

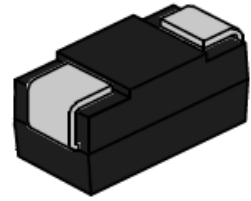


CPxxxxSB Series TSS

Rev.4.1

DESCRIPTION:

CPxxxxSB series thyristors are a type of semiconduct component. They are designed to protect baseband equipment from damaging overvoltage transients. Such as modems, telephones, line cards, answering machines, FAX machines, T1/E1, xDSL and more.



SMB

FEATURES:

- ✧ Lower capacitance.
- ✧ Low profile package.
- ✧ Low on-state voltage.
- ✧ Excellent capability of absorbing transient surge.
- ✧ Quick response to surge voltage (ns Level).
- ✧ Eliminates overvoltage caused by fast rising transients.
- ✧ Moisture sensitivity level: Level 1.
- ✧ Non degenerative.



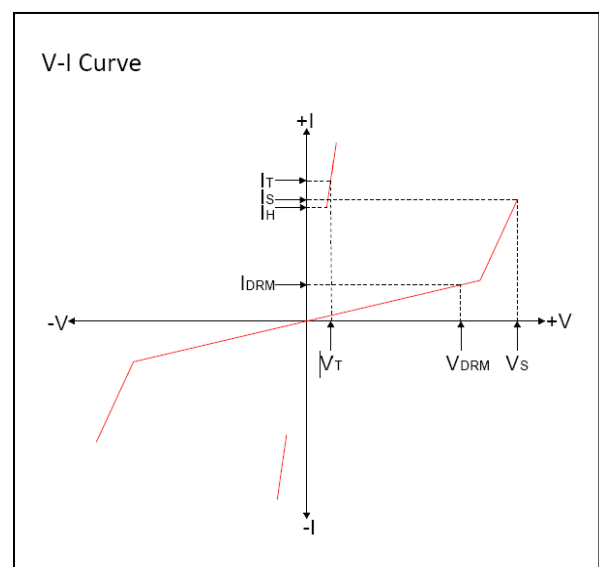
Symbol

ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

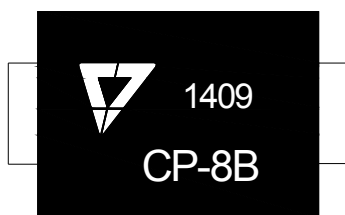
Parameter	Symbol	Value	Unit
Storage temperature range	T_{STG}	-60 to +150	$^{\circ}\text{C}$
Operating junction temperature range	T_J	-40 to +125	$^{\circ}\text{C}$
Repetitive peak pulse current	I_{PP}	80	A

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



MARKING



CP-8B: Device Marking Code
1409: In ninth week, 2014

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, continued)

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		max	max	max	max	min	max	
CP0080SB	1	6	15	800	4	2.2	30	50	CP-8B
CP0220SB	1	18	30	800	4	2.2	30	50	CP22B
CP0300SB	1	25	40	800	4	2.2	30	50	CP03B
CP0640SB	1	58	77	800	4	2.2	120	40	CP06B
CP0720SB	1	66	87	800	4	2.2	120	40	CP07B
CP0900SB	1	75	98	800	4	2.2	120	40	CP09B
CP1100SB	1	90	130	800	4	2.2	120	35	CP11B
CP1300SB	1	120	160	800	4	2.2	120	35	CP13B
CP1500SB	1	140	180	800	4	2.2	120	35	CP15B
CP1800SB	1	170	220	800	4	2.2	120	35	CP18B
CP2300SB	1	190	260	800	4	2.2	120	30	CP23B
CP2600SB	1	220	300	800	4	2.2	120	30	CP26B
CP3100SB	1	275	350	800	4	2.2	120	25	CP31B
CP3500SB	1	320	400	800	4	2.2	120	25	CP35B
CP3800SB	1	340	450	800	4	2.2	120	25	CP38B

① V_S is measured at 100KV/s

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

SURGE RATINGS

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

ORDERING INFORMATION

CP	008	0	S	B
Low capacitance sidactor			Package type	Surge Ratings:4KV(10/700μs)
	Median Voltage	0:Bi-directional,1:Uni		

SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp(T_L)to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L)(Liquidus)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃of actual Peak Temp (t_p)		30secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG.1: $t_r \times t_d$ pulse waveform

