

PXXXTAL Series TSS

Description

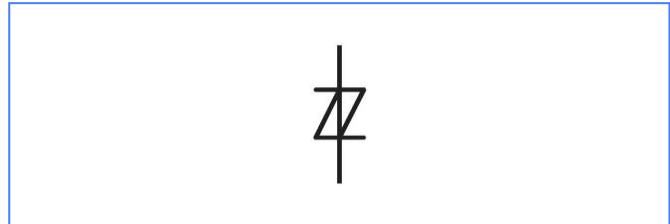
PXXXTAL series thyristors are a type of semiconductor component. They are designed in applications, such as modems, telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, PBXs and more.

Features

- Case: DO-214AC(SMA)
- 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
- Fails short circuit when surged in excess of ratings
- Non degenerative
- IEC61000-4-2 (ESD) $\pm 30\text{kV}$ (air), $\pm 30\text{kV}$ (contact).

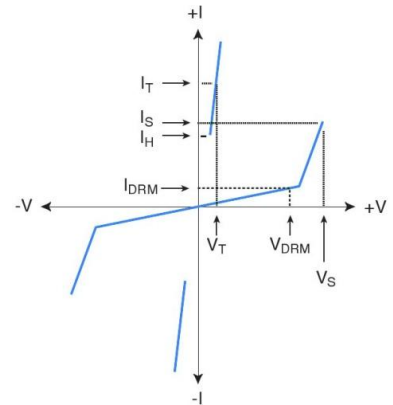


Functional Diagram



Electrical Parameters

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



Thermal Considerations

Parameter	Symbol	Value	Unit
Operating Temperature	T_J	-40 to +125	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-60 to +150	$^{\circ}\text{C}$
Junction to free air thermal resistance	$R_{\theta JA}$	120	$^{\circ}\text{C}/\text{W}$

Characteristics (T = 25 $^{\circ}\text{C}$ unless otherwise noted)

Part Number	$I_{DRM}@V_{DRM}$		$V_S@I_S$		$V_T@I_T$		I_H	$C_o^{(2)}$
	μA	V	V	mA	V	A	mA	pF
	MAX.		MAX.	MAX.	MAX.	MAX.	MIN.	MAX.
P0080TAL	1	6	15	800	4	2.2	30	35
P0220TAL	1	18	30	800	4	2.2	25	80
P0300TAL	1	25	40	800	4	2.2	25	80
P0640TAL	1	58	77	800	4	2.2	120	40
P0720TAL	1	65	87	800	4	2.2	120	40
P0900TAL	1	75	98	800	4	2.2	120	40
P1100TAL	1	90	130	800	4	2.2	120	40
P1300TAL	1	120	160	800	4	2.2	120	40

P1500TAL	1	140	180	800	4	2.2	120	35
P1800TAL	1	170	220	800	4	2.2	120	35
P2300TAL	1	190	260	800	4	2.2	120	35
P2600TAL	1	220	300	800	4	2.2	120	30
P3100TAL	1	275	350	800	4	2.2	120	30
P3500TAL	1	320	400	800	4	2.2	120	25
P3800TAL	1	340	450	800	4	2.2	120	25

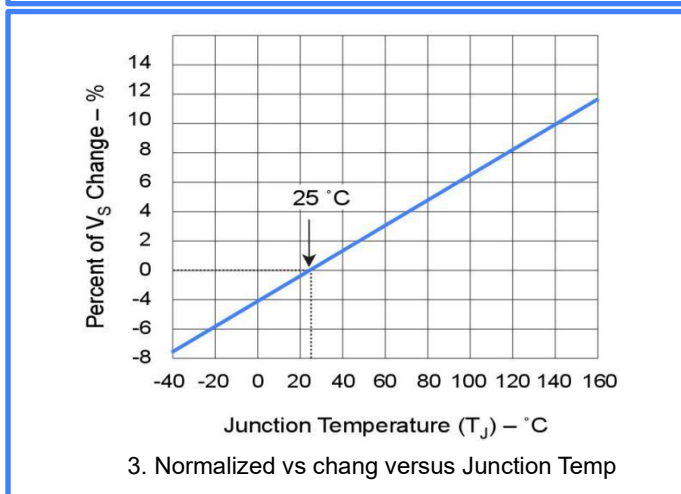
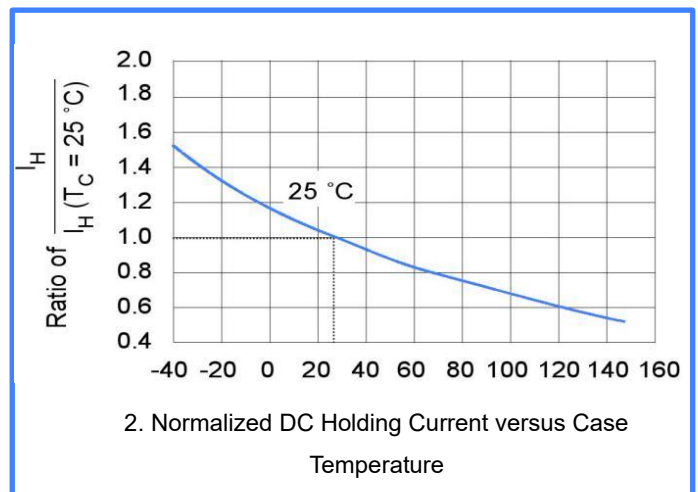
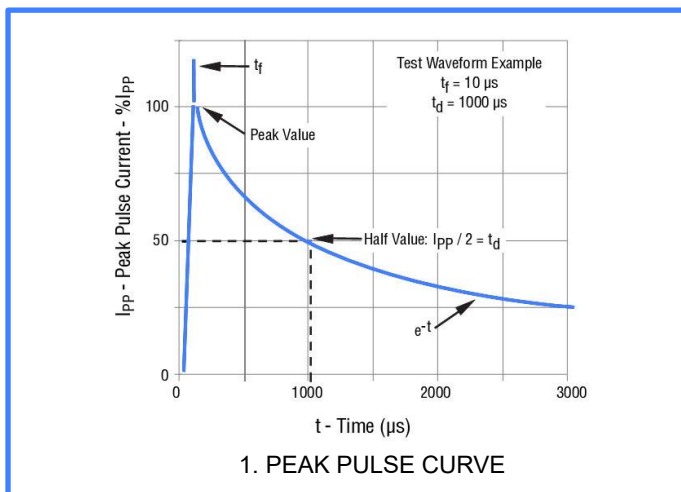
①Vs is measured at 100KV/s

