

## SPD8811B

**1-Line, Bi-directional, Thyristor Surge Suppressors**

<http://www.sh-willsemi.com>

### Descriptions

The SPD8811B is a bi-directional TSS (Thyristor Surge Suppressors) which can provide ESD protection for IC. It is specifically designed to protect telecom equipments from damaging overvoltage transients.

The SPD8811B is used to enable equipments to meet various regulatory requirements including, ITU-T K.20, K.21 and IEC 61000-4-5

The SPD8811B is available in SMB package. Standard products are Pb-free and Halogen-free.

### Features

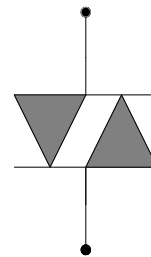
- Peak off-state voltage:  $\pm 58V$  Max
- Excellent capability of absorbing transient surge
- Quick response to surge voltage
- Eliminate voltage overshoot caused by fast-rising transients
- Low leakage current:
- Solid-state silicon technology, non degenerative

### Applications

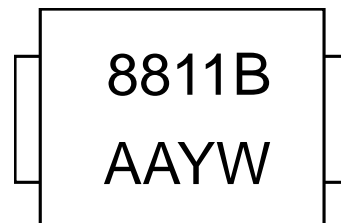
- Audio/Video line
- Network and telecom
- Data lines and security systems
- Serial ports
- BNC interface
- DVR



**SMB (DO-214AA)**



**Schematic Diagram**



AA = Device code

Y = Year code

W = Week code

**Marking (Top View)**

### Order information

Device	Package	Shipping
SPD8811B-2/TR	SMB	3000/Tape&Reel

**Electrical characteristics ( $T_A=25^{\circ}\text{C}$ , unless otherwise noted)**

Part Number	$V_{\text{DRM}}$	$I_{\text{DRM}}$	$V_S$	$V_{\text{BR}}^{1)}$	$I_S$	$I_H$	$V_T$	$I_T$	$C_O^{2)}$
	V	$\mu\text{A}$	V	V	mA	mA	V	A	pF
		Max.	Max.	Min.		Max.	Max.		Typ.
SPD8811B	58	1	77	60	800	150	4	2.2	50

Notes:

1)  $V_{\text{BR}}$  is measured at  $I_{\text{BR}}=1\text{mA}$ .

2) Off-state capacitance is measured at  $f = 1\text{MHz}$ ,  $V_{\text{DC}} = 2\text{V}$ .

**Surge Ratings**

Part Number	$8/20\mu\text{s}^{1)}$	$5/320\mu\text{s}^{1)}$	$2/10\mu\text{s}^{1)}$
	$1.2/50\mu\text{s}^{2)}$	$10/700\mu\text{s}^{2)}$	$2/10\mu\text{s}^{2)}$
SPD8811B	400 A	6000 V	500 A

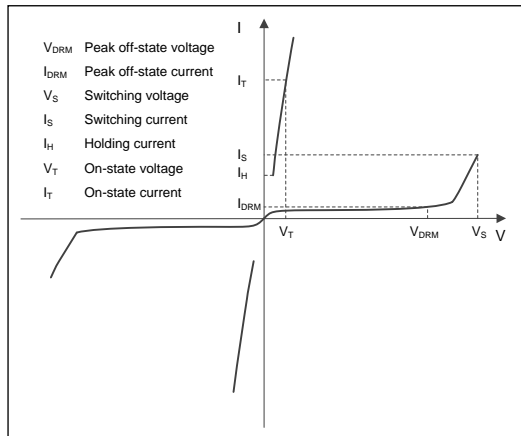
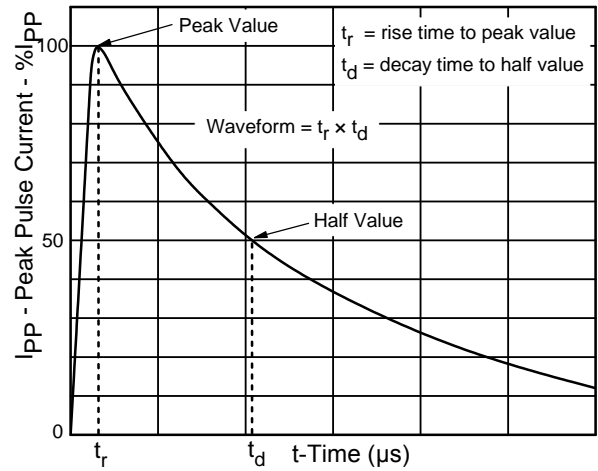
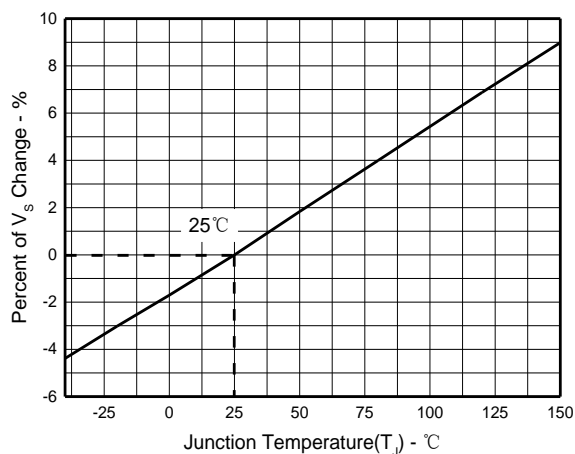
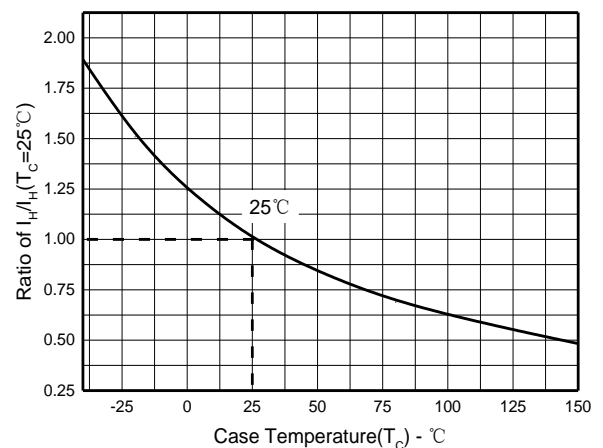
Notes:

