

## PxxxxTB Series

Rev.1.0

### DESCRIPTION:

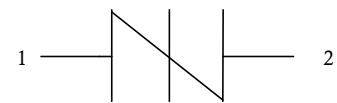
PxxxxTB series are a type of semiconductor component. They are designed to protect baseband equipment from damaging overvoltage transients.



SMA

### FEATURES:

- ✧ 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
- ✧ Weight 69 mg (approximate)
- ✧ Non degenerative



Symbol

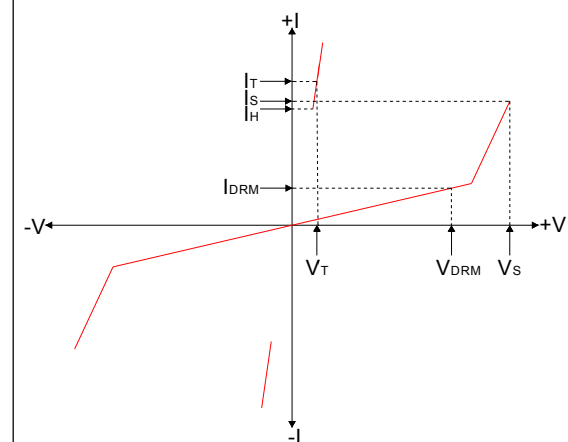
### ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ , RH=45%-75%, unless otherwise noted)

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

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

Symbol	Parameter
$V_{\text{DRM}}$	Peak off-state voltage
$I_{\text{DRM}}$	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



## ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25℃, 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	
P0080TB	5	6	25	800	4	2.2	50	130	P-8B
P0220TB	5	15	30	800	4	2.2	50	120	P22B
P0300TB	5	25	40	800	4	2.2	50	120	P03B
P0640TB	5	58	77	800	4	2.2	120	80	P06B
P0720TB	5	66	87	800	4	2.2	120	75	P07B
P0900TB	5	75	98	800	4	2.2	120	70	P09B
P1100TB	5	90	130	800	4	2.2	120	70	P11B
P1300TB	5	120	160	800	4	2.2	120	60	P13B
P1500TB	5	140	180	800	4	2.2	120	55	P15B
P1800TB	5	170	220	800	4	2.2	120	50	P18B
P2300TB	5	190	260	800	4	2.2	120	50	P23B
P2600TB	5	220	300	800	4	2.2	120	45	P26B
P3100TB	5	275	350	800	4	2.2	120	45	P31B
P3500TB	5	320	400	800	4	2.2	150	40	P35B

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			
	2×10us	8×20us	10×360us	10×1000us
B	250	250	125	80

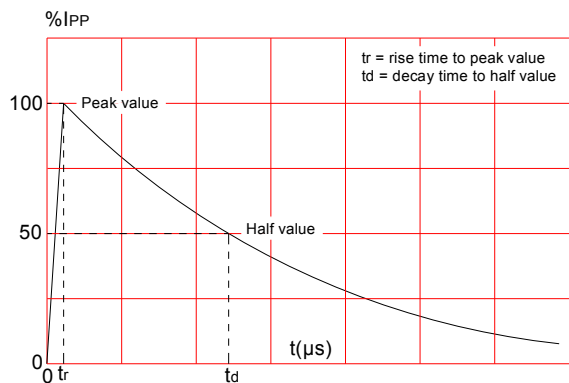
## ORDERING INFORMATION

<b>P</b>	<b>008</b>	<b>0</b>	<b>T</b>	<b>B</b>
Series code P: SIDACtor	Median voltage	0: Bi-direction 1: Uni-direction	Package type:SMA	Surge ratings:4KV(10/700μs)

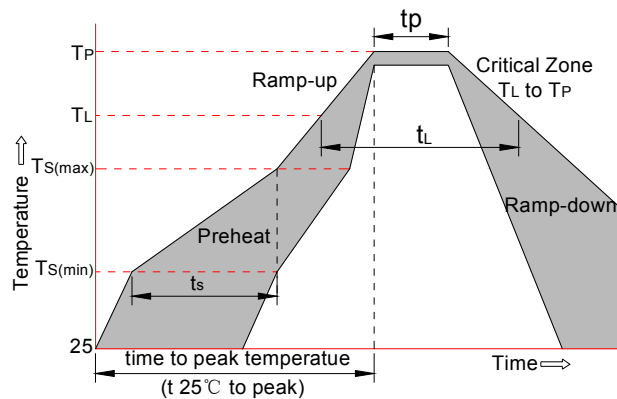
## SOLDERING PARAMETERS

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 (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°C
	-Temperature( $t_L$ )	60-150 secs.
Peak Temp ( $T_p$ )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp ( $t_p$ )		8-15 secs.
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp ( $T_P$ )		8 min. Max
Do not exceed		+260°C

