SPD9711B

1-Line,Bi-directional,Thyristor Surge Suppressors

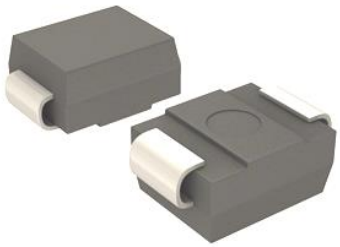
http//:www.sh-willsemi.com

Descriptions

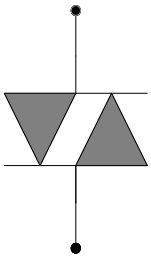
The SPD9711B is a bi-directional TSS (Thyristor Surge Suppressors). It is specifically designed to protect telecom equipments from damaging overvoltage transients.

The SPD9711B 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, IEC 60950, UL 60950, and TIA-968.

The SPD9711B is available in SMB package. Standard products are Pb-free and Halogen-free.



SMB (DO-214AA)



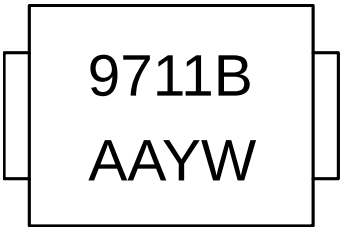
Schematic Diagram

Features

- Peak off-state voltage: 275V Max
- Excellent capability of absorbing transient surge
- Quick response to surge voltage
- Eliminate voltage overshoot caused by fast-rising transients
- Low capacitance: C_J = 80pF Max.
- Low peak off-state current: <1μA
- Solid-state silicon technology, non degenerative

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



9711B	= Device code
AA	= Special code
Y	= Year code
W	= Week code

Marking (Top View)

Order information

Device	Package	Shipping
SPD9711B-2/TR	SMB	3000/Tape&Reel

Electrical characteristics (T_A=25 °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.
SPD9711B	275	1	350	800	150	4	2.2	80

Notes:

1) Vs is measured at 100kV/s.

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

Surge Ratings

Part Number	8/20μs 1)	5/310μs 1)
	1.2/50μs 2)	10/700μs 2)
SPD9711B	400A	6000V/150A

Notes:

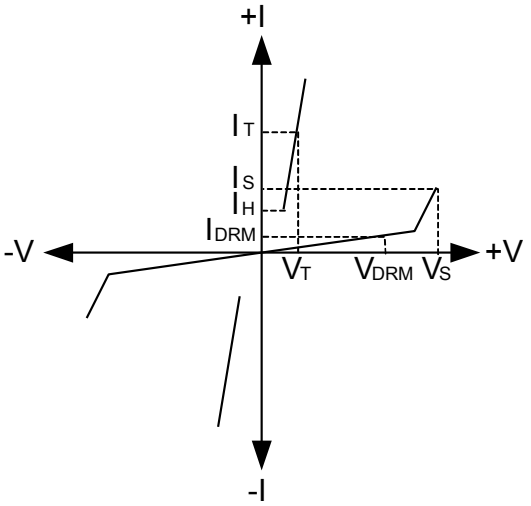
1) Current waveform.

2) Voltage waveform.

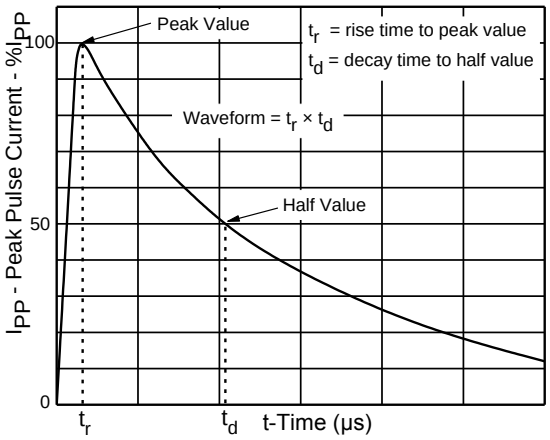
Thermal considerations

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

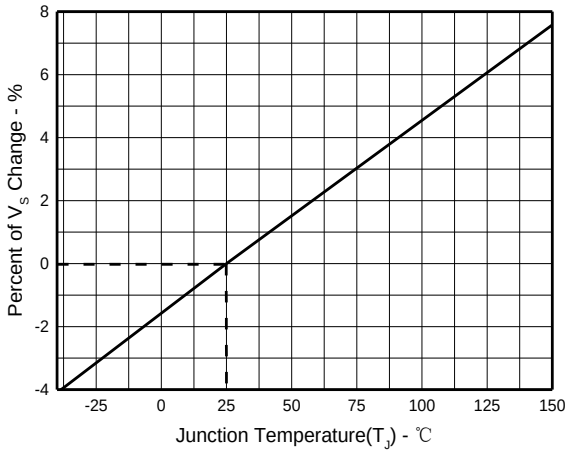
Typical characteristics (T_A=25°C, unless otherwise noted)



