PANJIT SEMI CONDUCTOR

Preliminary

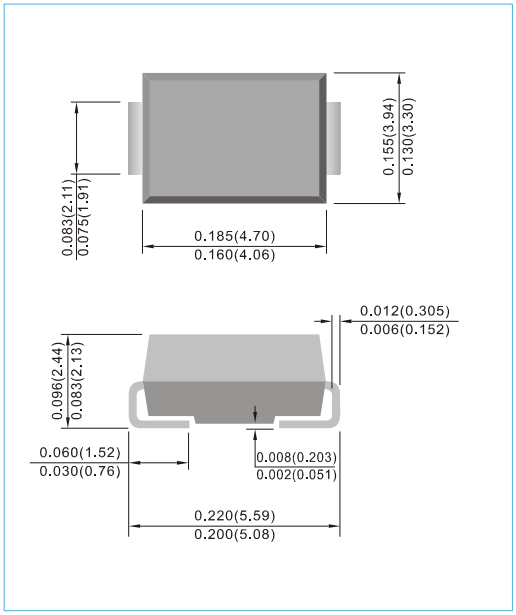
P6SMBJ5.0-AU ~ P6SMBJ220CA-AU Series

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR POWER 600 Watt

STAND-OFF VOLTAGE | **5 to 220 Volt**

Recongnized File # E210467

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

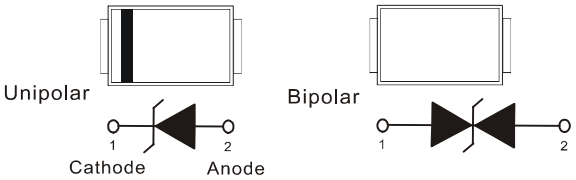


FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- For surface mounted applications in order to optimize board space
- Low inductance
- High temperature soldering : 260°C /10 seconds at terminals
- AEC-Q101 qualified
- 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)
- Approx. Weight : 0.1089 grams



DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types P6SMBJ5.0 thru types P6SMBJ70.
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
Power Dissipation on Infinite Heat Sink at T_L=50 °C	P_D	5	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 5mm² (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.

