

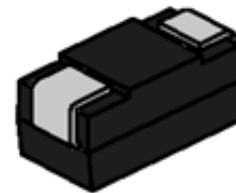


## JP15SB TSS

Rev.3

### DESCRIPTION:

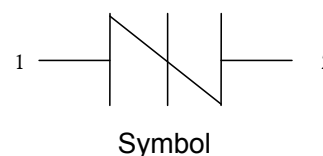
JP15SB thyristors are a type of semiconductor component. They are designed to protect baseband equipment from damaging overvoltage transients. such as modems, telephones, line cards, answering machines, FAX machines, T1/E1, xDSL and more.



SMB

### FEATURES:

- ✧ Lower capacitance.
- ✧ 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.

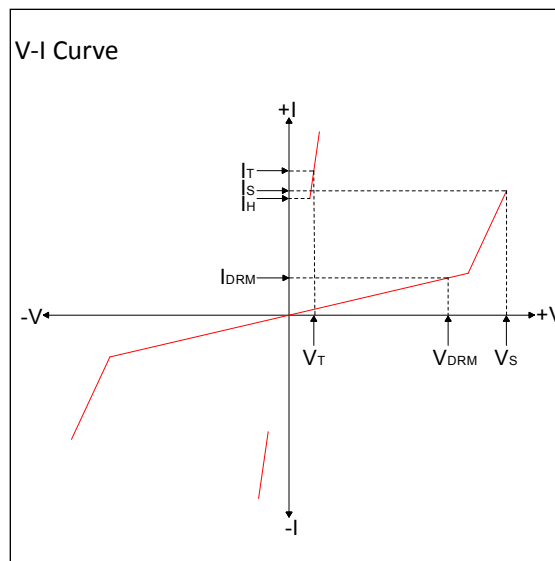


### ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$ , RH=45%-75%, unless otherwise noted)

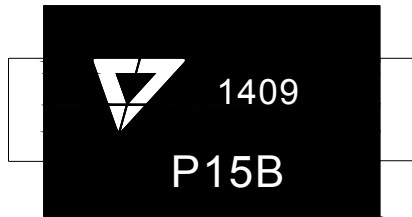
Parameter	Symbol	Value	Unit
Storage temperature range	$T_{STG}$	-60 to +150	$^{\circ}\text{C}$
Operating junction temperature range	$T_J$	-40 to +150	$^{\circ}\text{C}$
Repetitive peak pulse current@10/1000 $\mu\text{s}$	$I_{PP}$	80	A

### 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



P15B : Device Marking Code  
1409: In ninth week, 2014

ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, continued)

Part Number	I <sub>DRM</sub> @V <sub>DRM</sub>		V <sub>S</sub> <sup>①</sup> @I <sub>S</sub>		V <sub>T</sub> @ I <sub>T</sub>		I <sub>H</sub>	C <sub>O</sub> <sup>②</sup>	Marking
	μA	V	V	mA	V	A	mA	pF	
	max		max	max	max	max	min	max	
JP15SB	1	140	180	800	4	2.2	150	50	P15B

① V<sub>S</sub> is measured at 100KV/s

② Off-state capacitance is measured in V<sub>DC</sub>=2V, V<sub>RMS</sub>=1V, f=1MHz

SURGE RATINGS

Series	I <sub>PP</sub> (A) min			
	2×10μs	8×20μs	10×360μs	10×1000μs
B	250	250	125	80

RATINGS AND V-I CHARACTERISTICS CURVES (T<sub>A</sub>=25°C, unless otherwise noted)