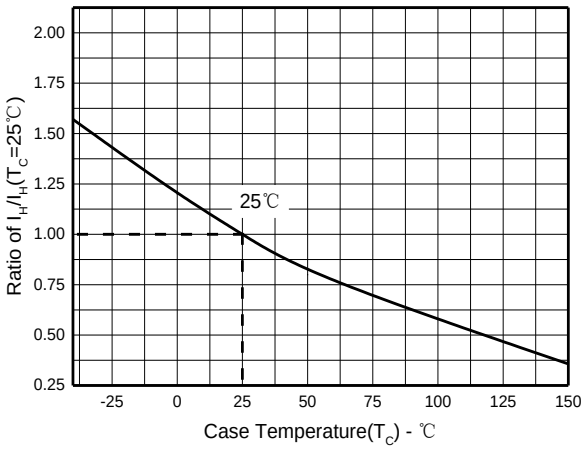
Definitions of electrical characteristics



Peak pulse current waveform



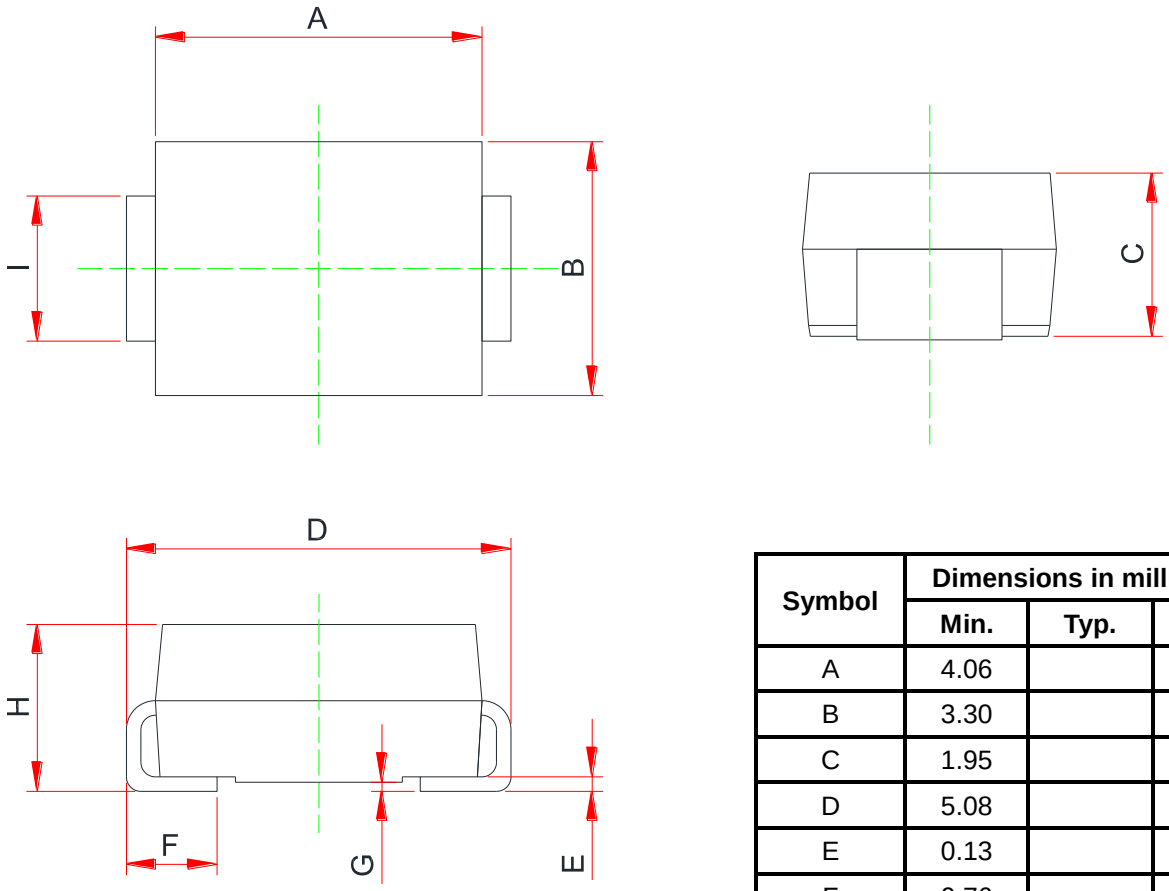
Normalized V_S Change vs. Junction Temperature



Normalized Holding Current vs. Case Temperature

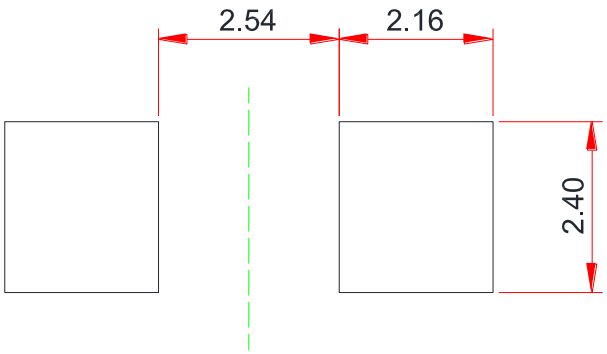
Package outline dimensions

SMB



Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	4.06		4.57
B	3.30		3.94
C	1.95		2.62
D	5.08		5.59
E	0.13		0.31
F	0.76		1.52
G	0.20 Max.		
H	2.10	2.30	2.50
I	1.78	2.00	2.20

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.