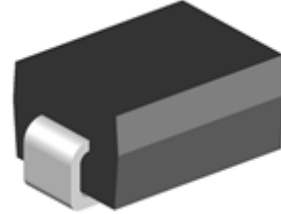
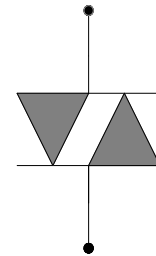


SPD4200B
1-Line, Bi-directional, Thyristor Surge Suppressors
<http://www.sh-willsemi.com>
Descriptions

The SPD4200B is a bi-directional TSS (Thyristor Surge Suppressors). It is specifically designed to protect telecom equipments from damaging overvoltage transients.

The SPD4200B is used to enable equipments to meet various regulatory requirements including GR-1089-CORE, ITU-T K.20, K.21 and K.45, IEC 61000-4-5.

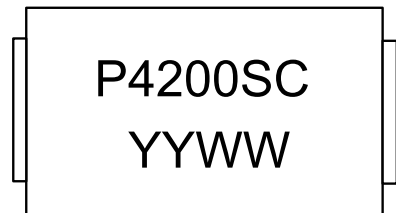
The SPD4200B is available in SMB package. Standard products are Pb-free and Halogen-free.


SMB (DO-214AA)

Schematic Diagram
Features

- Peak off-state voltage: 400V Max
- Excellent capability of absorbing transient surge
- Quick response to surge voltage
- Eliminate voltage overshoot caused by fast-rising transients
- Low capacitance: $C_j = 55\text{pF}$ Max.
- Low peak off-state current: $<5\mu\text{A}$
- Solid-state silicon technology, no degradation

Applications

- Broadband Equipment such as ADSL/VDSL
- Baseband Equipment such as ISDN
- CATV Equipment
- Customer Premises Equipment (CPE) such as telephones, fax machines, modems and VoIP
- Data lines and security systems



P4200SC = Device code

YYWW = Date code

Marking (Top View)
Order information

Device	Package	Shipping
SPD4200B-2/TR	SMB	3000/Tape&Reel

Thermal considerations

Parameter	Symbol	Rating	Unit
Junction Temperature	T_J	-55~150	°C
Operating Temperature	T_{OP}	-40~125	°C
Storage Temperature Range	T_{STG}	-55~150	°C
Lead temperature	T_L	260	°C
Junction to ambient thermal resistance	$R_{\theta JA}$	90	°C/W

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

Part Number	V_{DRM}	I_{DRM}	$V_S^{1)}$	I_S	I_H	V_T	I_T	$C_O^{2)}$
	V	μA	V	mA	mA	V	A	pF
		Max.	Max.		max	Max.		Max.
SPD4200B	400	5	500	800	150	4	2.2	55

Notes:

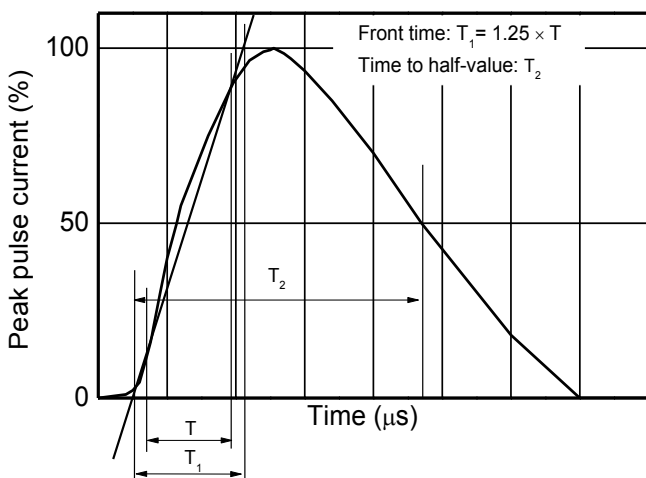
- 1) V_S is measured at 100kV/s.
- 2) Off-state capacitance is measured at $f = 1\text{MHz}$, $V_{DC} = 2\text{V}$.

