

TSS Thyristor Surge Protector DO-214AC P0720TB @10/700μs 3/4KV

Basic Information

- Place of Origin: Shenzhen, Guangdong, China
- Brand Name: SOCAY
- Certification: REACH,RoHS,ISO
- Model Number: P0720TB
- Minimum Order Quantity: 5000PCS
- Price: Negotiable
- Packaging Details: AMMO packing bulk
- Delivery Time: 5-8 work days



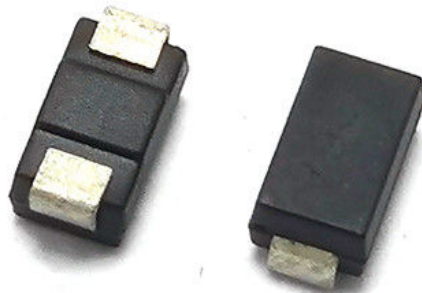
Product Specification

- TSS Name: Thyristor Surge Suppressors (TSS)
- TSS Package: DO-214AC/SMA
- TSS VDRM (Min.): 66V
- TSS IDRM: 5μA
- Vs @100V/μS (Max.): 87V
- TSS Is (Max.): 800mA
- Vt @It=2.2A (Max.): 4V
- TSS It (Max.): 2.2A
- TSS Ih (Min.): 120mA
- TSS C0 @1MHz,2V Bias (Typ.): 75pF
- Highlight: **TSS Thyristor Surge Protector ,
DO-214AA Thyristor Surge Protector , P0080SB**

DATASHEET: PXXX0TB v2101.2.pdf

Part Number	Marking	V_{DRM} @ $I_{DRM}=5\mu A$	V_S @ $100V/\mu s$	I_S	V_T @ $I_T=2.2A$	I_T	I_H	C_0 @1MHz, 2Vbias
		V Min.	V Max.	mA Max.	V max.	A max.	mA min.	pF typ.
P0080T B	P008B	6	25	800	4	2.2	50	130
P0220T B	P22B	15	30	800	4	2.2	50	120
P0300T B	P03B	25	40	800	4	2.2	50	120
P0640T B	P06B	58	77	800	4	2.2	120	80
P0720T B	P07B	66	87	800	4	2.2	120	75
P0900T B	P09B	75	98	800	4	2.2	120	70
P1100T B	P11B	90	130	800	4	2.2	120	70
P1300T B	P13B	120	160	800	4	2.2	120	60
P1500T B	P15B	140	180	800	4	2.2	120	55
P1800T B	P18B	170	220	800	4	2.2	120	50
P2300T B	P23B	190	260	800	4	2.2	120	50
P2600T B	P26B	220	300	800	4	2.2	120	45
P3100T B	P31B	275	350	800	4	2.2	120	45
P3500T B	P35B	320	400	800	4	2.2	150	40

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



Advantages of semiconductor discharge tubes:

1. Before breakdown, it is equivalent to an open circuit, the insulation resistance is very large, and the leakage current is very small;
2. It has two-way symmetry characteristics;
3. The response speed is very ns level;
4. The breakdown voltage has good consistency.

Disadvantages of semiconductor discharge tubes:

1. Compared with ceramic discharge tubes, the flow rate is smaller, only a few hundred A;
2. The breakdown voltage has only certain specific values;
3. The capacitance is large, ranging from tens to hundreds of pF.

Selection of semiconductor discharge tubes:

When selecting TSS, the following principles should generally be followed:

1. Selection of cut-off voltage VDRM: The cut-off voltage must be greater than the maximum operating voltage of the protected circuit;
2. Selection of transition voltage VBO: The transition voltage must be less than the maximum transient peak voltage that the equipment can withstand;
3. Selection of the holding current IH: the holding current must be greater than the operating current and short-circuit current of the equipment;
4. Selection of parasitic capacitance C: The parasitic capacitance is selected according to the insertion loss allowed by the circuit or the frequency of signal transmission;
5. Selection of surge current: Different levels of surge current are selected according to the requirements of the circuit or surge test standards.

Description:

PXXX0TB Series Thyristors are a type of semiconductor component. They are designed in applications, modems, telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, PBXs and more.

Features:

- u Excellent capability of absorbing transient surge
- u Quick response to surge voltage (ns Level)
- u Eliminates overvoltage caused by fast rising transients
- u Moisture sensitivity level: Level 1
- u Weight 69 mg (approximate)
- u Non degenerative

Parameter	Symbol	Value	Unit
Storage Temperature Range	T_{stg}	-60 to +150	
Operating Junction Temperature Range	T_j	-40 to +150	
Repetitive Peak Pulse Current	I_{PP}	80	A

Parameter	Definition
I_s	Switching Current - maximum current required to switch to on state

I_{DRM}	Leakage Current - maximum peak off-state current measured at V_{DRM}
I_H	Holding Current - minimum current required to maintain on state
I_T	On-state Current - maximum rated continuous on-state current
V_S	Switching Voltage - maximum voltage prior to switching to on state
V_{DRM}	Peak Off-state Voltage - maximum voltage that can be applied while maintaining off state
V_T	On-state Voltage - maximum voltage measured at rated on-state current
C_0	Off-state Capacitance - typical capacitance measured in off state

Surge Ratings

Series	$I_{PP}(A)$ min				
	$2 \times 10\mu s$	$8 \times 20\mu s$	$10 \times 360\mu s$	$10 \times 700\mu s$	$10 \times 1000\mu s$
0080-0300	150	150	70	75	50
0640-3500	250	250	125	100	80