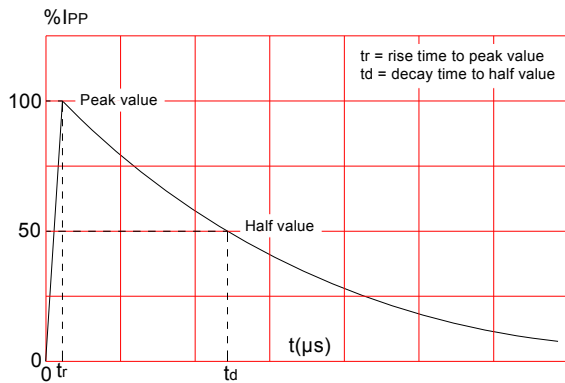


FIG.2: Reflow condition

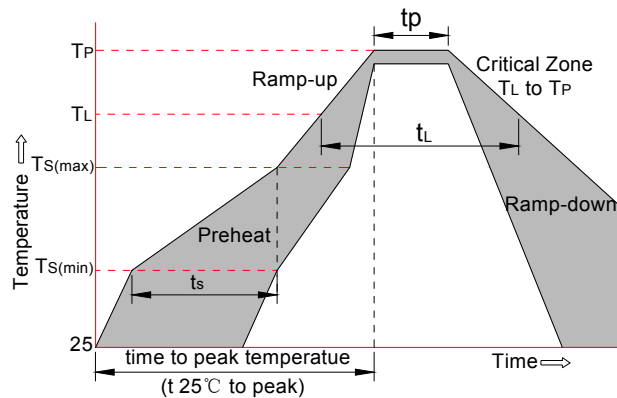


FIG.3: Normalized V_s change vs. junction temperature

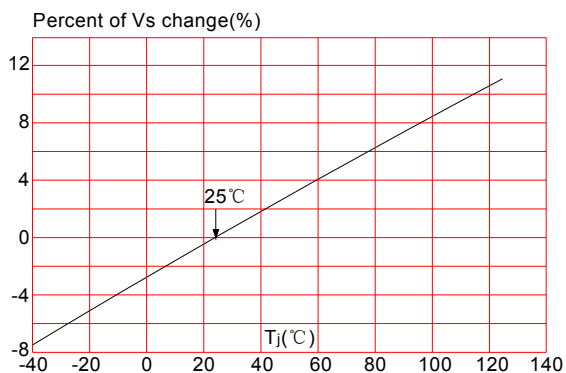
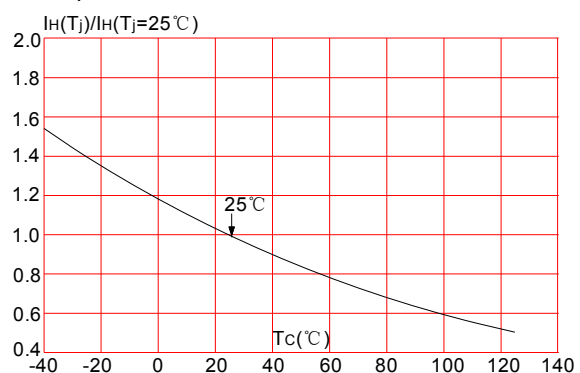
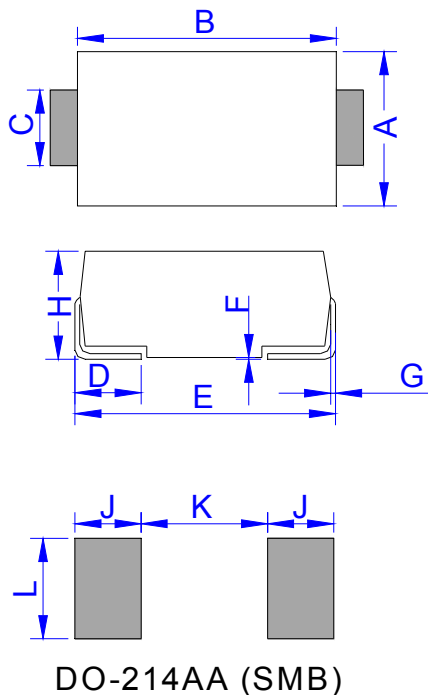


FIG.4: Normalized DC holding current vs. case temperature

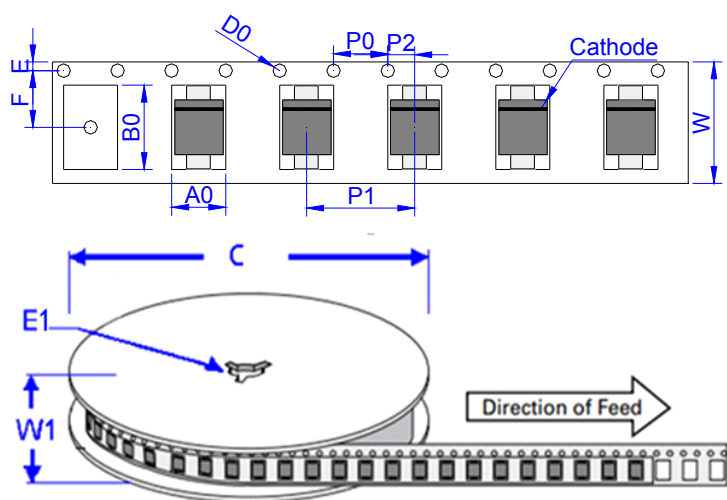


PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.30	4.80	0.169	0.189
C	1.90	2.20	0.075	0.087
D	0.95	1.52	0.037	0.060
E	5.20	5.60	0.205	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.10	2.40	0.083	0.094
J	2.20		0.087	
K		2.60		0.102
L	2.30		0.091	

TAPE AND REEL SPECIFICATION-SMB



Ref.	Dimensions	
	Millimeters	Inches
A0	3.76 ± 0.3	0.148 ± 0.012
B0	5.69 ± 0.3	0.224 ± 0.012
C	330.0	13.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	5.5 ± 0.2	0.217 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	8.00 ± 0.2	0.3145 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.2	0.472 ± 0.008
W1	15.7 ± 2.0	0.618 ± 0.079

OUTLINE	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
TAPING	0.098	3,000	48,000	330

Information furnished in this document is believed to be accurate and reliable. However, Jiangsu JieJie Microelectronics Co.,Ltd assumes no responsibility for the consequences of use without consideration for such information nor use beyond it. Information mentioned in this document is subject to change without notice, apart from that when an agreement is signed, Jiangsu JieJie complies with the agreement. Products and information provided in this document have no infringement of patents. Jiangsu JieJie assumes no responsibility for any infringement of other rights of third parties which may result from the use of such products and information.

This document is the 4.1st version which is made in 11-Aug.-2017. This document supersedes and replaces all information previously supplied.



is a registered trademark of Jiangsu JieJie Microelectronics Co.,Ltd.

Copyright©2017 Jiangsu JieJie Microelectronics Co.,Ltd. Printed All rights reserved.