

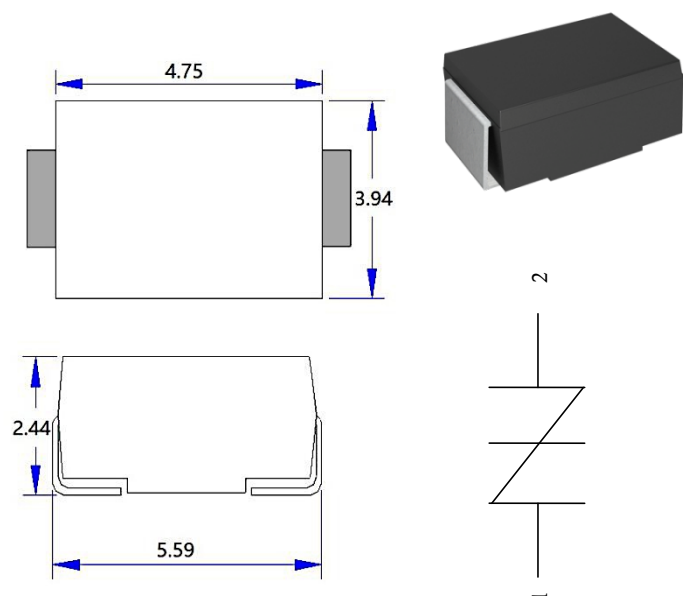
Description

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

Features

- Surface mount package to optimize board space
- Low profile package
- Bidirectional crowbar protection
- Low leakage current : I = 5uA max
- Low on-state voltage
- Low Capacitance
- Solid-state silicon technology
- Eliminates overvoltage caused by fast rising transients

Dimensions & Symbol (Unit: mm Max)



Mechanical Characteristics

- Package: SMB/DO-214AA
- Case Material: "Green" Molding Compound.
- UL Flammability Classification Rating 94V-0
- Standard Packaging: 12mm tape (EIA STD RS-481)
- Weight: 0.10g
- Terminal Connections: See Diagram Below
- Marking Information: See Below

Applications Standards

- TIA-968-A/B
- ITU K.20/21 Enhanced Level*
- ITU K.20/21 Basic Level*
- GR 1089 Inter-building*
- GR 1089 Intra-building
- IEC 61000-4-5 2nd edition
- YD/T 1082 YD/T 993 YD/T 950

Marking Information



Details marking code reference customer approval list

Ordering Information

Out line	Reel (pcs)	Per carton (pcs)	Reel diameters (mm)
Taping	3K	48K	330

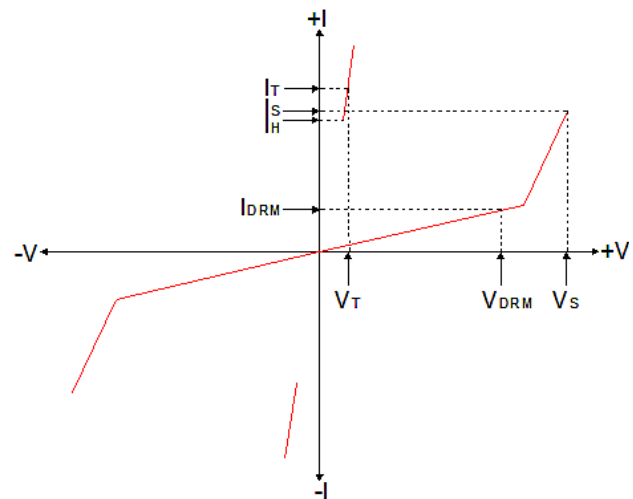
Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted)

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

Electrical Characteristics Curve ($T_A=25^{\circ}\text{C}$)

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

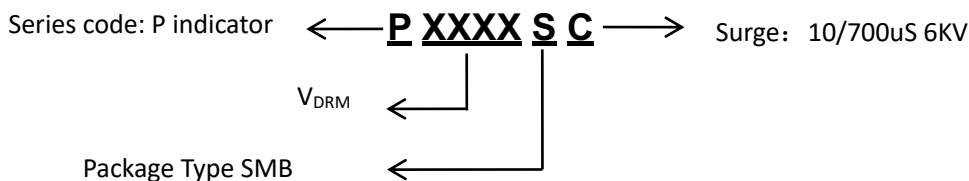
V-I Curve



Surge Ratings

Series	I_{PP} (A) min			
	2×10us	8×20us	10×360us	10×1000us
C	500	400	175	100

Part Number Code



Electrical Characteristics ($T_A=25^{\circ}\text{C}$,)