Surge rating

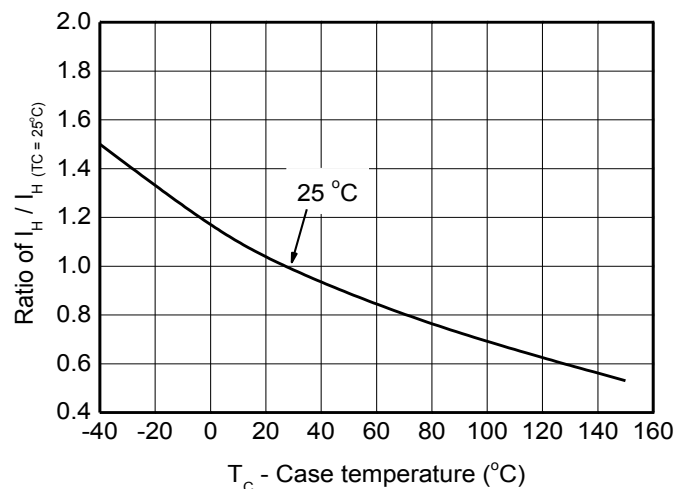
Part Number	$8/20\mu\text{s}^{1)}$	$5/310\mu\text{s}^{1)}$	$10/1000\mu\text{s}^{1)}$
	$1.2/50\mu\text{s}^{2)}$	$10/700\mu\text{s}^{2)}$	$10/1000\mu\text{s}^{2)}$
SPD4200B	300	150	80

Notes:

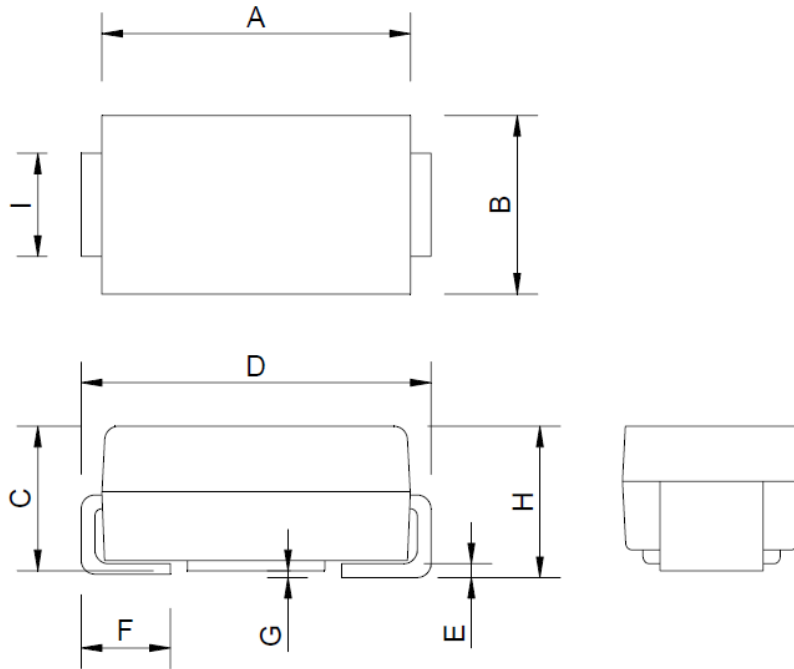
- 1) Current waveform.
- 2) Voltage waveform

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


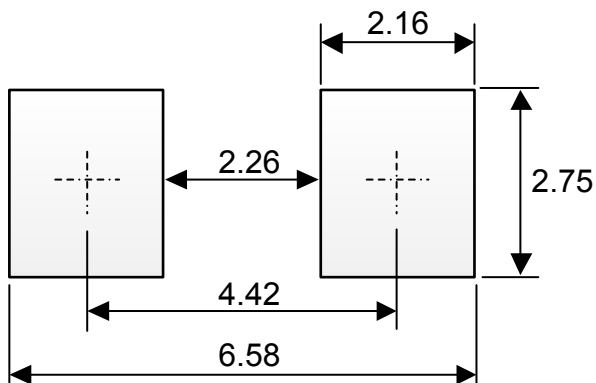
Peak pulse current waveform



Normalized holding current vs. Case temperature

Package outline dimensions
SMB


Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	4.30	--	4.70
B	3.30	--	3.75
C	2.00	--	2.35
D	4.95	--	5.55
E	0.10	--	0.30
F	0.80	--	1.50
G	0.00	--	0.30
H	2.10	--	2.60
I	1.85	--	2.15

Recommend land pattern (Unit: mm)


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