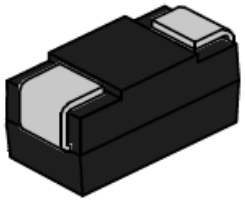
PxxxxSC Series TSS

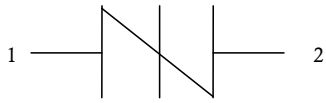
Rev.4.1

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



Symbol

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.

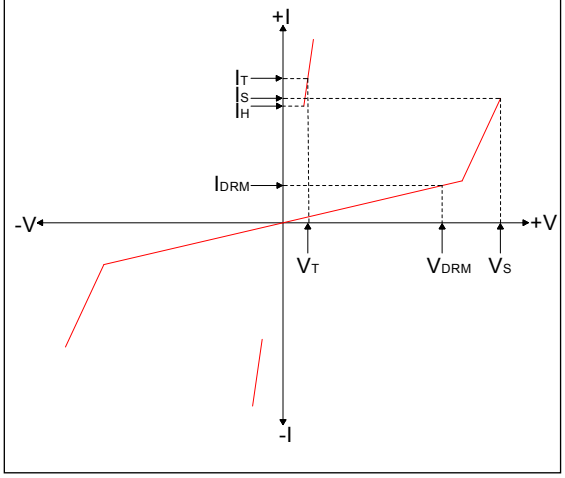
ABSOLUTE MAXIMUM RATINGS (T_A=25ºC, RH=45%-75%, unless otherwise noted)

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

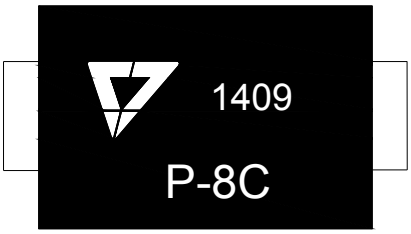
ELECTRICAL CHARACTERISTICS (T_A=25℃)

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



MARKING



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

ELECTRICAL CHARACTERISTICS (T_A=25℃, continued)

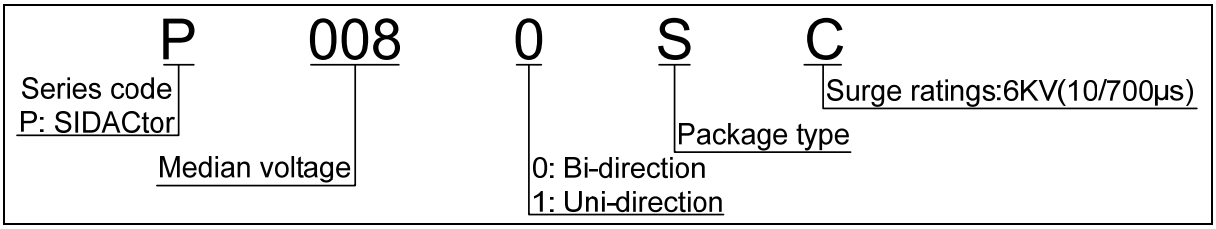
Part Number	I_{DRM}@V_{DRM}		V_S①@I_S		V_T@ I_T		I_H	C_O②	Marking
	μA	V	V	mA	V	A	mA	pF	
	max		max	max	max	max	min	max	
P0080SC	1	6	15	800	4	2.2	30	130	P-8C
P0220SC	1	18	30	800	4	2.2	30	100	P22C
P0300SC	1	25	40	800	4	2.2	30	100	P03C
P0640SC	1	58	77	800	4	2.2	120	200	P06C
P0720SC	1	65	87	800	4	2.2	120	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 Vs is measured at 100KV/s
② Off-state capacitance is measured in V_{DC}=2V, V_{RMS}=1V, f=1MHz

SURGE RATINGS

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

ORDERING INFORMATION



SOLDERING PARAMETERS

Reflow Condition		Pb-Free assembly (see FIG.2)
Pre Heat	-Temperature Min ($T_{s(min)}$)	+150℃
	-Temperature Max($T_{s(max)}$)	+200℃
	-Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate (Liquidus Temp (T_L)to peak)		3℃/sec. Max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/sec. Max
Reflow	-Temperature(T_L) (Liquidus)	+217℃
	-Temperature(t_L)	60-150 secs.
Peak Temp (T_p)		+260(+0/-5)℃
Time within 5℃of actual Peak Temp (t_p)		30 secs. Max
Ramp-down Rate		6℃/sec. Max
Time 25℃ to Peak Temp (T_P)		8 min. Max
Do not exceed		+260℃

