

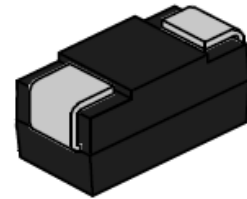


## CPxxxxSC Series TSS

Rev.4.1

### DESCRIPTION:

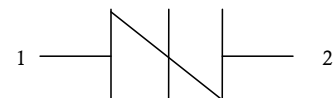
CPxxxxSC series thyristors are a type of semiconduct components. They are designed in applications, such as modems, telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, PBXs and more.



SMB

### FEATURES:

- ✧ Lower capacitance.
- ✧ 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.



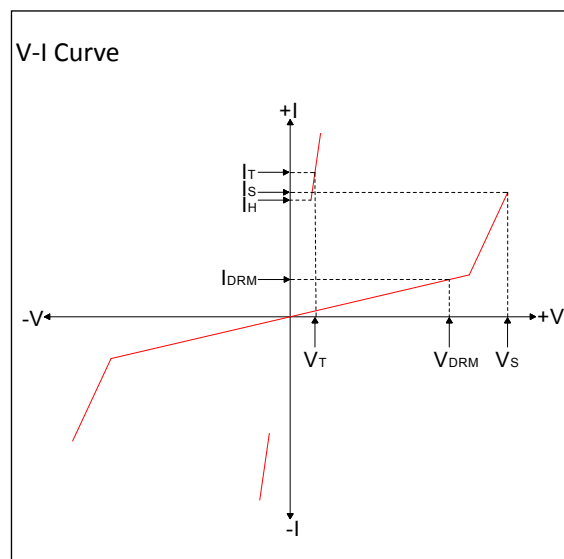
Symbol

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

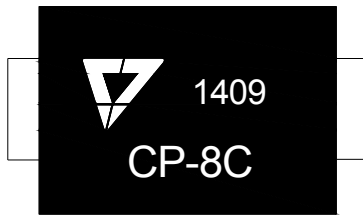
Parameter	Symbol	Value	Unit
Storage temperature range	$T_{STG}$	-60 to +150	$^\circ\text{C}$
Operating junction temperature range	$T_J$	-40 to +125	$^\circ\text{C}$
Repetitive peak pulse current	$I_{PP}$	100	A

### 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



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

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	
CP0080SC	1	6	15	800	4	2.2	30	60	CP-8C
CP0220SC	1	18	30	800	4	2.2	30	60	CP22C
CP0300SC	1	25	40	800	4	2.2	30	60	CP03C
CP0640SC	1	58	77	800	4	2.2	120	60	CP06C
CP0720SC	1	65	87	800	4	2.2	120	50	CP07C
CP0900SC	1	75	98	800	4	2.2	120	50	CP09C
CP1100SC	1	90	130	800	4	2.2	120	50	CP11C
CP1300SC	1	120	160	800	4	2.2	120	50	CP13C
CP1500SC	1	140	180	800	4	2.2	120	45	CP15C
CP1800SC	1	170	220	800	4	2.2	120	45	CP18C
CP2300SC	1	190	260	800	4	2.2	120	40	CP23C
CP2600SC	1	220	300	800	4	2.2	120	40	CP26C
CP3100SC	1	275	350	800	4	2.2	120	35	CP31C
CP3500SC	1	320	400	800	4	2.2	120	35	CP35C
CP3800SC	1	340	450	800	4	2.2	120	35	CP38C

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**

<p><b>CP</b> Low capacitance sidactor</p>	<p><b>008</b> Median voltage</p>	<p><b>0</b> 0:Bi-direction,1:Uni</p>	<p><b>S</b> Package type</p>	<p><b>C</b> Surge Ratings :6KV(10/700μs)</p>
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**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:  $t_r \times t_d$  pulse waveform

