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### Part No Packing Code Version

Part No Packing Code	Package Type	Packing Type	Marking	Version
P6SMBxxxx-AU_R2_000A1	SMB	3K pcs / 13" reel	See Table	Halogen free

### Packaging Information & Mounting Pad Layout

