



### DESCRIPTION:

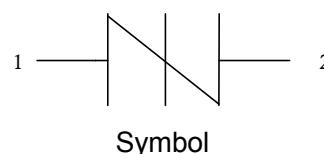
PxxxxSC series thyristors are a type of semi-conduct component. They are designed to protect baseband equipment from damaging overvoltage transients. such as modems, telephones, line cards, answering machines, FAX machines, T1/E1, xDSL and more.



SMB

### 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
- ✧ Non degenerative

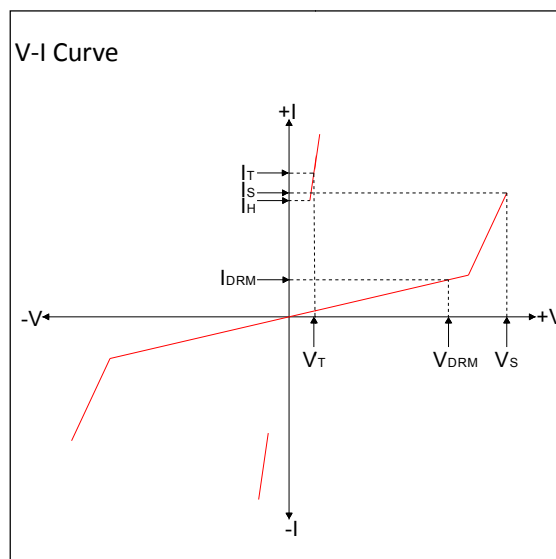


### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T <sub>stg</sub>	-60 to +150	°C
Operating junction temperature range	T <sub>j</sub>	-40 to +125	°C
Repetitive peak pulse current	I <sub>PP</sub>	100	A

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Symbol	Parameter
V <sub>DRM</sub>	Peak off-state voltage
I <sub>DRM</sub>	Off-state current
V <sub>S</sub>	Switching voltage
I <sub>S</sub>	Switching current
V <sub>T</sub>	On-state voltage
I <sub>T</sub>	On-state current
I <sub>H</sub>	Holding current
C <sub>O</sub>	Off-state capacitance



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

Part Number	$I_{\text{DRM}}@V_{\text{DRM}}$		$V_S^{\text{①}}@I_S$		$V_T@I_T$		$I_H$	$C_O^{\text{②}}$	Marking
	$\mu\text{A}$	V	V	mA	V	A	mA	pF	
	max		max	max	max	max	min	max	
P0080SC	5	6	25	800	4	2.2	30	130	P-8C
P0220SC	5	18	30	800	4	2.2	30	120	P22C
P0300SC	5	25	40	800	4	2.2	30	100	P03C
P0640SC	5	58	77	800	4	2.2	120	200	P06C
P0720SC	5	65	87	800	4	2.2	120	150	P07C
P0900SC	5	75	98	800	4	2.2	120	140	P09C
P1100SC	5	90	130	800	4	2.2	120	110	P11C
P1300SC	5	120	160	800	4	2.2	120	100	P13C
P1500SC	5	140	180	800	4	2.2	120	90	P15C
P1800SC	5	170	220	800	4	2.2	120	90	P18C
P2300SC	5	190	260	800	4	2.2	120	80	P23C
P2600SC	5	220	300	800	4	2.2	120	80	P26C
P3100SC	5	275	350	800	4	2.2	120	70	P31C
P3500SC	5	320	400	800	4	2.2	120	65	P35C
P3800SC	5	340	450	800	4	2.2	120	65	P38C

①  $V_S$  is measured at 100KV/s② Off-state capacitance is measured in  $V_{\text{DC}}=2\text{V}$ ,  $V_{\text{RMS}}=1\text{V}$ ,  $f=1\text{MHz}$ 

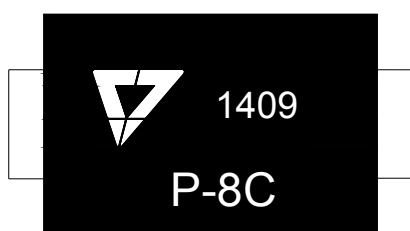
## SURGE RATINGS

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

**ORDERING INFORMATION**

<b>P</b>	<b>008</b>	<b>0</b>	<b>S</b>	<b>C</b>
Series code P: SIDACtor	Median voltage	0: Bi-direction 1: Uni-direction	Package type	Surge ratings:6KV(10/700μs)

**MARKING**



P-8C : Device Marking Code  
1409: In ninth week, 2014

**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 ( $t_p$ )		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: tr × td pulse waveform

