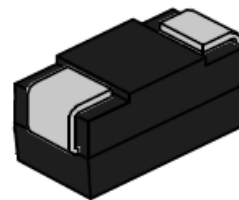




### DESCRIPTION:

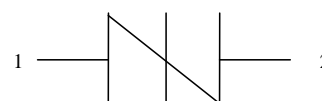
PxxxxSD series thyristors are a type of semiconductor component. They are designed to protect baseband equipment from damaging overvoltage transients, such as modems, telephones, line cards, answering machines, FAX machines, T1/E1, xDSL and more.



SMB

### FEATURES:

- ✧ 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.
- ✧ UL 497B item recognized. (File No.: E480698).
- ✧ IEC61000-4-2 (ESD) ±30kV (air), ±30kV (contact).
- ✧ Non degenerative.



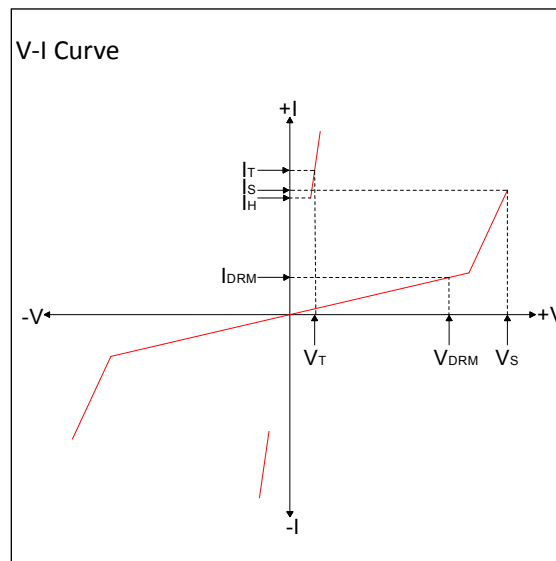
Symbol

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C, RH=45%-75%, unless otherwise noted)

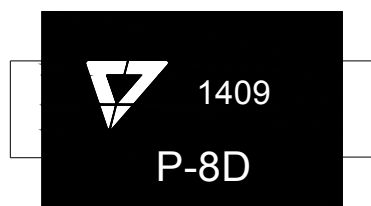
Parameter	Symbol	Value	Unit
Storage temperature range	T <sub>STG</sub>	-60 to +150	°C
Operating junction temperature range	T <sub>J</sub>	-40 to +125	°C
Repetitive peak pulse current@10/1000µs	I <sub>PP</sub>	200	A

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Symbol	Parameter
V <sub>DRM</sub>	Peak off-state voltage
I <sub>DRM</sub>	Off-state current
V <sub>S</sub>	Switching voltage
I <sub>S</sub>	Switching current
V <sub>T</sub>	On-state voltage
I <sub>T</sub>	On-state current
I <sub>H</sub>	Holding current
C <sub>O</sub>	Off-state capacitance



## MARKING



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

ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, continued)

Part Number	I <sub>DRM</sub> @V <sub>DRM</sub>		V <sub>S</sub> <sup>①</sup> @I <sub>S</sub>		V <sub>T</sub> @I <sub>T</sub>		I <sub>H</sub>	Co <sup>②</sup>	Marking
	μA	V	V	mA	V	A	mA	pF	
	max		max	max	max	max	min	max	
P0080SD	1	6	15	800	4	2.2	50	150	P-8D
P0640SD	1	58	77	800	4	2.2	50	150	P06D
P0720SD	1	65	87	800	4	2.2	50	150	P07D
P0900SD	1	75	98	800	4	2.2	50	140	P09D
P1100SD	1	90	130	800	4	2.2	50	110	P11D
P1300SD	1	120	160	800	4	2.2	50	100	P13D
P1500SD	1	140	180	800	4	2.2	50	90	P15D
P1800SD	1	170	220	800	4	2.2	50	90	P18D
P2300SD	1	190	260	800	4	2.2	50	80	P23D
P2600SD	1	220	300	800	4	2.2	50	70	P26D
P3100SD	1	275	350	800	4	2.2	50	60	P31D
P3500SD	1	320	400	800	4	2.2	50	60	P35D
P3800SD	1	340	450	800	4	2.2	50	60	P38D

① V<sub>S</sub> is measured at 100kV/s

② Off-state capacitance is measured in V<sub>DC</sub>=2V, V<sub>RMS</sub>=1V, f=1MHz

## SURGE RATINGS

Series	I <sub>PP</sub> (A) min			
	2/10μs	8/20μs	10/360μs	10/1000μs
D	800	700	---	200

ORDERING INFORMATION

<b>P</b>	<b>008</b>	<b>0</b>	<b>S</b>	<b>D</b>
Series code P: SIDACtor	Median voltage	0: Bi-direction	Package type	Surge ratings:8kV(10/700μs)

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) ( $t_s$ )	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:  $t_r \times t_d$  pulse waveform