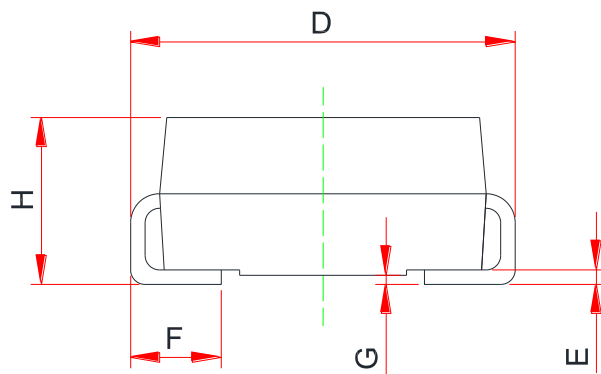
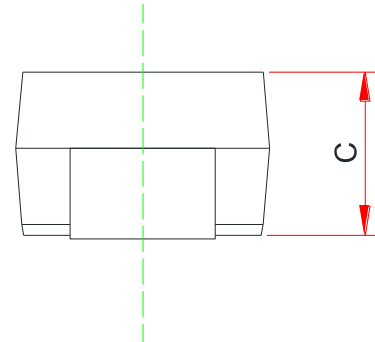
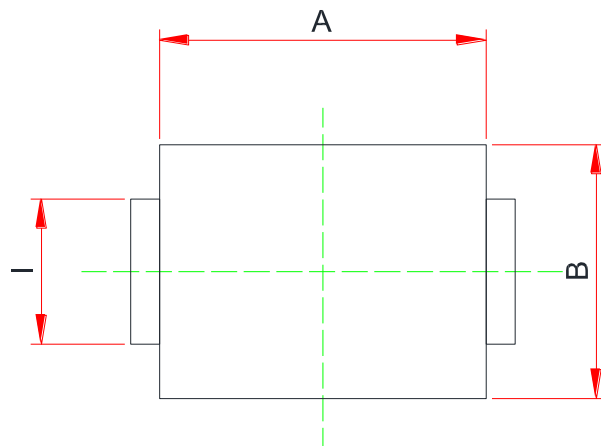
1) Current waveform.

2) Voltage waveform.

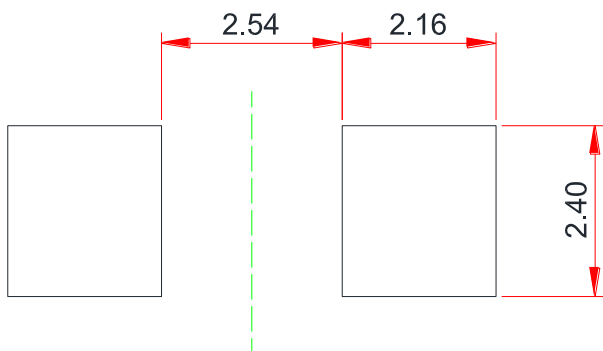
**Thermal considerations**

Parameter	Symbol	Rating	Unit
Operation junction temperature	$T_J$	-40~150	$^{\circ}\text{C}$
Storage temperature	$T_{\text{STG}}$	-55~150	$^{\circ}\text{C}$
Lead temperature	$T_L$	260	$^{\circ}\text{C}$
Junction to ambient thermal resistance	$R_{\theta\text{JA}}$	90	$^{\circ}\text{C/W}$

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

**Definitions of electrical characteristics**

**Peak pulse current waveform**

**Normalized  $V_S$  Change vs. Junction Temperature**

**Normalized Holding Current vs. Case Temperature**

**Package outline dimensions**
**SMB**


Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	4.30	4.50	4.70
B	3.30	3.50	3.70
C	2.00	2.15	2.30
D	5.05	5.30	5.55
E	0.10	0.20	0.30
F	0.95	1.25	1.55
G	0.20 Max.		
H	2.10	2.30	2.50
I	1.85	2.00	2.15

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

**Notes:**

This recommended land pattern is for reference purposes only. Please consult your manufacturing group to ensure your PCB design guidelines are met.