



## PxxxxLB Series TSS

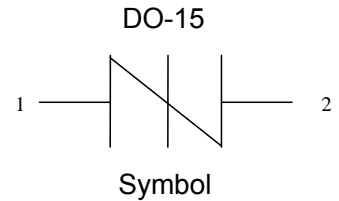
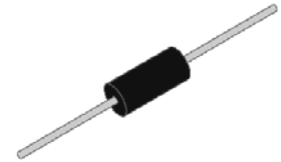
Rev.1.1

### DESCRIPTION:

PxxxxLB series are a type of semiconductor component. They are designed to protect baseband equipment from damaging overvoltage transients.

### FEATURES:

- ✧ 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.
- ✧ UL 497B item recognized. (File No.: E480698).
- ✧ IEC61000-4-2 (ESD)  $\pm 30\text{kV}$  (air),  $\pm 30\text{kV}$  (contact).
- ✧ Non degenerative.

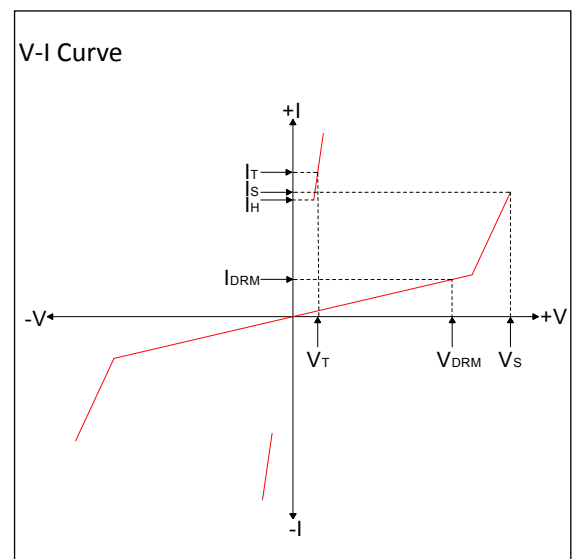


### ABSOLUTE MAXIMUM RATINGS( $T_A=25^\circ\text{C}$ , RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	$T_{STG}$	-60 to +150	$^\circ\text{C}$
Operating junction temperature range	$T_J$	-40 to +125	$^\circ\text{C}$
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



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

Part Number	$I_{\text{DRM}}@V_{\text{DRM}}$		$V_{\text{S}}^{\text{①}}@I_{\text{S}}$		$V_{\text{T}}@I_{\text{T}}$		$I_{\text{H}}$	$C_{\text{O}}^{\text{②}}$
	$\mu\text{A}$	V	V	mA	V	A	mA	pF
	max		max	max	max	max	min	max
P0080LB	1	6	15	800	4	2.2	50	130
P0220LB	1	15	30	800	4	2.2	50	120
P0300LB	1	25	40	800	4	2.2	50	120
P0640LB	1	58	77	800	4	2.2	120	80
P0720LB	1	66	87	800	4	2.2	120	75
P0900LB	1	75	98	800	4	2.2	120	70
P1100LB	1	90	130	800	4	2.2	120	70
P1300LB	1	120	160	800	4	2.2	120	60
P1500LB	1	140	180	800	4	2.2	120	55
P1800LB	1	170	220	800	4	2.2	120	50
P2300LB	1	190	260	800	4	2.2	120	50
P2600LB	1	220	300	800	4	2.2	120	45
P3100LB	1	275	350	800	4	2.2	120	45
P3500LB	1	320	400	800	4	2.2	150	40

①  $V_{\text{S}}$  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**

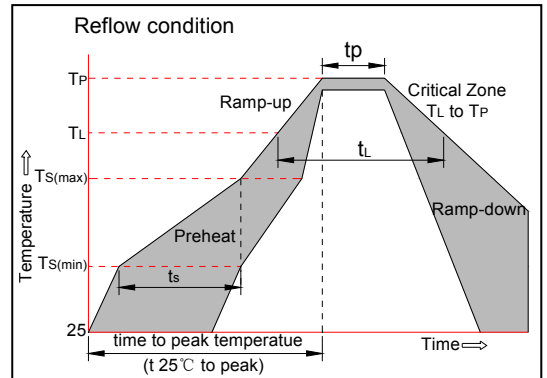
Series	$I_{\text{PP}}(\text{A})$ min			
	2/10 $\mu\text{s}$	8/20 $\mu\text{s}$	10/360 $\mu\text{s}$	10/1000 $\mu\text{s}$
B	250	250	125	80

**ORDERING INFORMATION**

<b>P</b>	<b>008</b>	<b>0</b>	<b>L</b>	<b>B</b>
Series code P: SIDACTor	Median voltage	0: Bi-direction	Package type: DO-15	Surge ratings:4kV(10/700 $\mu\text{s}$ )

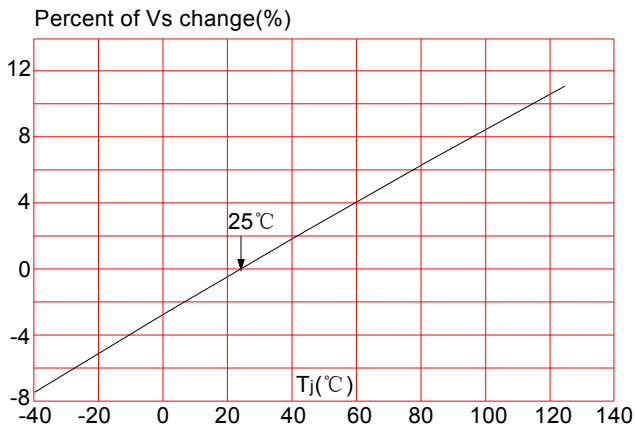
**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see figure at right)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) ( $t_s$ )	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 ( $t_p$ )		30secs.Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_p$ )		8 min. Max
Do not exceed		+260°C



