

## P6SMB6.8A ~ P6SMB400A Series

### SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR POWER 600 Watt

**BREAK DOWN VOLTAGE**

**6.8 to 400 Volt**

**SMB / DO-214AA**

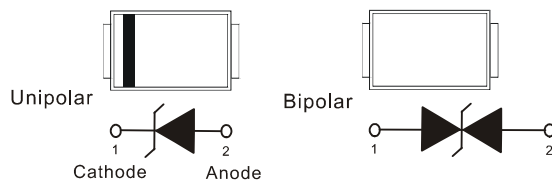
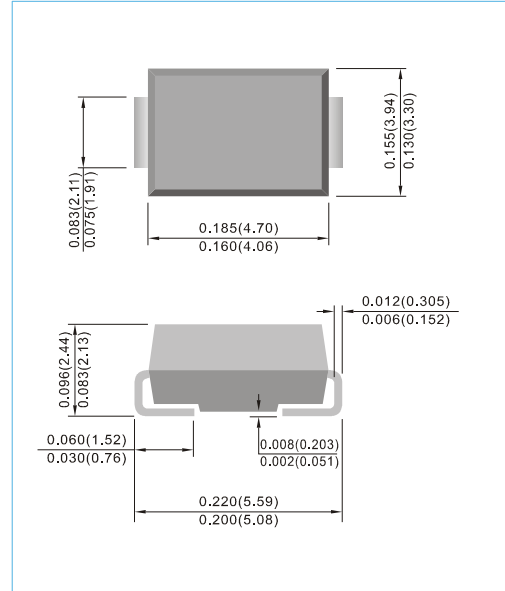
Unit : inch(mm)

#### 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  $\pm$  30kV, Contact  $\pm$  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)
- Approx. Weight : 0.092 grams



#### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use 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 $t_p=10/1000\mu s$ waveform (Note 1,2, Fig.1)                | $P_{PP}$        | 600                  | Watts           |
| Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (Note 2,3) | $I_{FSM}$       | 100                  | Amps            |
| Peak Pulse Current on $t_p=10/1000\mu s$ waveform (Note 1) Fig.3                             | $I_{PPM}$       | see Table 1          | Amps            |
| Typical Thermal Resistance Junction to Air (Note 2)                                          | $R_{\theta JA}$ | 60                   | $^{\circ}C / W$ |
| ESD IEC-61000-4-2 (Air)<br>ESD IEC-61000-4-2 (Contact)                                       | $V_{ESD}$       | $\pm 30$<br>$\pm 30$ | kV              |
| Operating Junction and Storage Temperature Range                                             | $T_J, T_{STG}$  | -55 to +150          | $^{\circ}C$     |

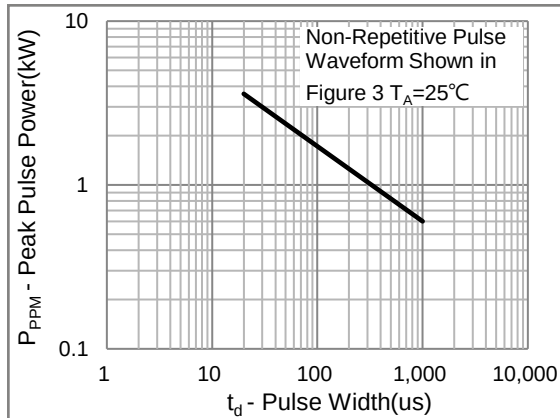
#### NOTES :

1. Non-repetitive current pulse, per Fig.3 and derated above  $T_A = 25^{\circ}C$  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 pulse s 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.