Part Number	$I_{DRM}@V_{DRM}$		$V_S^{①}@I_S$		$V_T@I_T$		I_H	$C_O^{②}$
	μA	V	V	mA	V	A	mA	pF
	max	min	max	max	max	max	min	max
P0080SC	5	6	20	800	4	2.2	25	80
P0220SC	5	15	28	800	4	2.2	35	80
P0300SC	5	25	40	800	4	2.2	50	80
P0640SC	5	58	77	800	4	2.2	120	65
P0720SC	5	65	88	800	4	2.2	120	65
P0900SC	5	75	98	800	4	2.2	120	65
P1100SC	5	90	130	800	4	2.2	120	65
P1300SC	5	120	160	800	4	2.2	120	65
P1500SC	5	140	180	800	4	2.2	120	65
P1800SC	5	170	220	800	4	2.2	120	60
P2000SC	5	180	220	800	4	2.2	120	60
P2300SC	5	190	260	800	4	2.2	120	60
P2600SC	5	220	300	800	4	2.2	120	55
P3100SC	5	275	350	800	4	2.2	120	70
P3500SC	5	320	400	800	4	2.2	120	50
P3800SC	5	360	460	800	4	2.2	120	50
P4200SC	5	400	540	800	4	2.2	120	45

① V_S is measured at 100KV/s

② Off-state capacitance is measured in $V_{DC}=2\text{V}$, $V_{RMS}=1\text{V}$, $f=1\text{MHz}$

Soldering Parameters

Reflow Condition		Pb-Free assembly
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 (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)		30 secs. Max
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: $t_r \times t_d$ pulse waveform