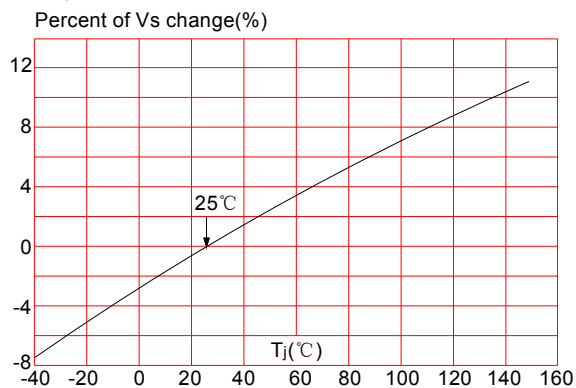
**FIG.1:** tr × td pulse waveform



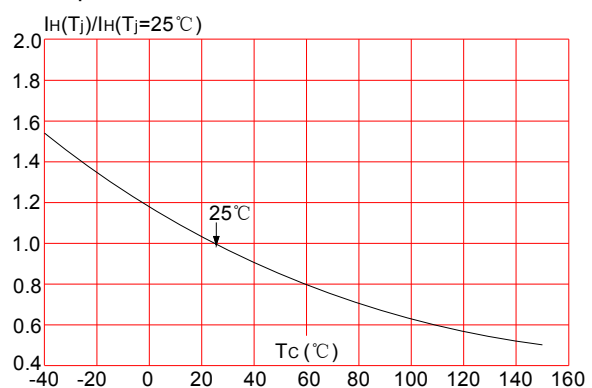
**FIG.2:** Reflow condition



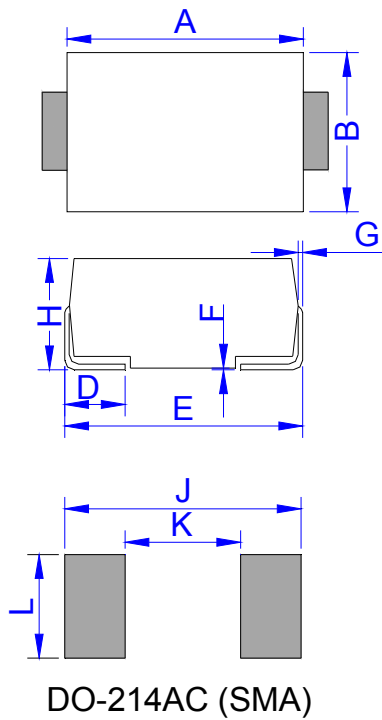
**FIG.3:** Normalized Vs change vs. junction temperature



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

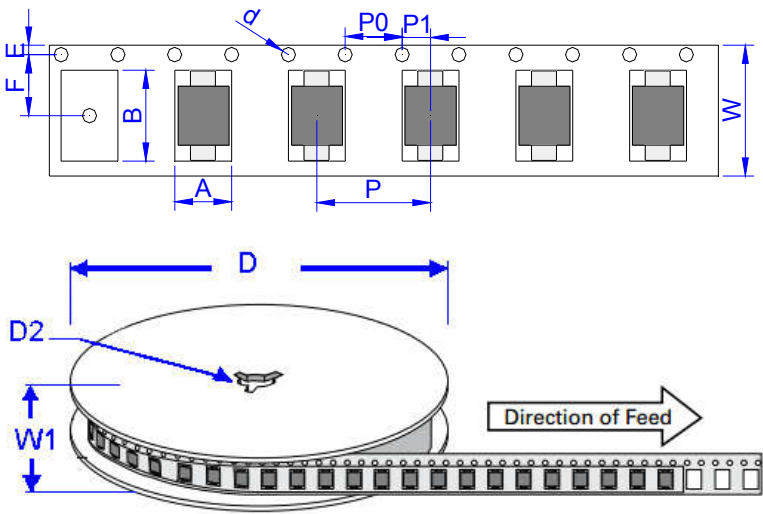


PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.65	0.167	0.183
B	2.50	2.90	0.098	0.114
C	1.35	1.65	0.053	0.065
D	0.76	1.52	0.030	0.060
E	4.93	5.28	0.194	0.208
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	1.98	2.41	0.078	0.095
J	6.50		0.256	
K		2.30		0.090
L	1.70		0.067	

TAPE AND REEL SPECIFICATION-SMA



Ref.	Dimensions	
	Millimeters	Inches
A	2.79 ± 0.3	0.110 ± 0.012
B	5.33 ± 0.3	0.210 ± 0.012
d	1.5 ± 0.1	0.059 ± 0.004
D	330.0	13.0
D2	13 ± 1	0.512 ± 0.039
E	1.5 ± 0.2	0.059 ± 0.008
F	5.65 ± 0.2	0.222 ± 0.008
P	4.0 ± 0.2	0.157 ± 0.008
P0	4.0 ± 0.2	0.157 ± 0.008
P1	2.0 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.2	0.472 ± 0.008
W1	16.8 ± 2.0	0.661 ± 0.079

OUTLINE	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
TAPING	5,000	80,000	330