

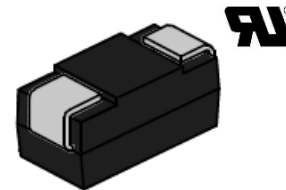


CPxxxxSA Series TSS

Rev.4.5

DESCRIPTION:

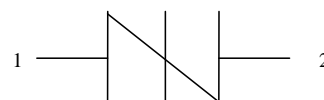
CPxxxxSA series thyristors are a type of semiconduct component. They are designed in applications, such as modems, telephones, line cards, answering machines, FAX machines, SLICs, T1/E1, xDSL, PBXs and more.



SMA

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.
- ✧ UL 497B item recognized. (File No.: E480698).



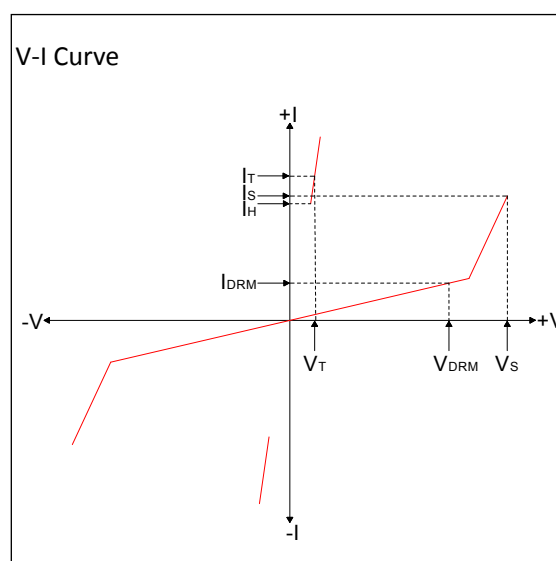
Symbol

ABSOLUTE MAXIMUM RATINGS_(T_A=25°C, RH=45%-75%, unless otherwise noted)

Parameter	Symbol	Value	Unit
Storage temperature range	T _{STG}	-60 to +150	°C
Operating junction temperature range	T _J	-40 to +125	°C
Repetitive peak pulse current	I _{PP}	50	A

ELECTRICAL CHARACTERISTICS_(T_A=25°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



CP22A : Device Marking Code
2009: In ninth week, 2020

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

Part Number	$I_{DRM}@V_{DRM}$		$V_S^{①}@I_S$		$V_T@I_T$		I_H	$C_o^{②}$	Marking
	μA	V	V	mA	V	A	mA	pF	
	max	min	max	max	max	max	min	max	
CP0220SA	1	15	32	800	4	2.2	20	25	CP22A
CP0300SA	1	25	40	800	4	2.2	50	25	CP03A

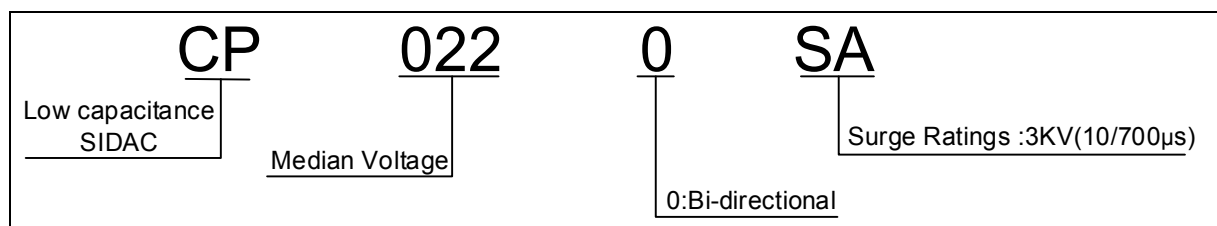
① V_S is measured at 100KV/s

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

SURGE RATINS

Series	I_{PP} (A) min			
	2/10 μs	8/20 μs	10/360 μs	10/1000 μs
A	150	150	70	50

ORDERING INFORMATION



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 (Liquidus 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) (Liquidus)	+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

