

## CP4200Sx Overvoltage Protector Series

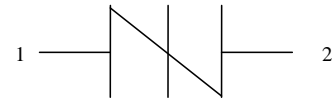
### Description and Feature

- ✧ 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

### Pin Information and Graphic symbol



SMB




symbol

### Application information

- ✧ modems, telephones, line cards, answering machines, FAX machines, T1/E1, xDSL and more.
- ✧ RJ45

### Agency Approvals

Icon	Description
<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003
	Mean lead free

### 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 voltage	V <sub>PP</sub>	see next table	V

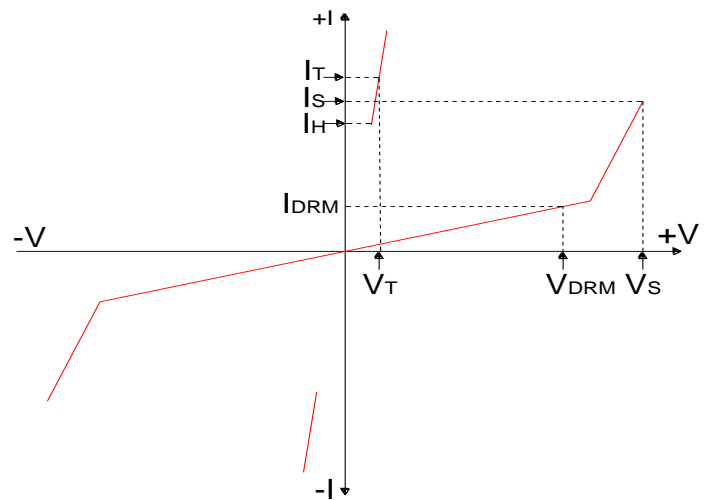
### SURGE RATINGS

Surge peak	Series		
	B	C	D
10/700us	4 KV	6 KV	8 KV

# CP4200Sx Overvoltage Protector Series

## ELECTRICAL CHARACTERISTICS (TA=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



Part Number	IDRM@VDRM		VS①@IS		VT@IT		IH	CO②	Marking
	$\mu A$	V	V	mA	V	A	mA	pF	
	max		max	max	max	max	min	max	
CP4200SB	5	400	520	800	4	2.2	100	25	CP42B
CP4200SC	5	400	520	800	4	2.2	100	30	CP42C
CP4200SD	5	400	520	800	4	2.2	100	35	CP42D

①  $V_S$  is measured at 100KV/s

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

### Marking



CP42B : Device Marking Code  
1509: In ninth week, 2015

### ORDERING INFORMATION

CP	420	0	S	B
low capacitance sidactor	Median Voltage	0:Bi-direction,1:Uni	Surge Ratings	Package type:SMB