Ordering Information

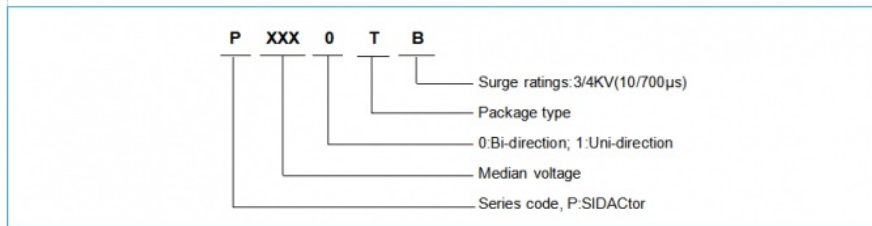


Fig.1: tr × td pulse waveform

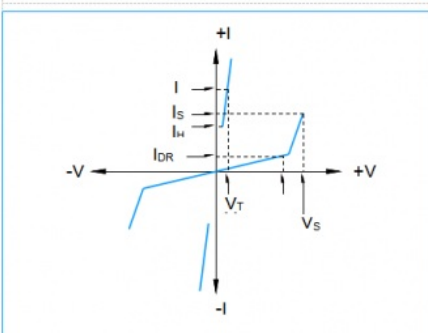


Fig.3: Normalized V_S change vs. junction temperature

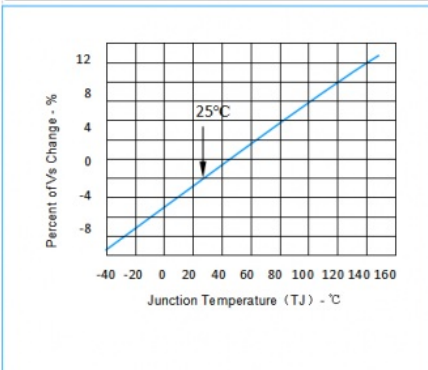


Fig.2: Reflow condition

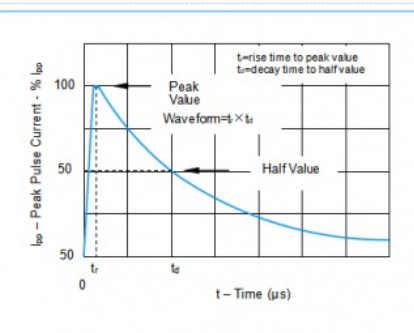
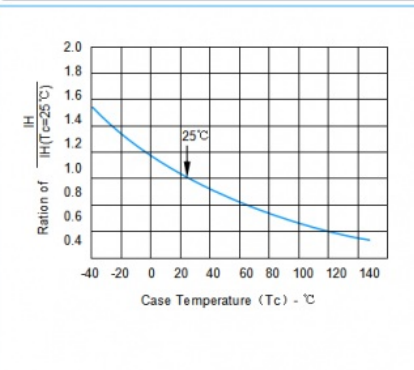
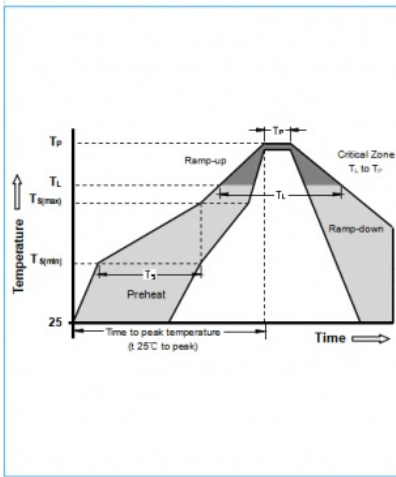


Fig.4: Normalized DC holding current vs. case temperature



Soldering Parameters



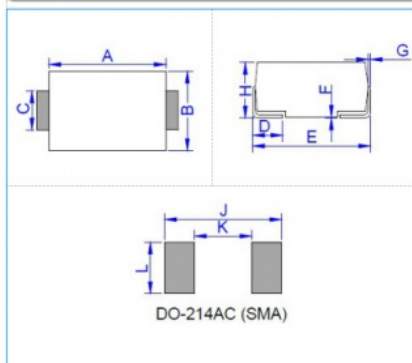
Reflow Condition		Pb-Free assembly
Pre Heat	-Temperature Min ($T_{q(min)}$)	+150°C
	-Temperature Max($T_{q(max)}$)	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquid us Temp (T_L) to peak)		3°C/sec. Max
$T_{q(max)}$ to T_L - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T_L) (Liquid 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

Marking



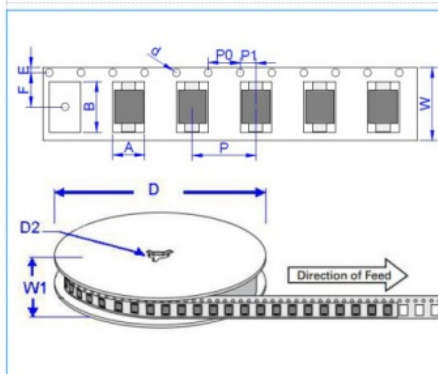
P-8B :Device Marking Code

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	—

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

FAQ

Q1. Can I have a sample order ?

A: Yes, we welcome sample order to test and check quality. Mixed samples are acceptable.

Q2. What about the lead time?

A: Sample needs 1 days, mass production time needs 1-2 weeks for order quantity more than

Q3. Do you have any MOQ ?

A: MOQ depend on the type of product, 1pc for sample checking is available

Q4. How to proceed an order ?

A: Firstly let us know your requirements or application.

Secondly We quote according to your requirements or our suggestions.
Thirdly customer confirms the samples and places deposit for formal order.
Fourthly We arrange the production.



+8618126201429



sylvia@socay.com



socaydiode.com

4/F, Block C, HeHengXing Science & Technology Park, 19 MinQing Road, LongHua District, Shenzhen City,
GuangDong Province, China