

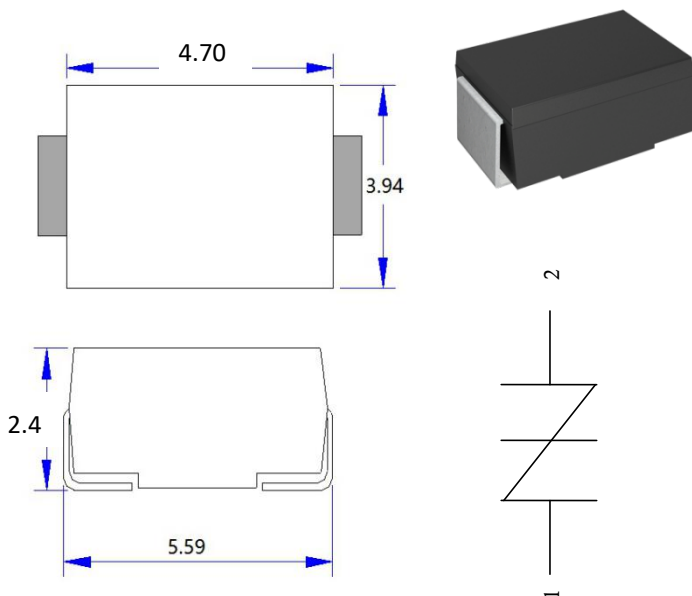
Description

PxxxxSB series thyristors are a type of semi-conduct component. They are designed in applications, modems, telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, PBXs and more.

Features

- For surface mounted applications to optimize board space
- Low profile package
- Bidirectional crowbar protection
- Low leakage current : $I = 5\mu A$ max
- Low on-state voltage
- Low Capacitance
- Solid-state silicon technology
- Eliminates over voltage caused by fast rising transients

Dimensions & Symbol (Unit: mm Max)



Mechanical Characteristics

Package: SMB/DO-214AA

- Case Material: "Green" Molding Compound.
- Standard Packaging: 12mm tape (EIA STD RS-481)
- Weight: 0.10g
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications Standards

TIA-968-A/B
ITU K.20/21 Enhanced Level*
ITU K.20/21 Basic Level*
GR 1089 Inter-building*
GR 1089 Intra-building
IEC 61000-4-5 2nd edition
YD/T 1082 YD/T 993 YD/T 950

Ordering Information

Outline	Reel (pcs)	Per carton (pcs)	Reel diameters (mm)
Taping	3K	48K	330

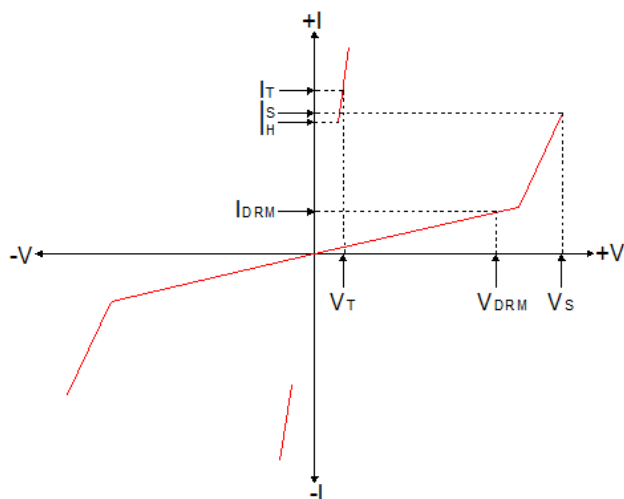
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T_{stg}	-60 to +150	$^{\circ}\text{C}$
Operating junction temperature range	T_j	-40 to +150	$^{\circ}\text{C}$
Repetitive peak pulse current	I_{PP}	80	A

Electrical Characteristics ($T_A=25^{\circ}\text{C}$)

Symbol	Parameter
V_{DRM}	Peak off-state voltage
I_{DRM}	Off-state current
V_S	Switching voltage
I_S	Switching current
V_T	On-state voltage
I_T	On-state current
I_H	Holding current
C_O	Off-state capacitance

