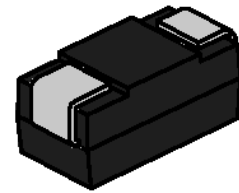


**DESCRIPTION:**

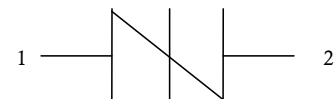
PxxxxSC series thyristors are a type of semiconduct component. They are designed to protect baseband equipment from damaging overvoltage transients. Typical application: modems, telephones, line cards, answering machines, FAX machines, T1/E1, xDSL and more.



SMB

**FEATURES:**

- ✧ Low profile package.
- ✧ Low on-state voltage.
- ✧ 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.



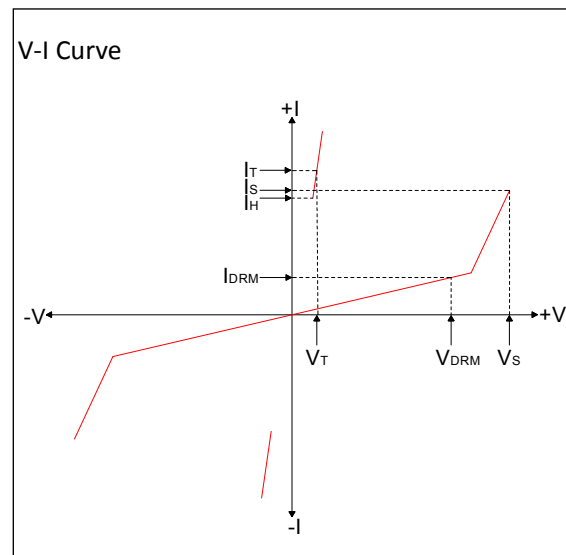
Symbol

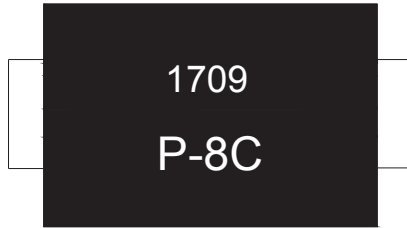
**ABSOLUTE MAXIMUM RATINGS** ( $T_A=25^{\circ}\text{C}$ , RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	$T_{STG}$	-60 to +150	$^{\circ}\text{C}$
Operating junction temperature range	$T_J$	-40 to +125	$^{\circ}\text{C}$
Repetitive peak pulse current	$I_{PP}$	100	A

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

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



**MARKING**


P-8C : Device Marking Code  
 1709: In ninth week, 2017

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

Part Number	$I_{\text{DRM}}@V_{\text{DRM}}$		$V_S^{①}@I_S$		$V_T@I_T$		$I_H$	$C_O^{②}$	Marking
	$\mu\text{A}$	V	V	mA	V	A	mA	pF	
	max		max	max	max	max	min	max	
P0080SC	1	6	15	800	4	2.2	30	130	P-8C
P0220SC	1	18	30	800	4	2.2	30	100	P22C
P0300SC	1	25	40	800	4	2.2	30	100	P03C
P0640SC	1	58	77	800	4	2.2	120	200	P06C
P0720SC	1	65	87	800	4	2.2	120	150	P07C
P0900SC	1	75	98	800	4	2.2	120	140	P09C
P1100SC	1	90	130	800	4	2.2	120	110	P11C
P1300SC	1	120	160	800	4	2.2	120	100	P13C
P1500SC	1	140	180	800	4	2.2	120	90	P15C
P1800SC	1	170	220	800	4	2.2	120	90	P18C
P2300SC	1	190	260	800	4	2.2	120	80	P23C
P2600SC	1	220	300	800	4	2.2	120	80	P26C
P3100SC	1	275	350	800	4	2.2	120	70	P31C
P3500SC	1	320	400	800	4	2.2	120	65	P35C
P3800SC	1	340	450	800	4	2.2	120	65	P38C

①  $V_S$  is measured at 100KV/s

② 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 <sub>PP</sub> (A) min			
	2×10μs	8×20μs	10×360μs	10×1000μs
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)

**SOLDERING PARAMETERS**

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min (T <sub>s(min)</sub> )	+150°C
	-Temperature Max(T <sub>s(max)</sub> )	+200°C
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T <sub>L</sub> )to peak)		3°C/sec. Max
T <sub>s(max)</sub> to T <sub>L</sub> - Ramp-up Rate		3°C/sec. Max
Reflow	-Temperature(T <sub>L</sub> ) (Liquidus)	+217°C
	-Temperature(t <sub>L</sub> )	60-150 secs.
Peak Temp (T <sub>p</sub> )		+260(+0/-5)°C
Time within 5°C of actual Peak Temp (t <sub>p</sub> )		30 secs. Max
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp (T <sub>P</sub> )		8 min. Max
Do not exceed		+260°C