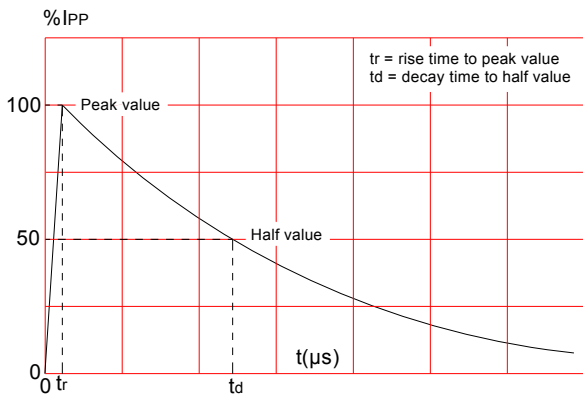


FIG.2: Reflow condition

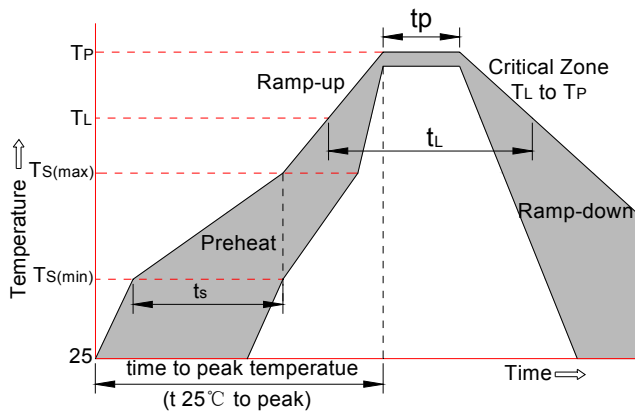


FIG.3: Normalized  $V_s$  change vs. junction temperature

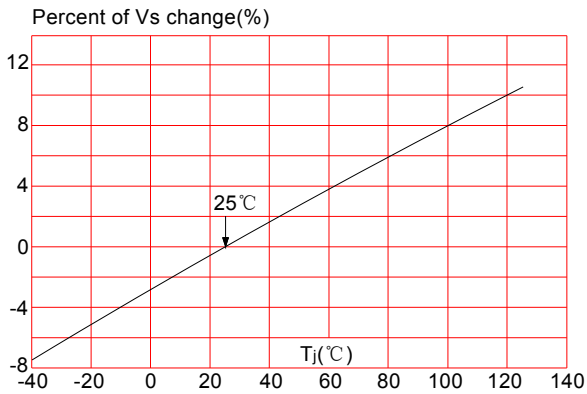
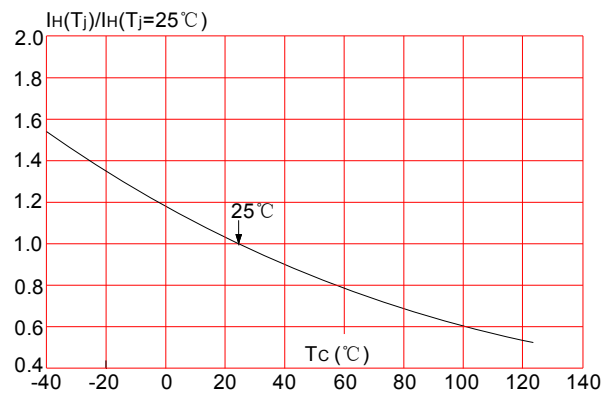
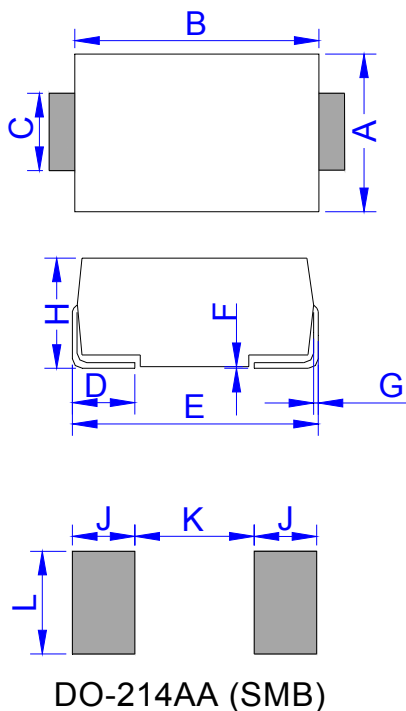


FIG.4: Normalized DC holding current vs. case temperature

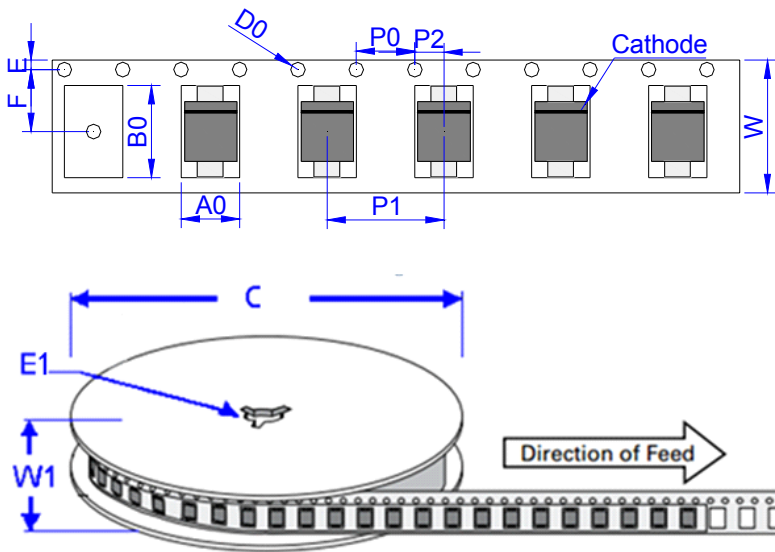


PACKAGE MECHANICAL DATA



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

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