②Off-state capacitance is measured in VDC=2V, VRMS=1V, f=1MHz

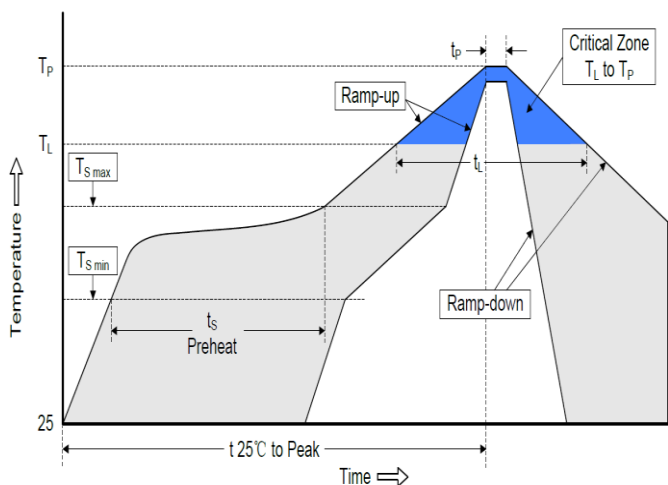
Surge Ratings

Ipp	Ipp	Ipp	Ipp	Ipp	ITSM	Di/Dt
2/10μS	8/20μS	10/160μS	10/560μS	10/1000μS	60HZ	Amps /μS
Amps	Amps	Amps	Amps	Amps	Amps	
150	150	90	50	45	20	500

Rating & Characteristic Curves

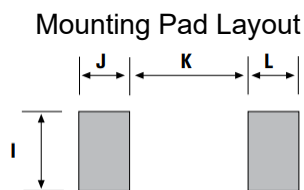
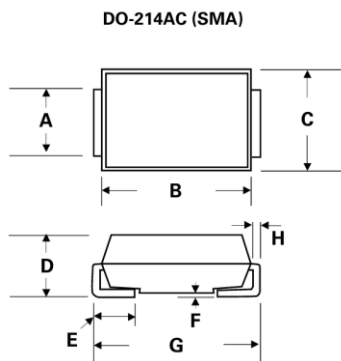


Soldering parameters



Profile Feature	Pb-Free Assembly
Average ramp-up rate (TL to TP)	3°C/second max.
Preheat	
-Temperature Min (TS min)	150°C
-Temperature Max (TS max)	200°C
-Time (min to max)(ts)	60-180 seconds
TS max to TL	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
- Temperature (TL)	217°C
- Time (tL)	60-150 seconds
Peak Temperature (TP)	260°C
Time within 5°C of actual Peak Temperature (tp)	20-40 seconds
Ramp-down Rate	6°C /second max.
Time 25°C to Peak Temperature	8 minutes max.

Package outline dimensions in millimeters



Dimensions	Millimeter	
	Min	Max
A	1.250	1.650
B	3.990	4.600
C	2.400	2.790
D	1.900	2.290
E	0.780	1.520
F	-	0.203
G	4.800	5.280
H	0.152	0.305
I	1.800	-
J	2.100	-
K	-	2.300
L	2.100	-

Disclaimer

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.