FIG.1: tr × td pulse waveform

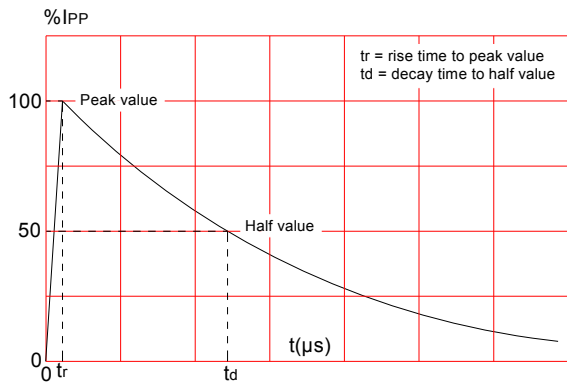


FIG.2: Reflow condition

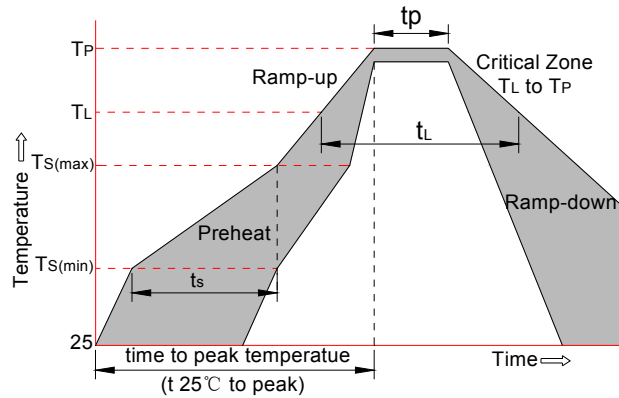


FIG.3: Normalized Vs change vs. junction temperature

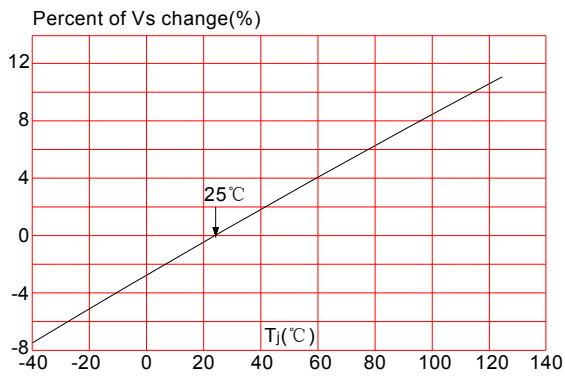
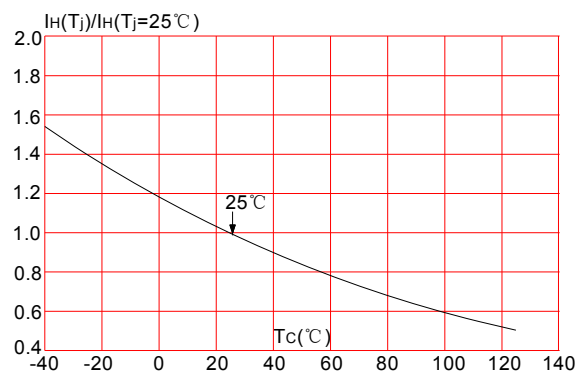
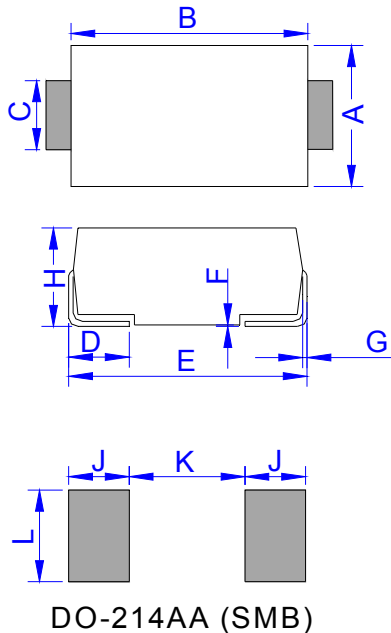


FIG.4: Normalized DC holding current vs. case temperature



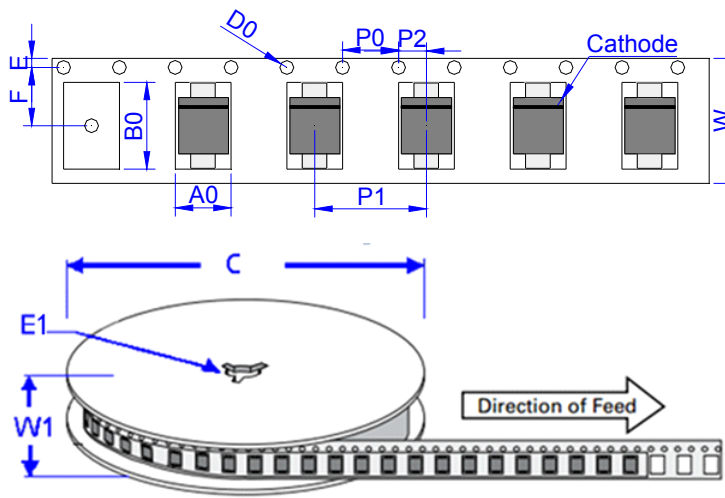
PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.94	0.130	0.155
B	4.30	4.80	0.169	0.189
C	1.90	2.20	0.075	0.087
D	0.95	1.52	0.037	0.060
E	5.20	5.60	0.205	0.220
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.10	2.40	0.083	0.094
J	2.20		0.087	
K		2.60		0.102
L	2.30		0.091	



TAPE AND REEL SPECIFICATION-SMB



Ref.	Dimensions	
	Millimeters	Inches
A0	3.76 ± 0.3	0.148 ± 0.012
B0	5.69 ± 0.3	0.224 ± 0.012
C	330.0	13.0
D0	1.55 ± 0.1	0.061 ± 0.004
E	1.75 ± 0.2	0.069 ± 0.008
E1	13.3 ± 0.3	0.524 ± 0.012
F	5.5 ± 0.2	0.217 ± 0.008
P0	4.00 ± 0.2	0.157 ± 0.008
P1	8.00 ± 0.2	0.3145 ± 0.008
P2	2.00 ± 0.2	0.079 ± 0.008
W	12.0 ± 0.2	0.472 ± 0.008
W1	15.7 ± 2.0	0.618 ± 0.079

OUTLINE	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	REEL DIAMETERS (mm)
TAPING	0.098	3,000	48,000	330