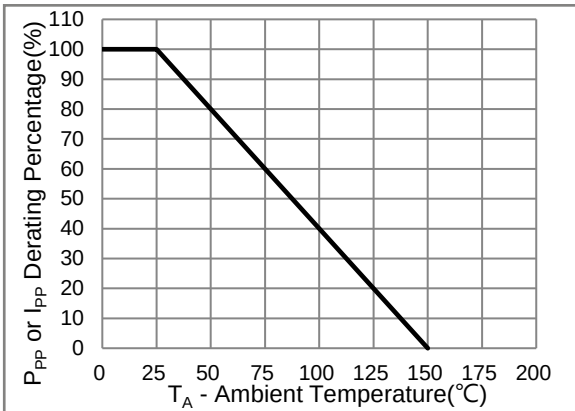
## P6SMB6.8A ~ P6SMB400A Series

| Part Number                       |            | Reverse Stand-off Voltage    | Breakdown Voltage                |      | Test Current   | Reverse Leakage                   |      | Max. Clamp Voltage<br>10/1000us  | Peak Pulse Current<br>10/1000us | Marking Code |     |
|-----------------------------------|------------|------------------------------|----------------------------------|------|----------------|-----------------------------------|------|----------------------------------|---------------------------------|--------------|-----|
|                                   |            |                              | V <sub>BR</sub> @ I <sub>T</sub> |      |                | I <sub>R</sub> @ V <sub>RWM</sub> |      |                                  |                                 |              |     |
|                                   |            | V <sub>RWM</sub><br>(Note 4) | Min.                             | Max. | I <sub>T</sub> | UNI                               | BI   | V <sub>C</sub> @ I <sub>PP</sub> | I <sub>PP</sub>                 | UNI          | BI  |
| UNI                               | BI         | V                            | V                                | V    | mA             | uA                                | uA   | V                                | A                               | UNI          | BI  |
| 600W Transient Voltage Suppressor |            |                              |                                  |      |                |                                   |      |                                  |                                 |              |     |
| P6SMB6.8A                         | P6SMB6.8CA | 5.8                          | 6.45                             | 7.14 | 10             | 1000                              | 2000 | 10.5                             | 57                              | EZB          | DZB |
| P6SMB7.5A                         | P6SMB7.5CA | 6.4                          | 7.13                             | 7.88 | 10             | 500                               | 1000 | 11.3                             | 53                              | EZD          | DZD |
| P6SMB8.2A                         | P6SMB8.2CA | 7.02                         | 7.79                             | 8.61 | 10             | 200                               | 400  | 12.1                             | 50                              | EZF          | DZF |
| P6SMB9.1A                         | P6SMB9.1CA | 7.78                         | 8.65                             | 9.5  | 1              | 50                                | 100  | 13.4                             | 45                              | EZH          | DZH |
| P6SMB10A                          | P6SMB10CA  | 8.55                         | 9.5                              | 10.5 | 1              | 10                                | 20   | 14.5                             | 41                              | EZK          | DZK |
| P6SMB11A                          | P6SMB11CA  | 9.4                          | 10.5                             | 11.6 | 1              | 5                                 | 10   | 15.6                             | 38                              | EZM          | DZM |
| P6SMB12A                          | P6SMB12CA  | 10.2                         | 11.4                             | 12.6 | 1              | 5                                 | 5    | 16.7                             | 36                              | EZP          | DZP |
| P6SMB13A                          | P6SMB13CA  | 11.1                         | 12.4                             | 13.7 | 1              | 1                                 | 1    | 18.2                             | 33                              | EZR          | DZR |
| P6SMB15A                          | P6SMB15CA  | 12.8                         | 14.3                             | 15.8 | 1              | 1                                 | 1    | 21.2                             | 28                              | EZT          | DZT |
| P6SMB16A                          | P6SMB16CA  | 13.6                         | 15.2                             | 16.8 | 1              | 1                                 | 1    | 22.5                             | 27                              | EZV          | DZV |
| P6SMB18A                          | P6SMB18CA  | 15.3                         | 17.1                             | 18.9 | 1              | 1                                 | 1    | 25.2                             | 24                              | EZX          | DZX |
| P6SMB20A                          | P6SMB20CA  | 17.1                         | 19                               | 21   | 1              | 1                                 | 1    | 27.7                             | 22                              | EZZ          | DZZ |
| P6SMB22A                          | P6SMB22CA  | 18.8                         | 20.9                             | 23.1 | 1              | 1                                 | 1    | 30.6                             | 20                              | EXB          | DXB |
| P6SMB24A                          | P6SMB24CA  | 20.5                         | 22.8                             | 25.2 | 1              | 1                                 | 1    | 33.2                             | 18                              | EXD          | DXD |
| P6SMB27A                          | P6SMB27CA  | 23.1                         | 25.7                             | 28.4 | 1              | 1                                 | 1    | 37.5                             | 16                              | EXF          | DXF |
| P6SMB30A                          | P6SMB30CA  | 25.6                         | 28.5                             | 31.5 | 1              | 1                                 | 1    | 41.4                             | 14.4                            | EXH          | DXH |