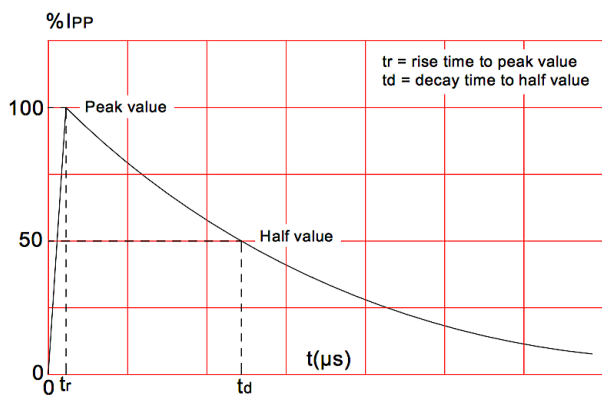


FIG.2: Reflow condition

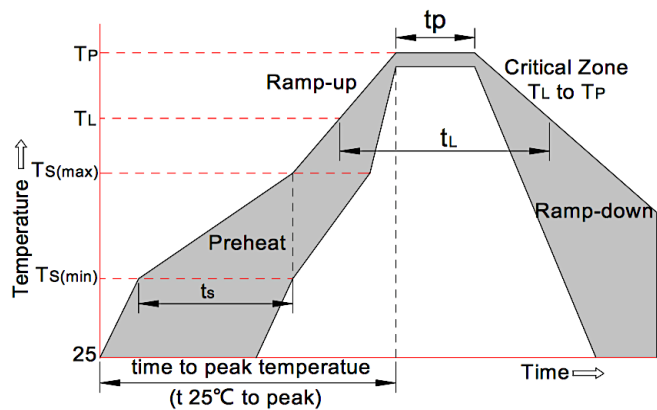


FIG.3: Normalized V_s change vs. junction temperature

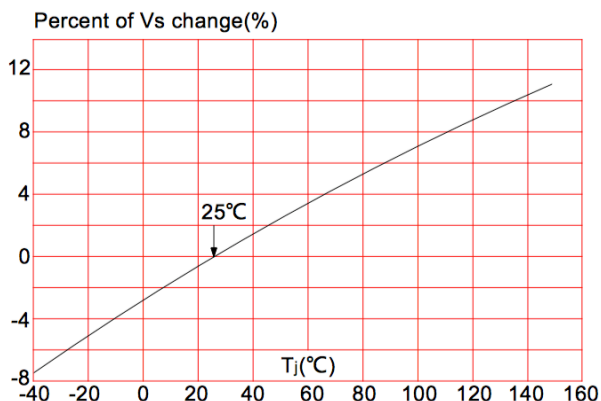
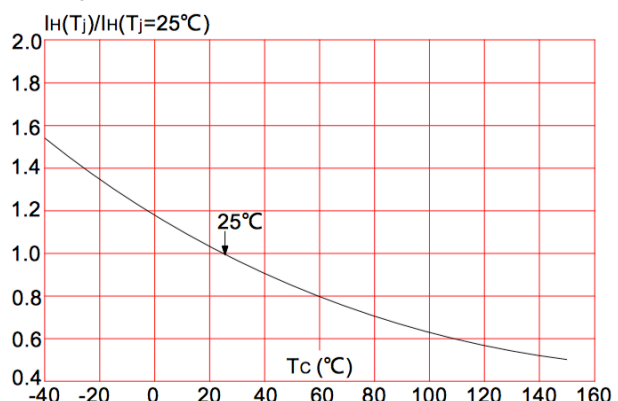
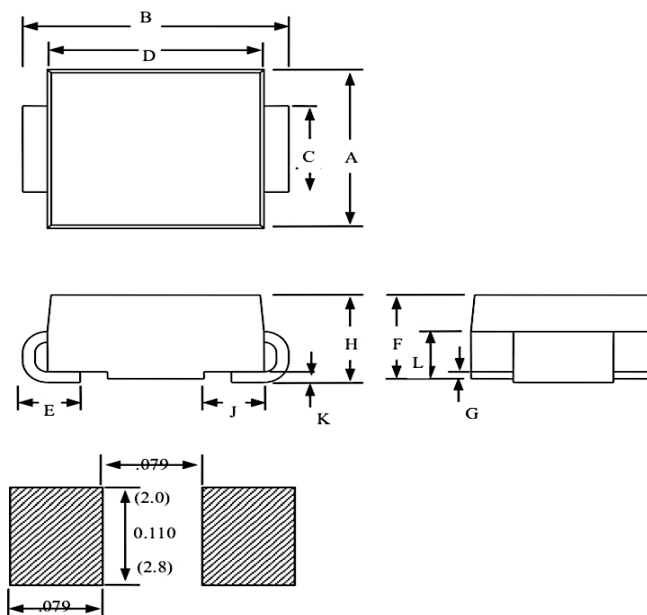


FIG.4: Normalized DC holding current vs. case temperature

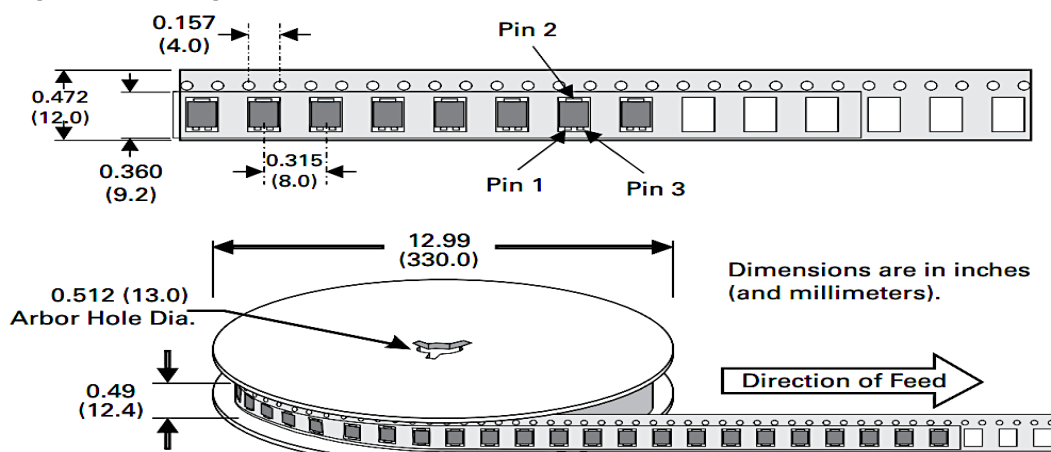


Package Mechanical Data

Dimension	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.134	0.155	3.40	3.94
B	0.205	0.22	5.21	5.59
C	0.075	0.083	1.90	2.11
D	0.166	0.185	4.22	4.70
E	0.036	0.056	0.91	1.42
F	0.073	0.087	1.85	2.2
G	0.002	0.05	0.20	
H	0.077	0.094	1.95	2.40
J	0.043	0.053	1.09	1.35
K	0.008	0.014	0.20	0.35
L	0.039	0.049	0.99	1.24



Tape & Reel Specification - SMB



Contact Information

WPMTEK Incorporated Limited

Room 207,2nd Floor, Block 3,Minxing Industry Park, Minzhi,

Longhua New District, Shenzhen, PRC.

TEL: 86755-29308003

FAX: 86755-23739900

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