FIG.1: tr x td pulse waveform

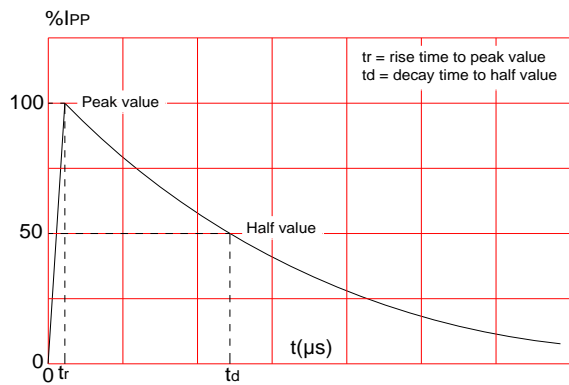


FIG.3: Normalized Vs change vs. junction temperature

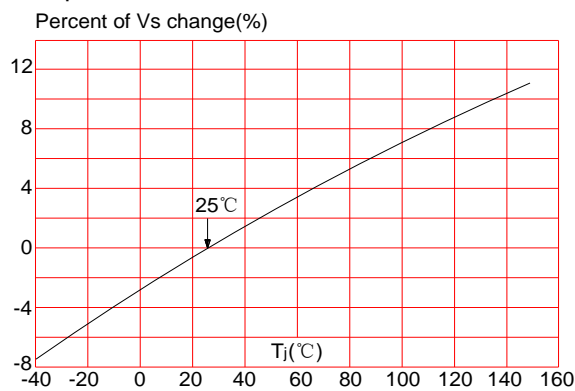


FIG.2: Reflow condition

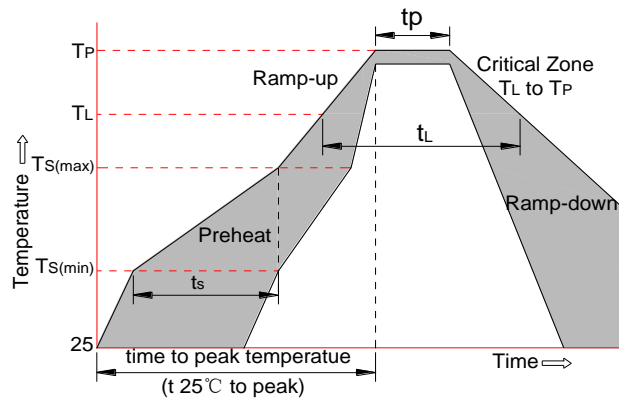
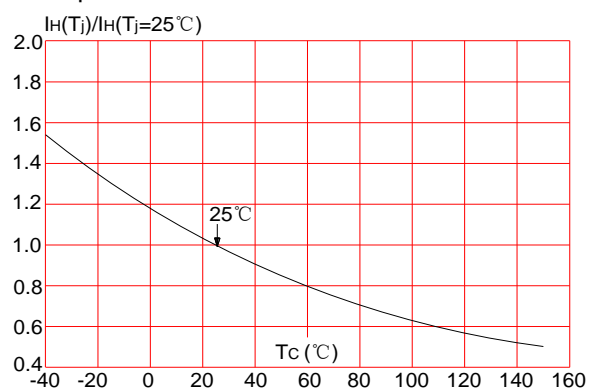


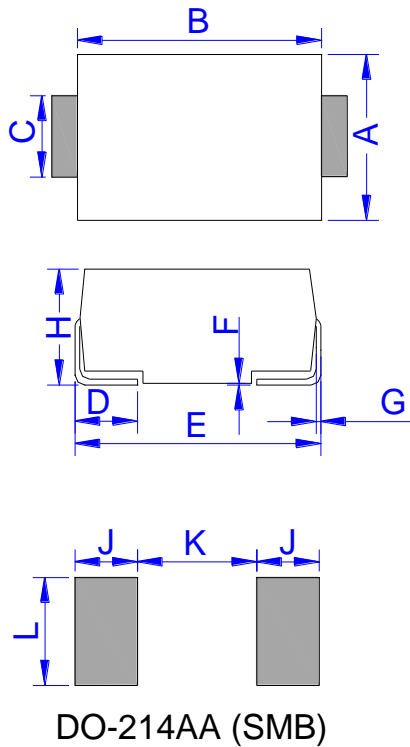
FIG.4: Normalized DC holding current vs. case temperature



SOLDERING PARAMETERS

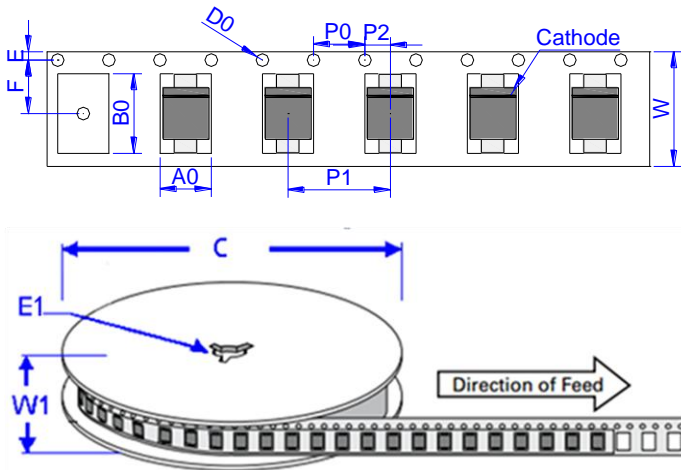
Reflow Condition		Pb-Free assembly (see FIG.5)
Pre Heat	-Temperature Min ( $T_{s(min)}$ )	+150°C
	-Temperature Max( $T_{s(max)}$ )	+200°C
	-Time (Min to Max) ( $t_s$ )	60-180 secs.
Average ramp up rate (Liquid us Temp ( $T_L$ ) to peak)		3°C/sec. Max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/sec. Max
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

**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)	PACKAGE	TAPE & REEL
TAPING	0.098	3,000	SMB(DO214AA)	13inch