

Thyristor Surge Suppressors (TSS)

PXXXXTB Series DO-214AC(SMA) @10/700 μ s, 4KV

Description

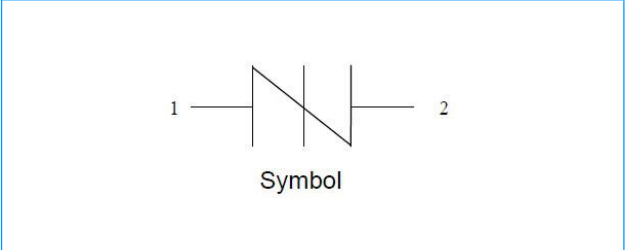
PXXXXTB Series Thyristors are a type of semi-conduct component. They are designed in applications, modems, telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, PBXs and more.



Features

- ◆ 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

Schematic Symbol

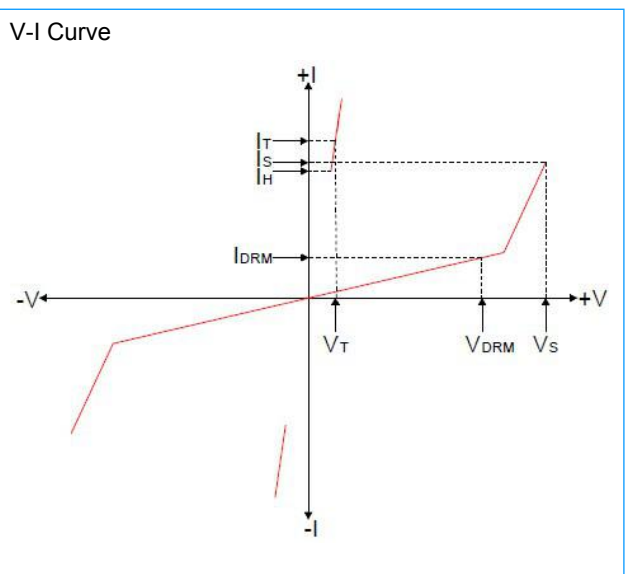


Absolute Maximum Ratings (T_A=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage Temperature Range	T _{stg}	-60 to +150	°C
Operating Junction Temperature Range	T _j	-40 to +150	°C
Repetitive Peak Pulse Current	I _{PP}	80	A

Electrical Parameters (T_A=25°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



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Electrical Characteristics (T_A=25°C)

Part Number	Marking	I _{DRM} @ V _{DRM}		V _S ^① @ I _S		V _T @ I _T		I _H	C _o ^②
		μ A	V	V	mA	V	A	mA	pF
		max		max	max	max	max	min	max
P0080TB	P-8B	5	6	25	800	4	2.2	50	130
P0220TB	P22B	5	15	30	800	4	2.2	50	120
P0300TB	P03B	5	25	40	800	4	2.2	50	120
P0640TB	P06B	5	58	77	800	4	2.2	120	80
P0720TB	P07B	5	66	87	800	4	2.2	120	75
P0900TB	P09B	5	75	98	800	4	2.2	120	70
P1100TB	P11B	5	90	130	800	4	2.2	120	70
P1300TB	P13B	5	120	160	800	4	2.2	120	60
P1500TB	P15B	5	140	180	800	4	2.2	120	55
P1800TB	P18B	5	170	220	800	4	2.2	120	50
P2300TB	P23B	5	190	260	800	4	2.2	120	50
P2600TB	P26B	5	220	300	800	4	2.2	120	45
P3100TB	P31B	5	275	350	800	4	2.2	120	45
P3500TB	P35B	5	320	400	800	4	2.2	150	40

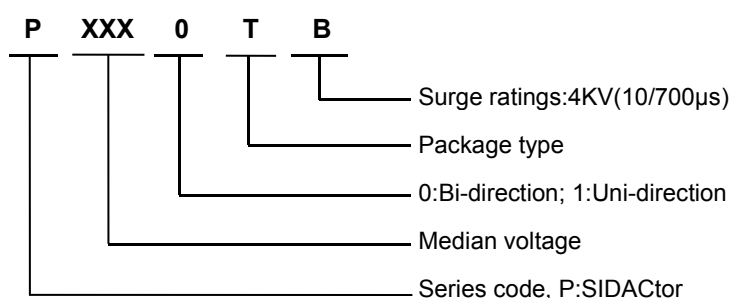
Notes:

- ① V_S is measured at 100KV/s;
- ② Off-state Capacitance is measured in V_{DC}=2V, V_{RMS}=1V, f=1MHz.