FIG.1: tr × td pulse waveform

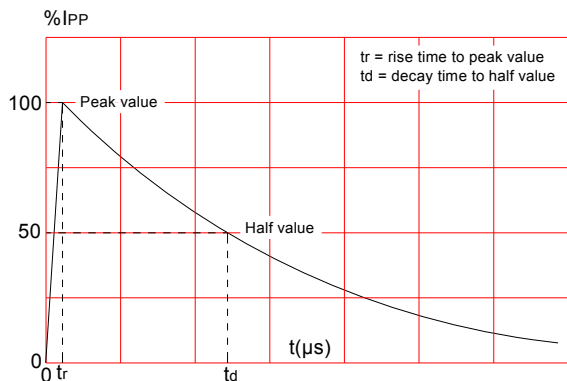
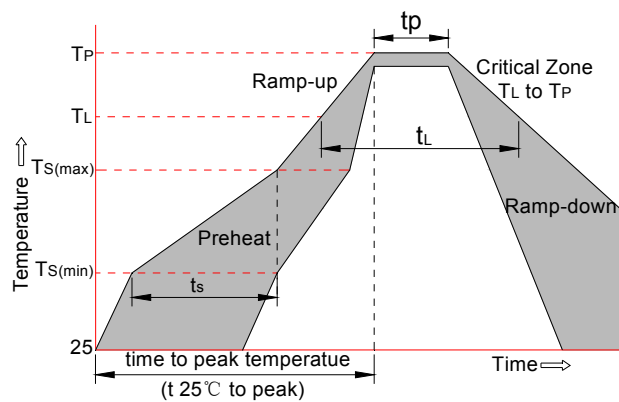
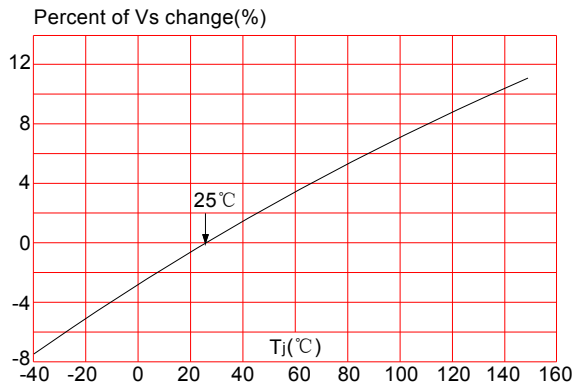


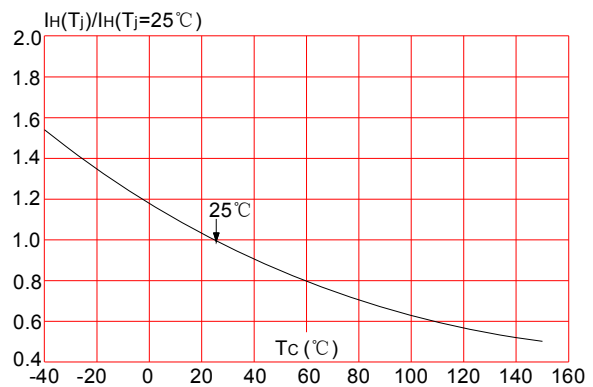
FIG.2: Reflow condition



**FIG.3:** Normalized  $V_s$  change vs. junction temperature



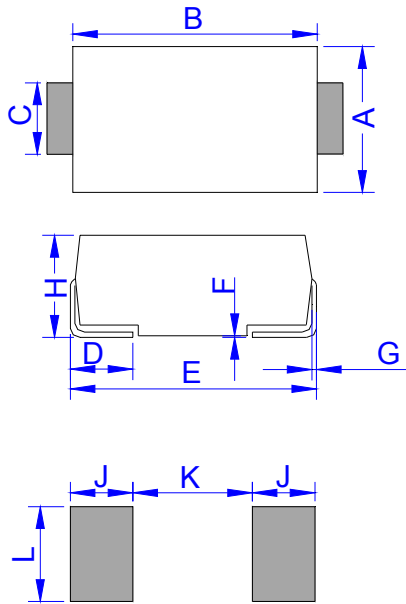
**FIG.4:** Normalized DC holding current vs. case temperature



**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ( $T_{s(\min)}$ )	+150°C
	-Temperature Max( $T_{s(\max)}$ )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(\max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature( $T_L$ ) (Liquidus)	+217°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°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°C

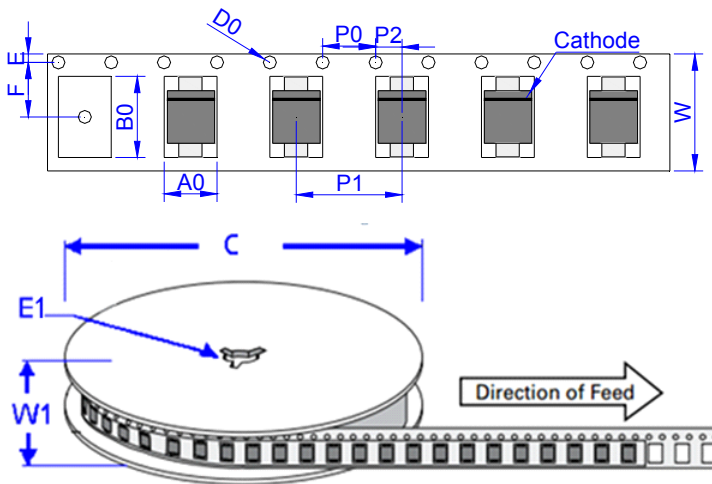
PACKAGE MECHANICAL DATA



DO-214AA (SMB)

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

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