

**SPD82581B**

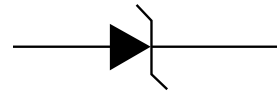
1-Line, 600W, TVS

[Http://www.sh-willsemi.com](http://www.sh-willsemi.com)
**Descriptions**

SPD82581B protect sensitive electronics against voltage transients induced by inductive load switching and lightning. Ideal for the protection of I/O interfaces,  $V_{CC}$  bus and other integrated circuits.


**Features**

- For surface mount application
- Excellent clamping capability
- Low profile package
- Fast response time: Typically less than 1.0ps from 0V to 64.4V
- Low inductance
- GPP

**SMB**


SPD82581B

**Mechanical Data**

- Case: Molded plastic
- Mounting position: Any
- Weight: 0.093 grams

**Schematic Diagram**
**Order information**

| Device         | Dim (mm)    | Shipping       |
|----------------|-------------|----------------|
| SPD82581B-2/TR | 5.3*3.5*2.3 | 3000/Tape&Reel |

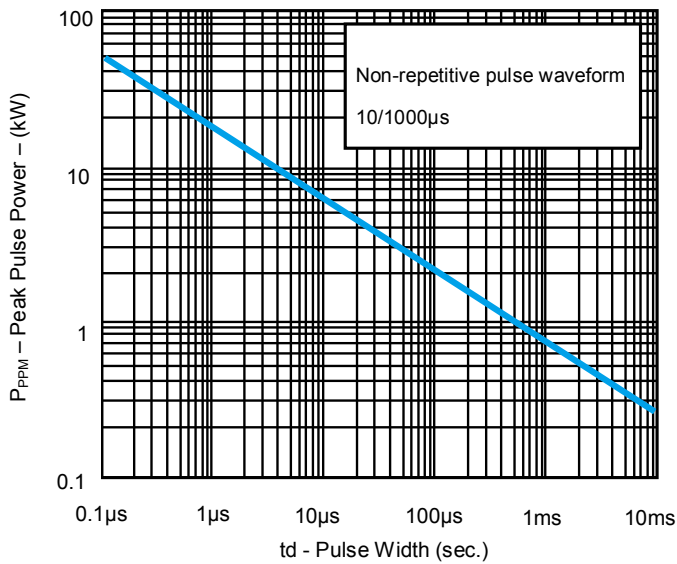
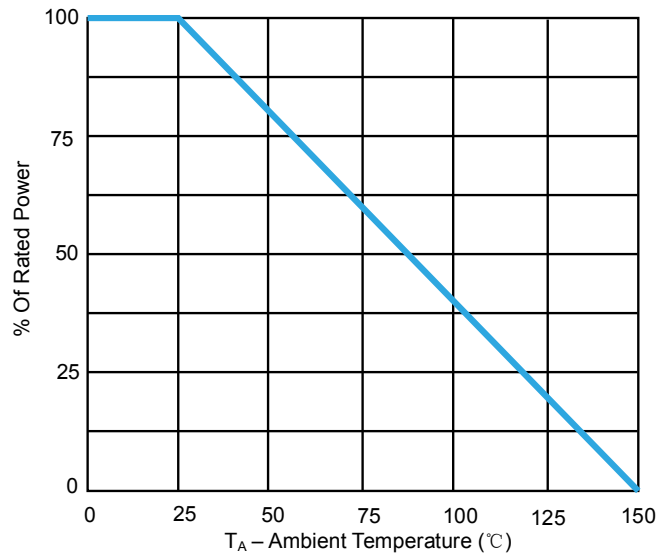
| Rating   | Symbol    | Value       | Units        |
|--|-----------|-------------|--------------|
| Peak Pulse Power on 10/1000 $\mu$ s waveform   | $P_{PPM}$ | 600         | W            |
| Peak Pulse Current of on 10/1000 $\mu$ s waveform  | $I_{PPM}$ | 6.4         | A            |
| Peak Forward Surge Current , 8.3ms Single Half Sine-wave Superimposed on Rated Load,(JEDEC Method) | $I_{FSM}$ | 100         | A            |
| Operating Junction Temperature Range   | $T_J$     | -55 to +150 | $^{\circ}$ C |
| Storage Temperature Range  | $T_{STG}$ | -55 to +150 | $^{\circ}$ C |