Surge Ratings

Series	I _{PP} (A) min			
	2×10 μ s	8×20 μ s	10×360 μ s	10×1000 μ s
B	250	250	125	80

Ordering Information



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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 μ s)	+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 x td pulse waveform **Fig.2: Reflow condition**

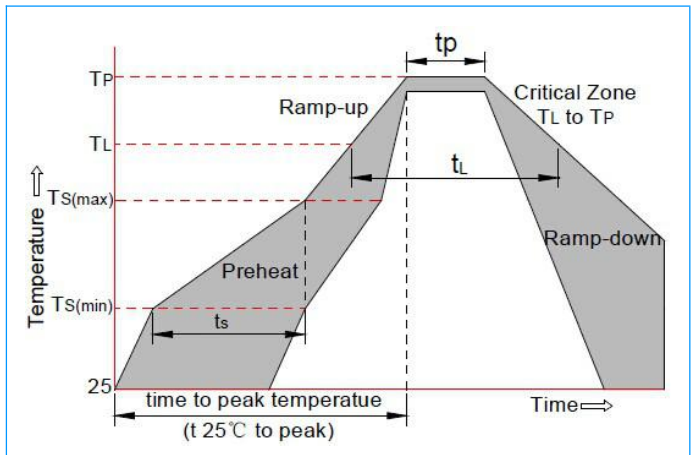
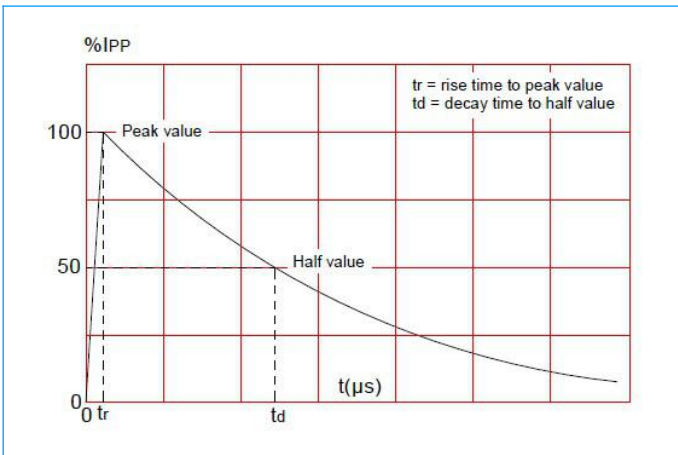
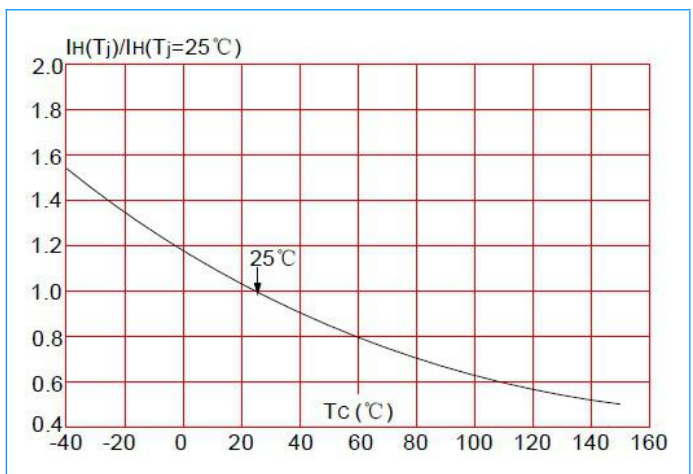
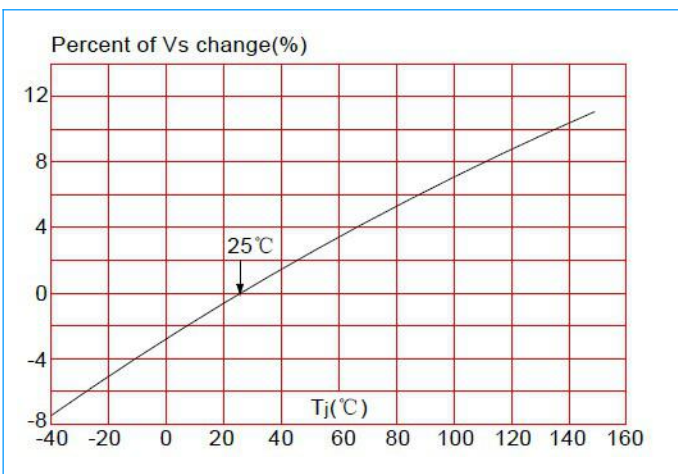