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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											
P6SMBJ5.0A-AU	P6SMBJ5.0CA-AU	5	6.4	7.07	10	800	1600	9.2	65.2	KE	AE
P6SMBJ6.0A-AU	P6SMBJ6.0CA-AU	6	6.67	7.37	10	800	1600	10.3	58.3	KG	AG
P6SMBJ6.5A-AU	P6SMBJ6.5CA-AU	6.5	7.22	7.98	10	500	1000	11.2	53.6	KK	AK
P6SMBJ7.0A-AU	P6SMBJ7.0CA-AU	7	7.78	8.6	10	200	400	12.0	50	KM	AM
P6SMBJ7.5A-AU	P6SMBJ7.5CA-AU	7.5	8.33	9.21	1	100	200	12.9	46.5	KP	AP
P6SMBJ8.0A-AU	P6SMBJ8.0CA-AU	8	8.89	9.83	1	50	100	13.6	44.1	KR	AR
P6SMBJ8.5A-AU	P6SMBJ8.5CA-AU	8.5	9.44	10.4	1	10	20	14.4	41.7	KT	AT
P6SMBJ9.0A-AU	P6SMBJ9.0CA-AU	9	10	11.1	1	5	5	15.4	39	KV	AV
P6SMBJ10A-AU	P6SMBJ10CA-AU	10	11.1	12.3	1	5	5	17	35.3	KX	AX
P6SMBJ11A-AU	P6SMBJ11CA-AU	11	12.2	13.5	1	1	1	18.2	33	KZ	AZ
P6SMBJ12A-AU	P6SMBJ12CA-AU	12	13.3	14.7	1	1	1	19.9	30.2	LE	BE
P6SMBJ13A-AU	P6SMBJ13CA-AU	13	14.4	15.9	1	1	1	21.5	27.9	LG	BG
P6SMBJ14A-AU	P6SMBJ14CA-AU	14	15.6	17.2	1	1	1	23.2	25.8	LK	BK
P6SMBJ15A-AU	P6SMBJ15CA-AU	15	16.7	18.5	1	1	1	24.4	24	LM	BM
P6SMBJ16A-AU	P6SMBJ16CA-AU	16	17.8	19.7	1	1	1	26	23.1	LP	BP
P6SMBJ17A-AU	P6SMBJ17CA-AU	17	18.9	20.9	1	1	1	27.6	21.7	LR	BR
P6SMBJ18A-AU	P6SMBJ18CA-AU	18	20	22.1	1	1	1	29.2	20.5	LT	BT
P6SMBJ20A-AU	P6SMBJ20CA-AU	20	22.2	24.5	1	1	1	32.4	18.5	LV	BV
P6SMBJ22A-AU	P6SMBJ22CA-AU	22	24.4	27	1	1	1	35.5	16.9	LX	BX
P6SMBJ24A-AU	P6SMBJ24CA-AU	24	26.7	29.5	1	1	1	38.9	15.4	LZ	BZ
P6SMBJ26A-AU	P6SMBJ26CA-AU	26	28.9	31.9	1	1	1	42.1	14.2	ME	CE
P6SMBJ28A-AU	P6SMBJ28CA-AU	28	31.1	34.4	1	1	1	45.4	13.2	MG	CG
P6SMBJ30A-AU	P6SMBJ30CA-AU	30	33.3	36.8	1	1	1	48.4	12.4	MK	CK
P6SMBJ33A-AU	P6SMBJ33CA-AU	33	36.7	40.6	1	1	1	53.3	11.3	MM	CM
P6SMBJ36A-AU	P6SMBJ36CA-AU	36	40	44.2	1	1	1	58.1	10.3	MP	CP
P6SMBJ40A-AU	P6SMBJ40CA-AU	40	44.4	49.1	1	1	1	64.5	9.3	MR	CR
P6SMBJ43A-AU	P6SMBJ43CA-AU	43	47.8	52.8	1	1	1	69.4	8.6	MT	CT
P6SMBJ45A-AU	P6SMBJ45CA-AU	45	50	55.3	1	1	1	72.7	8.3	MV	CV
P6SMBJ48A-AU	P6SMBJ48CA-AU	48	53.3	58.9	1	1	1	77.4	7.7	MX	CX
P6SMBJ51A-AU	P6SMBJ51CA-AU	51	56.7	62.7	1	1	1	82.4	7.3	MZ	CZ
P6SMBJ54A-AU	P6SMBJ54CA-AU	54	60	66.3	1	1	1	87.1	6.9	NE	DE
P6SMBJ58A-AU	P6SMBJ58CA-AU	58	64.4	71.2	1	1	1	93.6	6.4	NG	DG
P6SMBJ60A-AU	P6SMBJ60CA-AU	60	66.7	73.7	1	1	1	96.8	6.2	NK	DK
P6SMBJ64A-AU	P6SMBJ64CA-AU	64	71.1	78.6	1	1	1	103	5.8	NM	DM
P6SMBJ70A-AU	P6SMBJ70CA-AU	70	77.8	86	1	1	1	113	5.3	NP	DP

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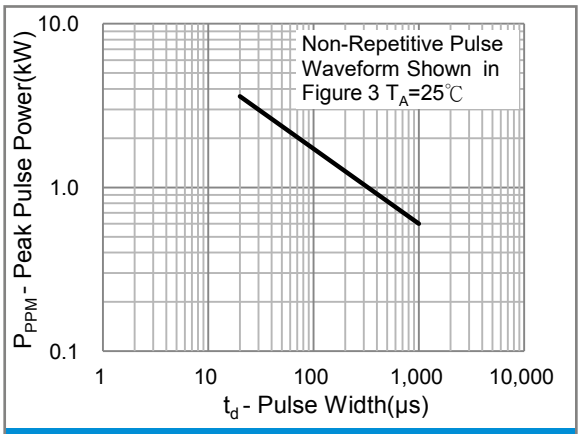