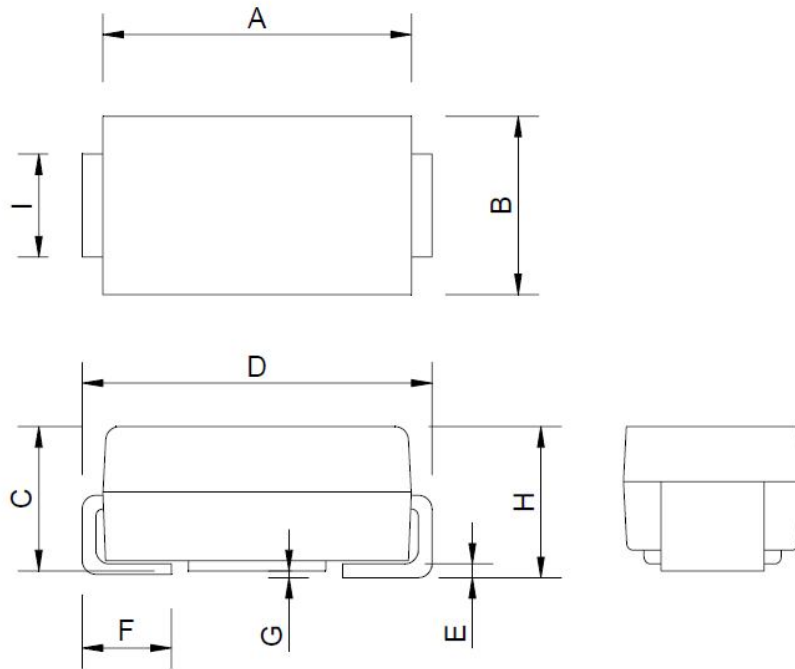
Notes :

1. Mounted on 5.0mm<sup>2</sup> (0.03mm thick) Copper Pads to each terminal

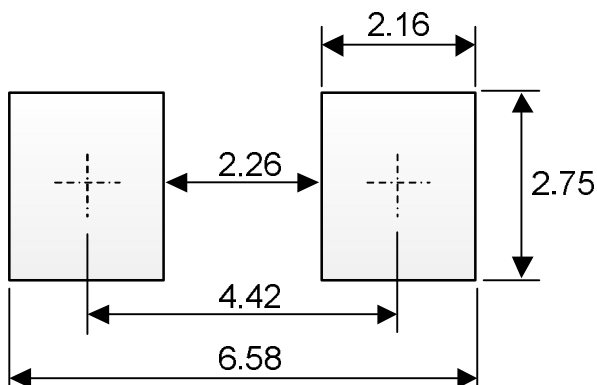
**Absolute maximum ratings**

| Part Number | Reverse Stand off Voltage $V_R$ (V) | Breakdown Voltage $V_{BR@ I_T}$ (V) |      | Test Current $I_T$ (mA) | Maximum Clamping Voltage $V_C$ @ $I_{PP}$ (V) | Maximum Peak Pulse Current $I_{PP}$ (A) | Maximum Reverse Leakage $I_R @ V_R$ ( $\mu A$ ) |
|-------------|-------------------------------------|-------------------------------------|------|-------------------------|---|---|---|
|             |                                     | MIN                                 | MAX  |                         |   |   |   |
| SPD82581B   | 58                                  | 64.4                                | 74.1 | 1                       | 93.6  | 6.4                                     | 5   |

**Typical characteristics ( $T_A=25^\circ C$ , unless otherwise noted)**

**Fig. 1 Peak Pulse Power**

**Fig. 2 Pulse Derating Curve**

**Package outline dimensions (Unit:mm)**
**SMB**


| Symbol | Dimensions in millimeter |      |      |
|--------|--------------------------|------|------|
|        | Min.                     | Typ. | Max. |
| A      | 4.06                     | --   | 4.58 |
| B      | 3.30                     | --   | 3.95 |
| C      | 2.00                     | --   | 2.30 |
| D      | 5.05                     | --   | 5.60 |
| E      | 0.15                     | --   | 0.30 |
| F      | 0.75                     | --   | 1.50 |
| G      | 0.00                     | --   | 0.20 |
| H      | 2.00                     | --   | 2.50 |
| I      | 1.95                     | --   | 2.25 |

**Recommend land pattern (Unit: mm)**


*Note: This land pattern is for your reference only.  
Actual pad layouts may vary depending on application.*