Fig.3: Normalized Vs change vs. junction temperature

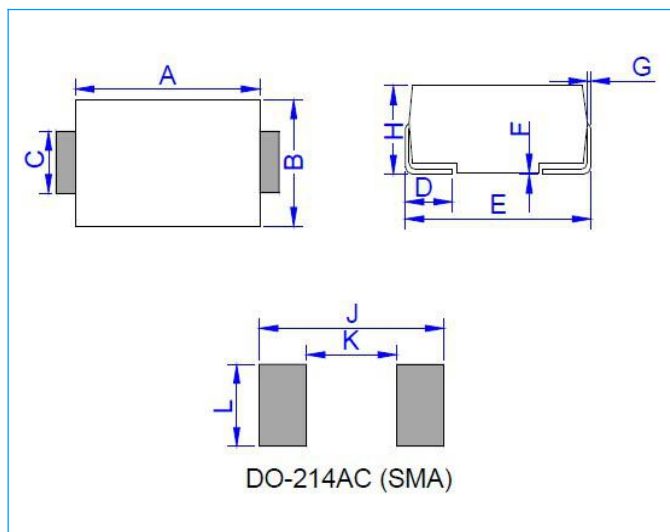
Fig.4: Normalized DC holding current vs. case temperature



Thyristor Surge Suppressors (TSS)

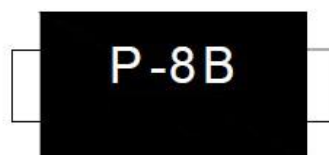
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Package Mechanical Data



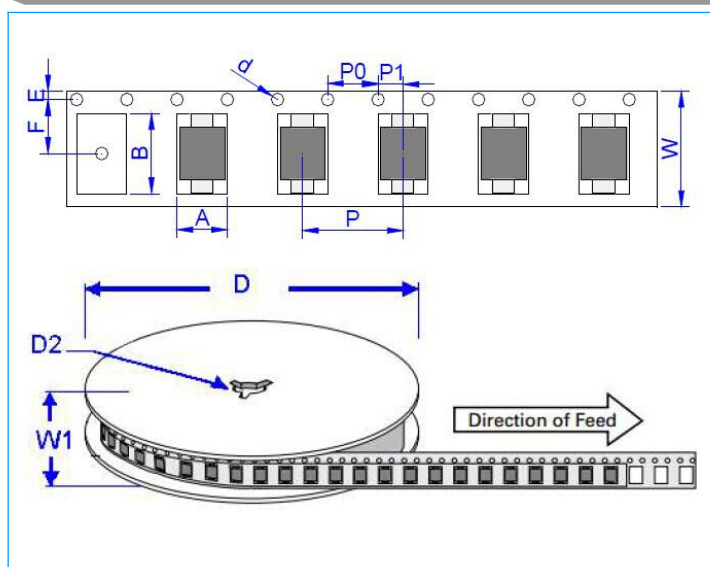
Ref.	Dimensions			
	Millimeters		Inches	
	Min	Max	Min	Max
A	4.25	4.65	0.167	0.183
B	2.50	2.90	0.098	0.114
C	1.35	1.65	0.053	0.065
D	0.76	1.52	0.030	0.060
E	4.93	5.28	0.194	0.208
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	1.98	2.41	0.078	0.095
J	6.80	—	0.268	—
K	—	2.60	—	0.102
L	2.40	—	0.094	—

Marking



P-8B :Device Marking Code

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