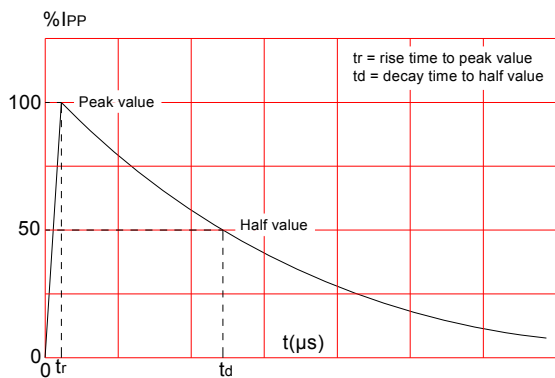
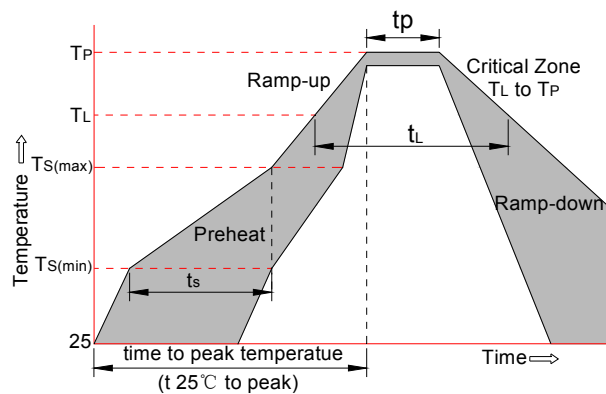
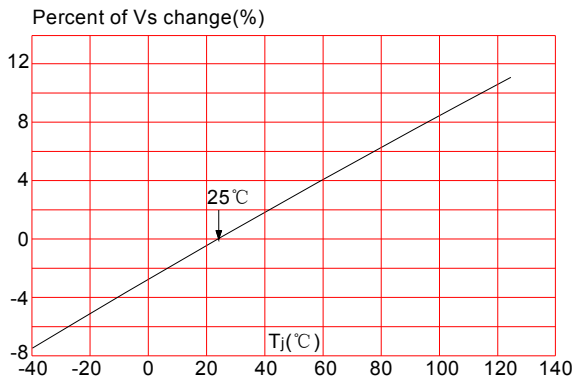


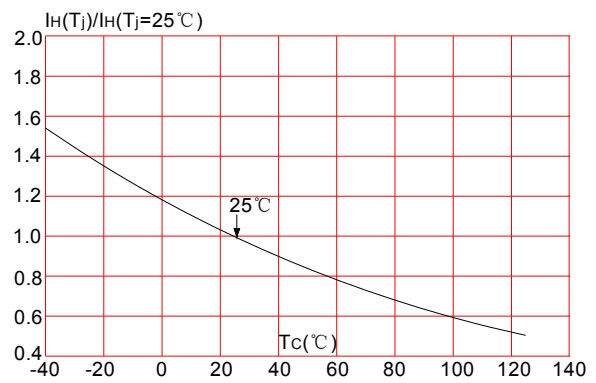
FIG.2: Reflow condition



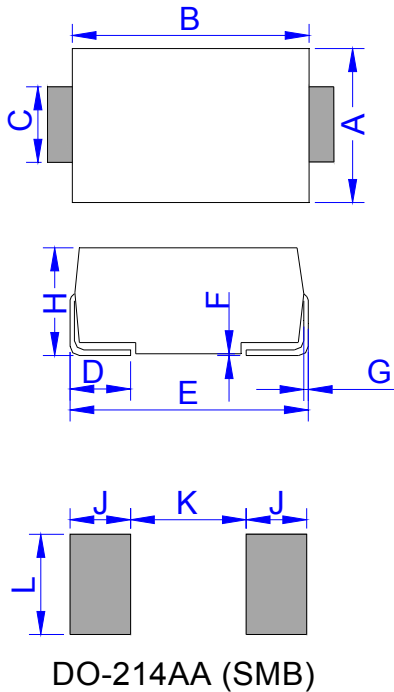
**FIG.3:** Normalized  $V_s$  change vs. junction temperature



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

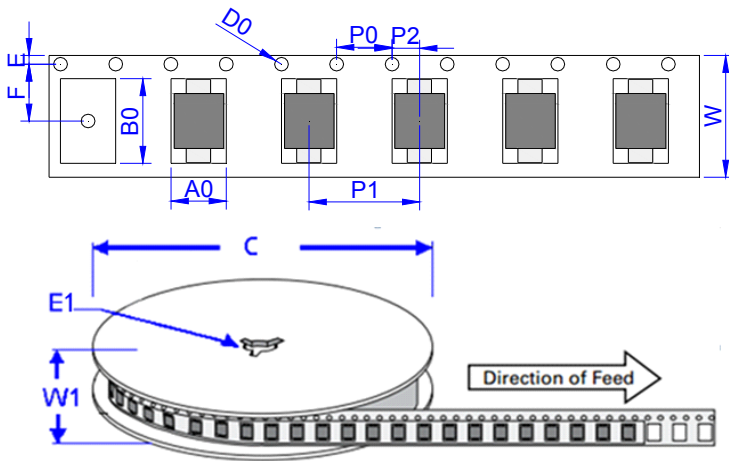


**PACKAGE MECHANICAL DATA**



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

PART No.	UNIT WEIGHT (g/PCS) typ.	REEL (PCS)	PER CARTON (PCS)	DESCRIPTION
PxxxxSD	0.098	3,000	48,000	13 inch reel pack

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