V-I Curve



Surge Ratings

Series	I_{PP} (A) min			
	2×10us	8×20us	10×360us	10×1000us
B	250	250	125	80

Part Number Code

Series code: P Sidactor

← **P XXXX S B** →

Surge: 10/700uS 4KV

V_{DRM}

Package Type SMB

Electrical Characteristics ($T_A=25^{\circ}\text{C}$,)

Part Number	$I_{\text{DRM}}@V_{\text{DRM}}$		$V_S^{①}@I_S$		$V_T@I_T$		I_H	$C_O^{②}$	Marking
	μA	V	V	mA	V	A	mA	pF	
	max	min	max	max	max	max	min	max	
P0080SB	5	6	25	800	4	2.2	25	75	P008B YYWW
P0150SB	5	15	25	800	4	2.2	35	75	P015B YYWW
P0300SB	5	25	40	800	4	2.2	50	75	P03B YYWW
P0640SB	5	58	77	800	4	2.2	120	65	P06B YYWW
P0720SB	5	65	88	800	4	2.2	120	65	P07B YYWW
P0900SB	5	75	98	800	4	2.2	120	60	P09B YYWW
P1100SB	5	90	130	800	4	2.2	120	60	P11B YYWW
P1300SB	5	120	160	800	4	2.2	120	60	P13B YYWW
P1500SB	5	140	180	800	4	2.2	120	60	P15B YYWW
P1800SB	5	170	220	800	4	2.2	120	60	P18B YYWW
P2000SB	5	180	220	800	4	2.2	120	60	P20B YYWW
P2300SB	5	190	260	800	4	2.2	120	55	P23B YYWW
P2600SB	5	220	300	800	4	2.2	120	50	P26B YYWW
P3100SB	5	275	350	800	4	2.2	120	40	P31BM YYWW
P3500SB	5	320	400	800	4	2.2	120	40	P35B YYWW
P3800SB	5	360	460	800	4	2.2	120	35	P38B YYWW
P4200SB	5	400	540	800	4	2.2	120	35	P42B YYWW

① V_S is measured at 100KV/s

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

Ratings and V-I characteristics curves ($T_A=25^\circ\text{C}$, unless otherwise noted)