FIG.1: tr × td pulse waveform

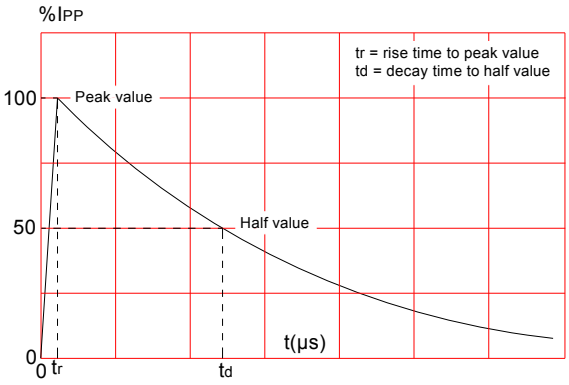


FIG.2: Reflow condition

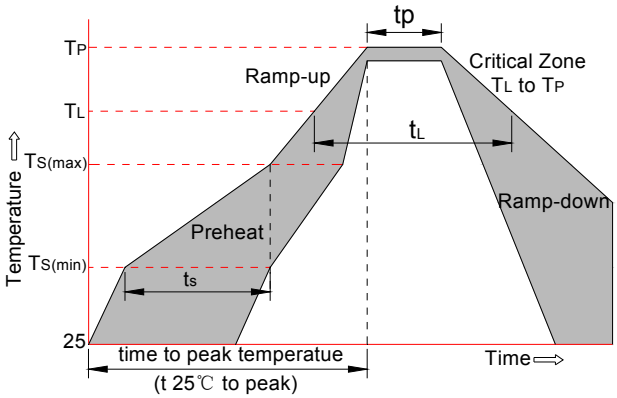


FIG.3: Normalized Vs change vs. junction temperature

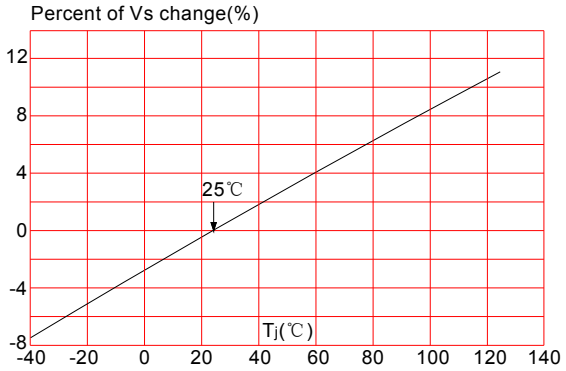
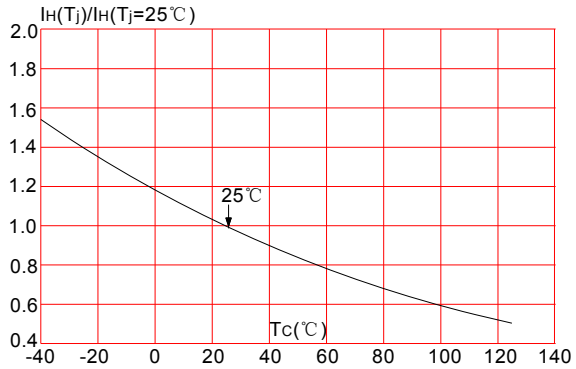
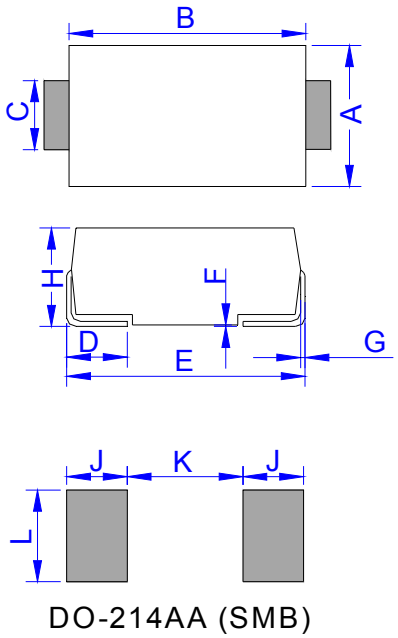


FIG.4: Normalized DC holding current vs. case temperature



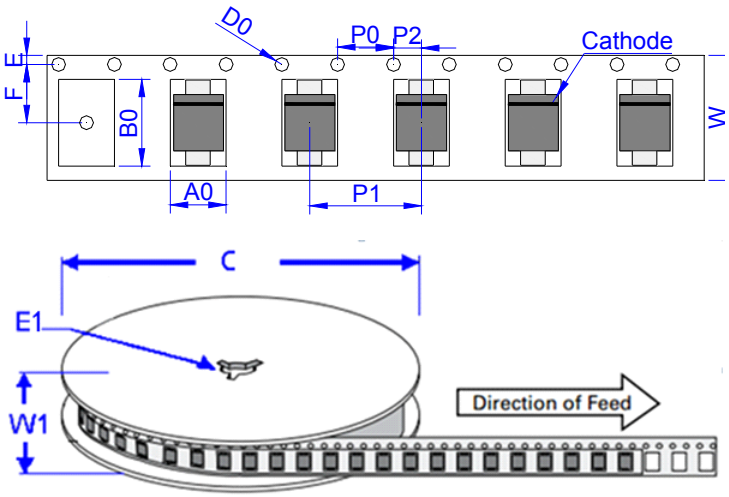
PACKAGE MECHANICAL DATA



DO-214AA (SMB)

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