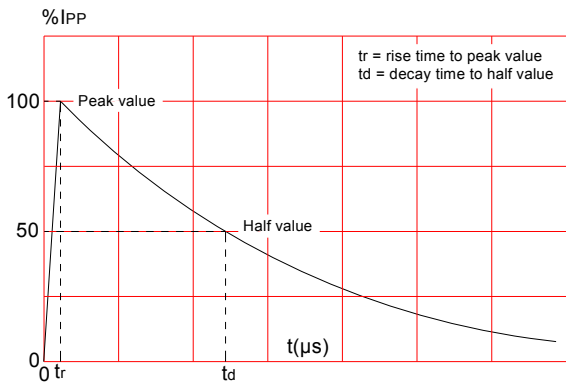


FIG.2: Reflow condition

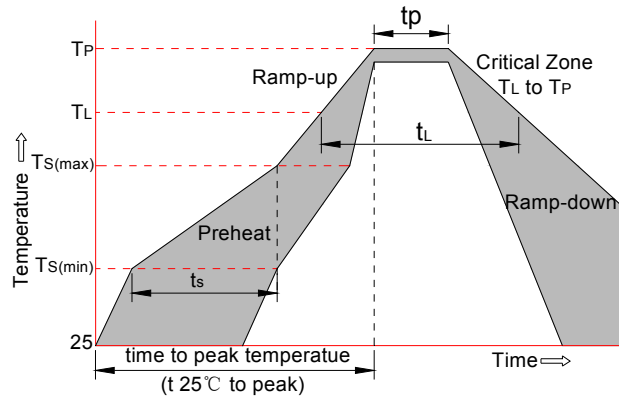


FIG.3: Normalized Vs change vs. junction temperature

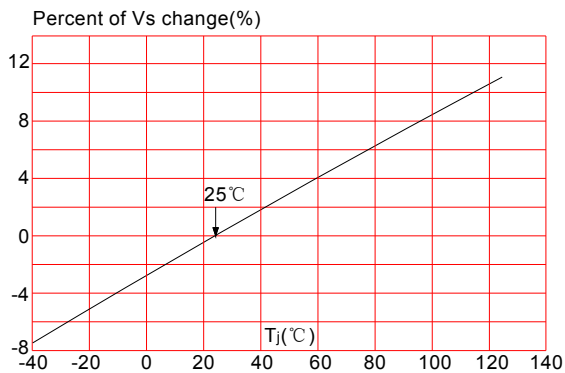
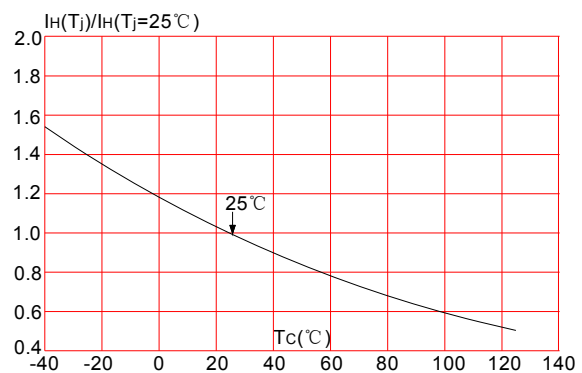
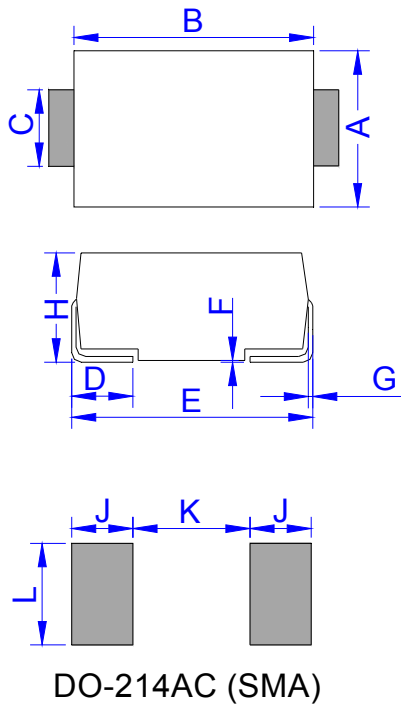


FIG.4: Normalized DC holding current vs. case temperature

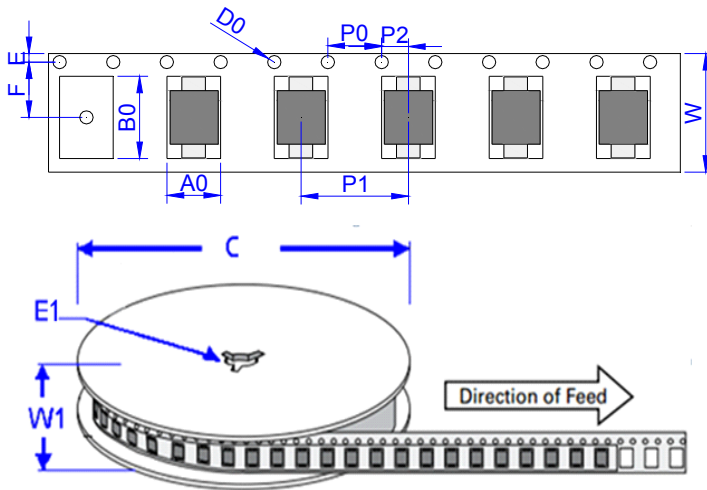


PACKAGE MECHANICAL DATA



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.60	3.00	0.102	0.118
B	4.15	4.65	0.163	0.183
C	1.25	1.65	0.049	0.065
D	0.95	1.52	0.037	0.060
E	4.90	5.30	0.193	0.209
F	0.051	0.203	0.002	0.008
G	0.15	0.31	0.006	0.012
H	2.00	2.44	0.079	0.096
J	2.00		0.079	
K		2.30		0.091
L	1.80		0.071	


TAPE AND REEL SPECIFICATION-SMA



Ref.	Dimensions	
	Millimeters	Inches
A0	2.79 ± 0.3	0.110 ± 0.012
B0	5.33 ± 0.3	0.210 ± 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	4.00 ± 0.2	0.157 ± 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

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
CPxxxxSA	0.07	7,500	120,000	13 inch reel pack

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