Figure 1 Normalized V_S Change vs Junction Temp

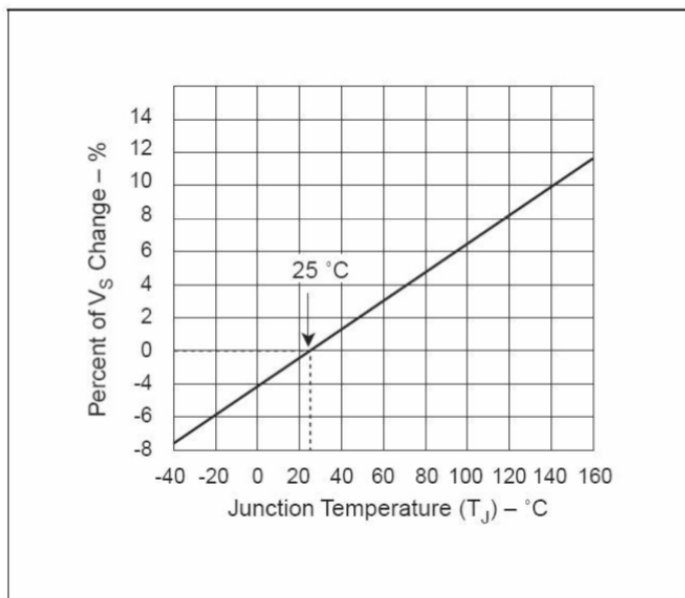
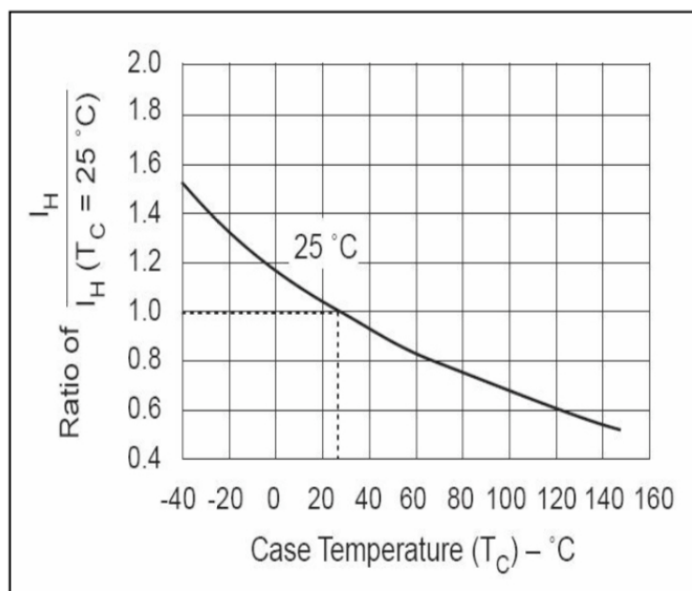
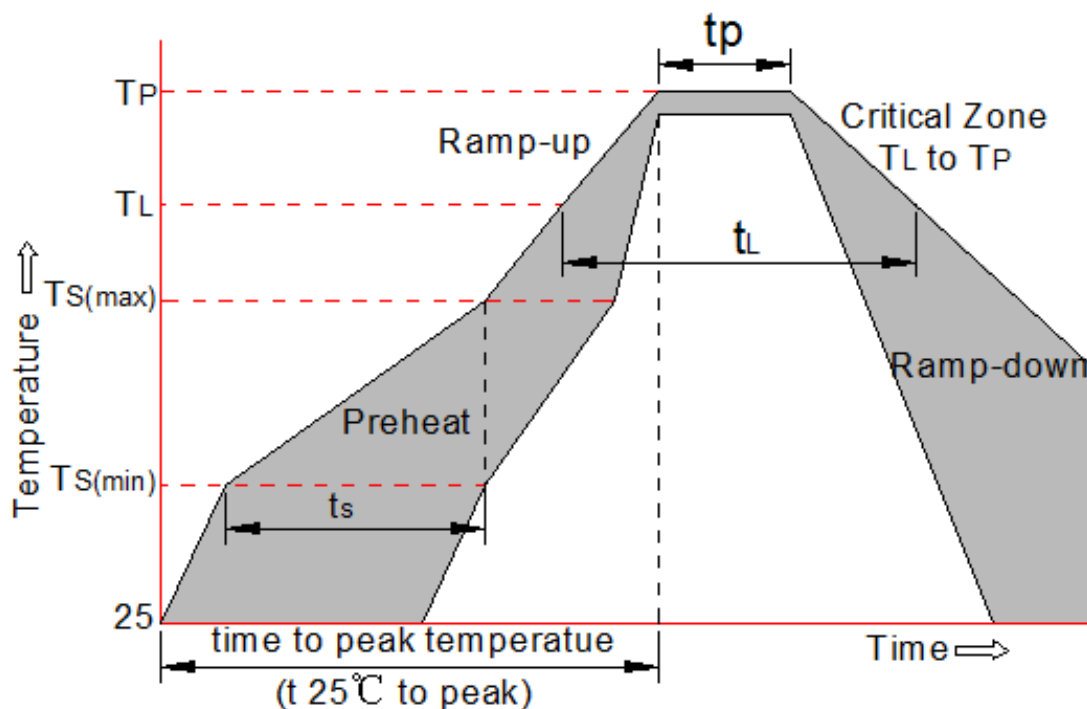