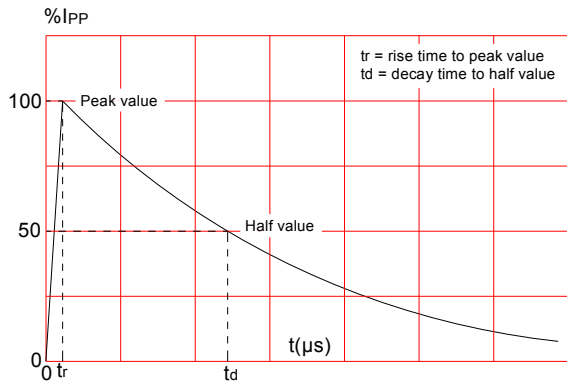


FIG.2: Reflow condition

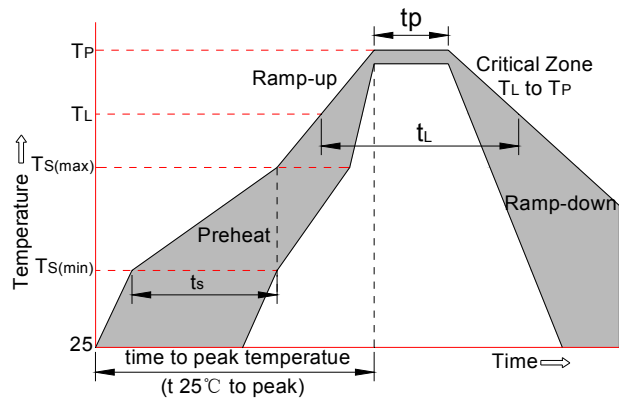


FIG.3: Normalized Vs change vs. junction temperature

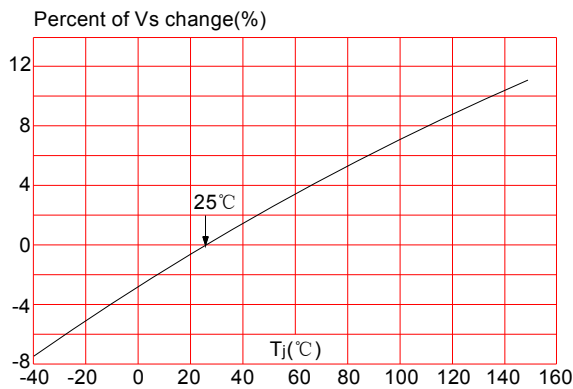
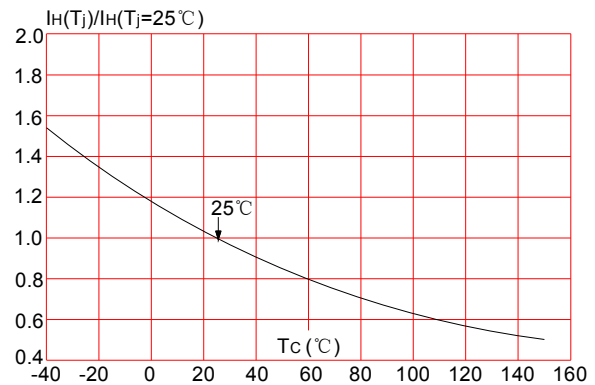
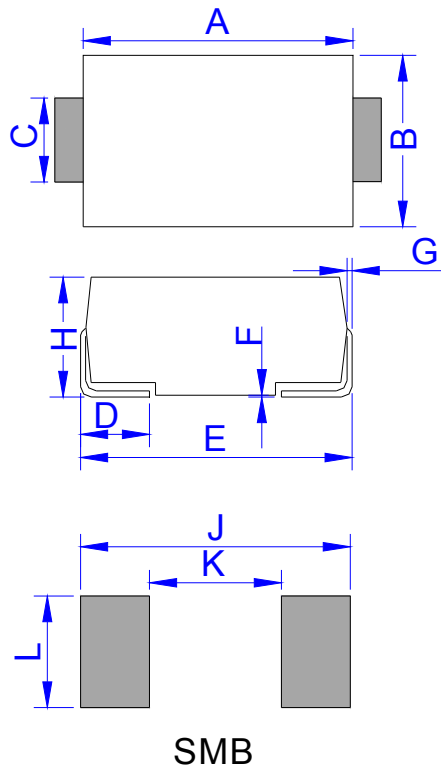


FIG.4: Normalized DC holding current vs. case temperature

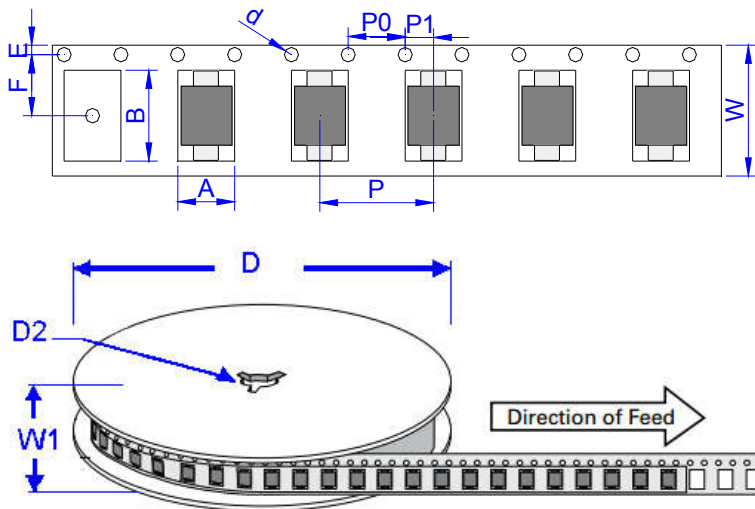


PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.25	4.75	0.167	0.187
B	3.30	3.94	0.130	0.155
C	1.85	2.25	0.073	0.087
D	0.76	1.52	0.030	0.060
E	5.21	5.59	0.205	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.15	2.45	0.085	0.097
J	6.80		0.268	
K		2.60		0.102
L	2.40		0.094	


TAPE AND REEL SPECIFICATION-SMB



Ref.	Dimensions	
	Millimeters	Inches
A	3.65 ± 0.3	0.144 ± 0.012
B	5.69 ± 0.3	0.244 ± 0.012
d	1.5 ± 0.1	0.059 ± 0.004
D	330.0	13.0
D2	13 ± 0.3	0.512 ± 0.012
E	1.5 ± 0.2	0.059 ± 0.008
F	5.65 ± 0.2	0.222 ± 0.008
P	8.0 ± 0.2	0.315 ± 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	3,000	48,000	330

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