| P6SMB33A                          | P6SMB33CA  | 28.2                         | 31.4                             | 34.7 | 1              | 1                                 | 1    | 45.7                             | 13.2                            | EXK          | DXK |
| P6SMB36A                          | P6SMB36CA  | 30.8                         | 34.2                             | 37.8 | 1              | 1                                 | 1    | 49.9                             | 12                              | EXM          | DXM |
| P6SMB39A                          | P6SMB39CA  | 33.3                         | 37.1                             | 41   | 1              | 1                                 | 1    | 53.9                             | 11.2                            | EXP          | DXP |
| P6SMB43A                          | P6SMB43CA  | 36.8                         | 40.9                             | 45.2 | 1              | 1                                 | 1    | 59.3                             | 10.1                            | EXR          | DXR |
| P6SMB47A                          | P6SMB47CA  | 40.2                         | 44.7                             | 49.4 | 1              | 1                                 | 1    | 64.8                             | 9.3                             | EXT          | DXT |
| P6SMB51A                          | P6SMB51CA  | 43.6                         | 48.5                             | 53.6 | 1              | 1                                 | 1    | 70.1                             | 8.6                             | EXV          | DXV |
| P6SMB56A                          | P6SMB56CA  | 47.8                         | 53.2                             | 58.8 | 1              | 1                                 | 1    | 77                               | 7.8                             | EXX          | DXX |
| P6SMB62A                          | P6SMB62CA  | 53                           | 58.9                             | 65.1 | 1              | 1                                 | 1    | 85                               | 7.1                             | EXZ          | DXZ |
| P6SMB68A                          | P6SMB68CA  | 58.1                         | 64.6                             | 71.4 | 1              | 1                                 | 1    | 92                               | 6.5                             | EYB          | DYB |
| P6SMB75A                          | P6SMB75CA  | 64.1                         | 71.3                             | 78.8 | 1              | 1                                 | 1    | 103                              | 5.8                             | EYD          | DYD |
| P6SMB82A                          | P6SMB82CA  | 70.1                         | 77.9                             | 86.1 | 1              | 1                                 | 1    | 113                              | 5.3                             | EYF          | DYF |
| P6SMB91A                          | P6SMB91CA  | 77.8                         | 86.5                             | 95.5 | 1              | 1                                 | 1    | 125                              | 4.8                             | EYH          | DYH |
| P6SMB100A                         | P6SMB100CA | 85.5                         | 95                               | 105  | 1              | 1                                 | 1    | 137                              | 4.4                             | EYK          | DYK |
| P6SMB110A                         | P6SMB110CA | 94                           | 105                              | 116  | 1              | 1                                 | 1    | 152                              | 4                               | EYM          | DYM |
| P6SMB120A                         | P6SMB120CA | 102                          | 114                              | 126  | 1              | 1                                 | 1    | 165                              | 3.6                             | EYP          | DYP |
| P6SMB130A                         | P6SMB130CA | 111                          | 124                              | 137  | 1              | 1                                 | 1    | 179                              | 3.3                             | EYR          | DYR |
| P6SMB150A                         | P6SMB150CA | 128                          | 143                              | 158  | 1              | 1                                 | 1    | 207                              | 2.9                             | EYT          | DYT |
| P6SMB160A                         | P6SMB160CA | 136                          | 152                              | 168  | 1              | 1                                 | 1    | 219                              | 2.7                             | EYV          | DYV |
| P6SMB170A                         | P6SMB170CA | 145                          | 162                              | 179  | 1              | 1                                 | 1    | 234                              | 2.6                             | EYX          | DYX |
| P6SMB180A                         | P6SMB180CA | 154                          | 171                              | 189  | 1              | 1                                 | 1    | 246                              | 2.4                             | EYZ          | DYZ |
| P6SMB200A                         | P6SMB200CA | 171                          | 190                              | 210  | 1              | 1                                 | 1    | 274                              | 2.2                             | EWB          | DWB |
| P6SMB220A                         | P6SMB220CA | 185                          | 209                              | 231  | 1              | 1                                 | 1    | 328                              | 1.9                             | EWD          | DWD |
| 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          | -   |