Flow/Wave Soldering(Solder Dipping)	
Peak Temperature	260°C
Dipping Time	5 seconds
Soldering	1 time

**FIG.1:** Normalized Vs change vs. junction temperature



**FIG.2:** Normalized DC holding current vs. case temperature

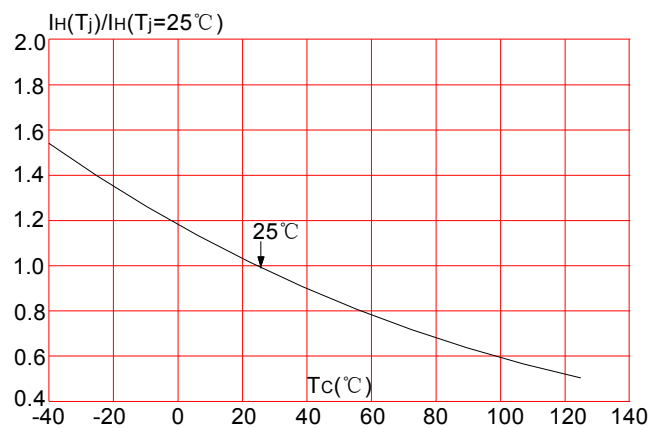
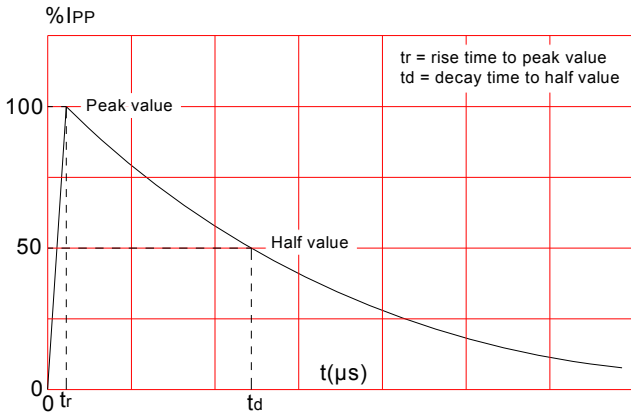


FIG.3: tr × td pulse waveform



MARKING & ORDERING INFORMATION



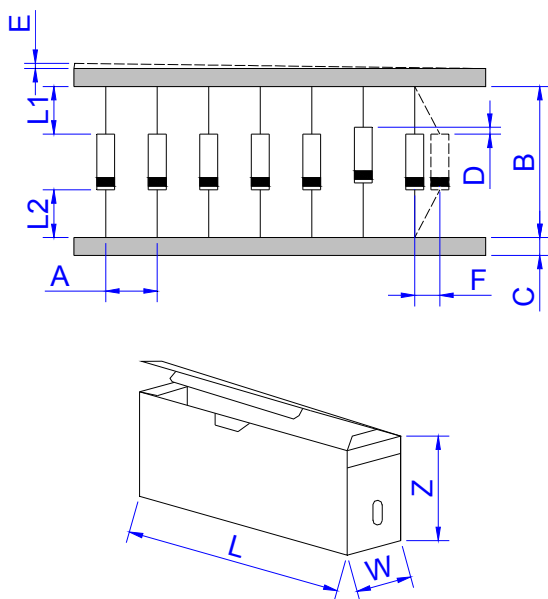
Product Type

- |     |     |     |     |     |
|-----|-----|-----|-----|-----|
| P   | xxx | x   | L   | B   |
| (1) | (2) | (3) | (4) | (5) |
- (1)Thyristor surge suppressors
  - (2) $V_s$  voltage code
  - (3)Bi-directional
  - (4)Package:DO-15
  - (5)Surge ratings:4kV(10/700μs)

PACKAGE MECHANICAL DATA

<p style="text-align: center;">DO-15</p>	Ref.	Dimensions			
		Millimeters		Inches	
		Min.	Max.	Min.	Max.
	A	25.40	-	1.000	-
B	5.80	7.62	0.228	0.300	
C	0.71	0.86	0.028	0.034	
D	2.60	3.60	0.102	0.142	

TAPE AND BOX SPECIFICATION-DO-15



Ref.	Dimensions	
	Millimeters	Inches
A	5.0±0.5	0.197±0.020
B	53.0±1.5	2.087±0.059
C	6.0±0.5	0.236±0.020
D	1.2(MAX)	0.047(MAX)
E	0.8(MAX)	0.031(MAX)
F	1.5(MAX)	0.059(MAX)
L1-L2	1.0(MAX)	0.039(MAX)
W	80±5.0	3.150±0.197
L	250±5.0	9.843±0.197
Z	115±5.0	4.528±0.197

PART No.	UNIT WEIGHT (g/PCS) typ.	PER BOX (PCS)	PER CARTON (PCS)	DESCRIPTION
PxxxxLB	0.42	2,000	20,000	Box

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