Fig.1 Peak Pulse Power Rating

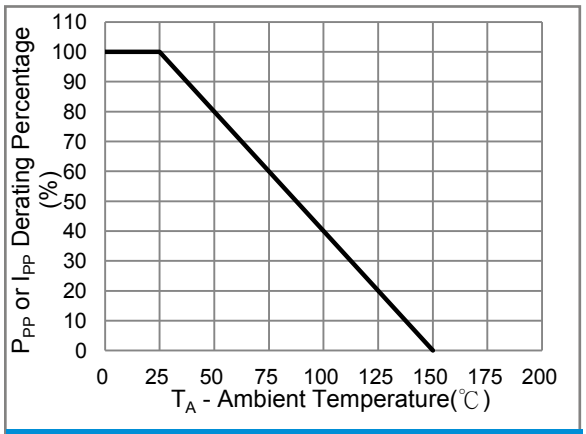

Fig.2 Derating Curve

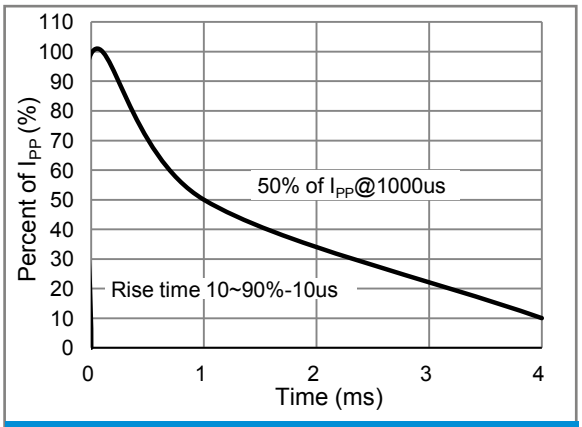

Fig.3 10/1000μs Pulse Waveform

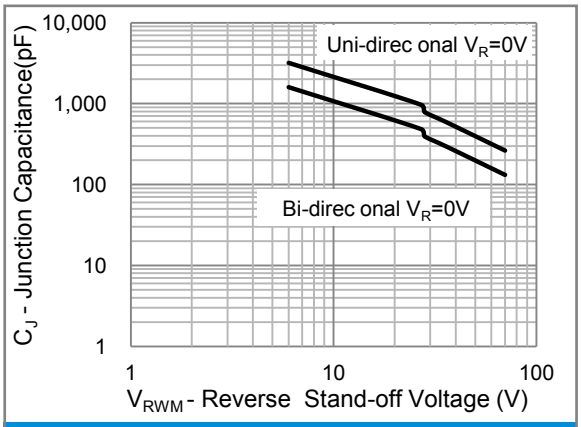

Fig.4 Typical Capacitance

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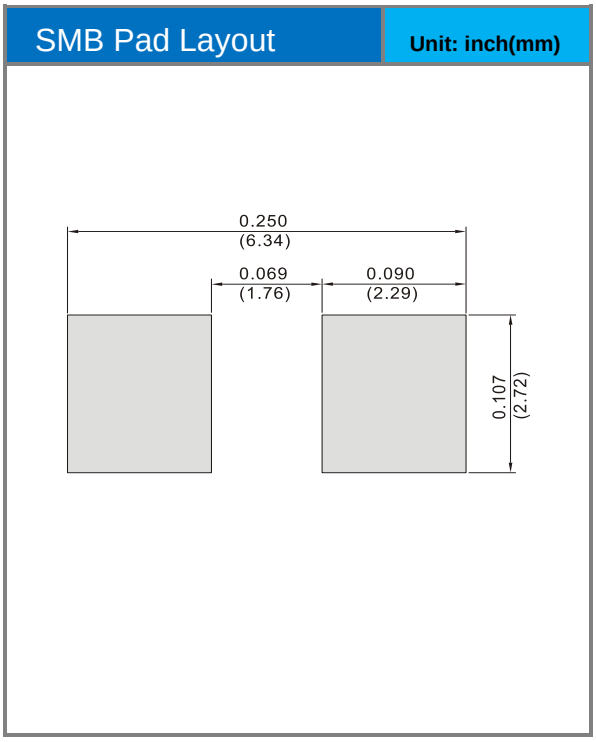
Product and Packing Information

Part No.	Package Type	Packing Type	Marking
P6SMBJxxx-AU	SMB	0.8K pcs / 7” reel	See Table
P6SMBJxxx-AU	SMB	3K pcs / 13” reel	See Table
P6SMBJxxxxA-AU	SMB	0.8K pcs / 7” reel	See Table
P6SMBJxxxxA-AU	SMB	3K pcs / 13” reel	See Table

Mounting Pad Layout



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