Figure 2 Normalized DC Holding Current



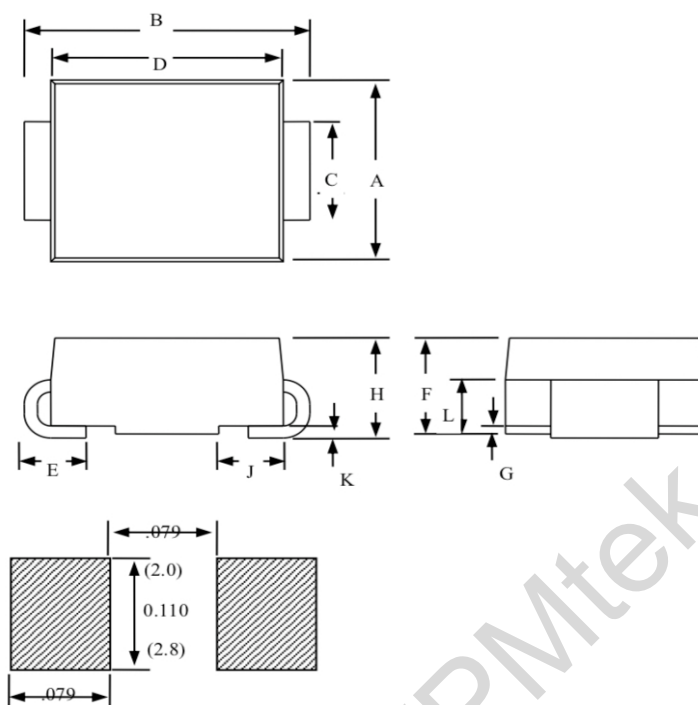
Soldering Parameters

Reflow Condition		Pb-Free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	$+150^\circ\text{C}$
	-Temperature Max ($T_{s(max)}$)	$+200^\circ\text{C}$
	-Time (Min to Max) (t_s)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature (T_L) (Liquid us)	$+217^\circ\text{C}$
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		$+260(+0/-5)^\circ\text{C}$
Time within 5°C of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T_P)		8 min. Max
Do not exceed		$+260^\circ\text{C}$

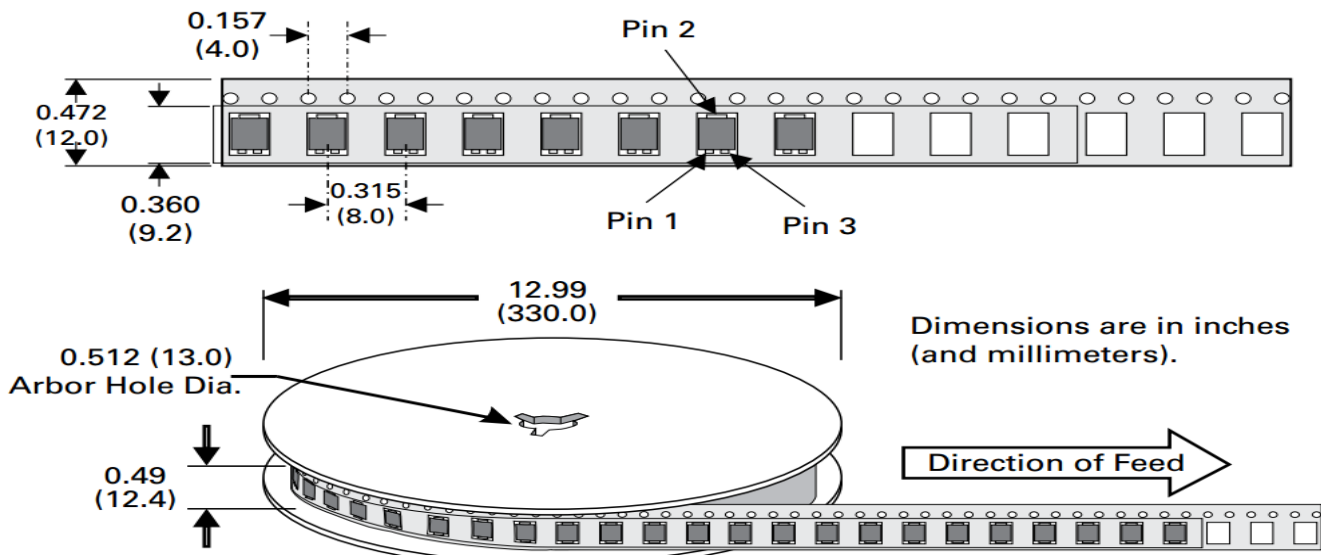


Package Mechanical Data

Dimension	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.134	0.155	3.40	3.94
B	0.205	0.22	5.21	5.59
C	0.075	0.083	1.90	2.11
D	0.166	0.185	4.22	4.70
E	0.036	0.056	0.91	1.42
F	0.073	0.087	1.85	2.2
G	0.002	0.008	0.05	0.20
H	0.077	0.094	1.95	2.40
J	0.043	0.053	1.09	1.35
K	0.008	0.014	0.20	0.35
L	0.039	0.049	0.99	1.24



Tape & Reel Specification – SMB



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