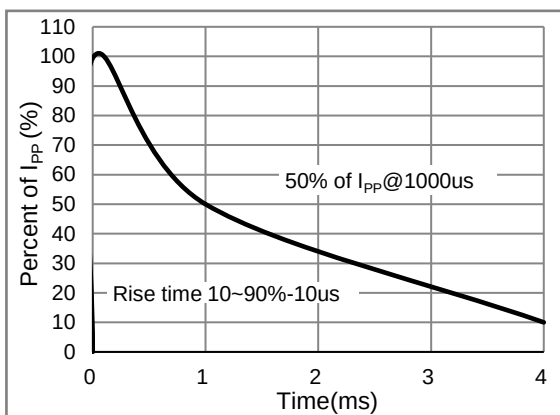
## P6SMB6.8A ~ P6SMB400A Series



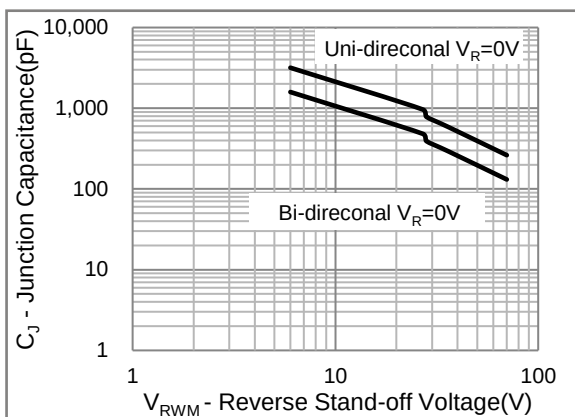
**Fig.1 Peak Pulse Power Rating Curve**



**Fig.2 Derating Curve**



**Fig.3 10/1000us Pulse Waveform**



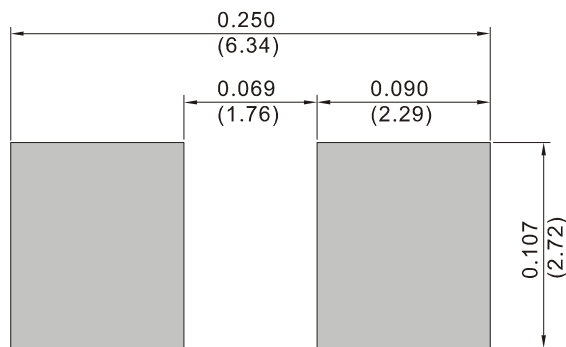
**Fig.4 Typical Capacitance**

## P6SMB6.8A ~ P6SMB400A Series

### 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

## **P6SMB6.8A ~ P6SMB400A Series**

---

### **Disclaimer**

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Panjit:](#)

[P6SMB39A\\_R1\\_00001](#) [P6SMB39A\\_R2\\_00001](#)