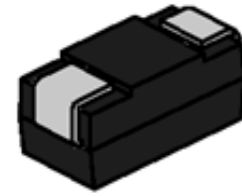




### DESCRIPTION:

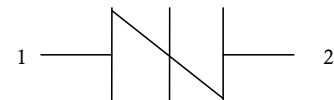
PxxxxSA series thyristors are a type of semiconductor component. They are designed to protect baseband equipment from damaging overvoltage transients. such as modems, telephones, line cards, answering machines, FAX machines, T1/E1, xDSL and more.



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.



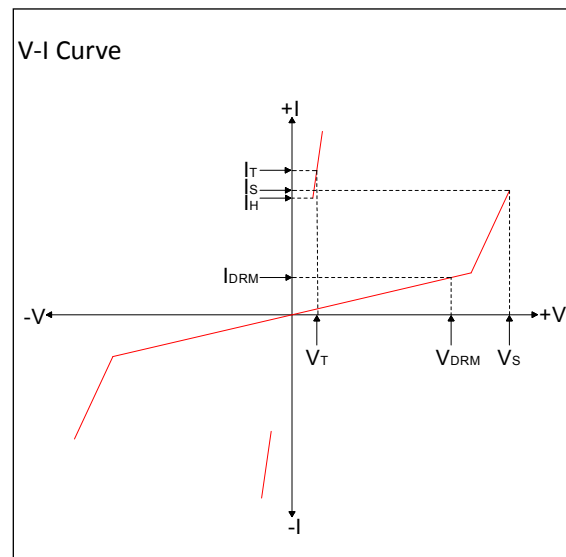
Symbol

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

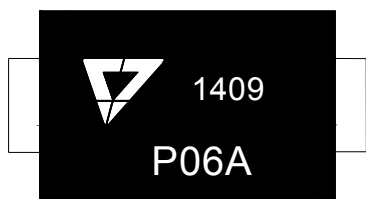
Parameter	Symbol	Value	Unit
Storage temperature range	T <sub>STG</sub>	-60 to +150	°C
Operating junction temperature range	T <sub>J</sub>	-40 to +125	°C
Repetitive peak pulse current	I <sub>PP</sub>	80	A

### 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



P06A : 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	min	max	max	max	max	min	max	
P0640SA	1	58	77	800	4	2.2	120	50	P06A
P0720SA	1	65	87	800	4	2.2	120	50	P07A
P0900SA	1	75	98	800	4	2.2	120	50	P09A
P1100SA	1	90	130	800	4	2.2	120	45	P11A
P1300SA	1	120	160	800	4	2.2	120	45	P13A
P1500SA	1	140	180	800	4	2.2	120	45	P15A
P1800SA	1	170	220	800	4	2.2	120	35	P18A
P2300SA	1	190	260	800	4	2.2	120	35	P23A
P2600SA	1	220	300	800	4	2.2	120	35	P26A
P3100SA	1	275	350	800	4	2.2	120	35	P31A
P3500SA	1	320	400	800	4	2.2	120	35	P35A
P3800SA	1	340	450	800	4	2.2	120	35	P38A

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	$I_{\text{PP}}(\text{A})\text{min}$			
	$2\times 10\mu\text{s}$	$8\times 20\mu\text{s}$	$10\times 360\mu\text{s}$	$10\times 1000\mu\text{s}$
A	250	250	125	80

ORDERING INFORMATION

<b>P</b> Series code P:SIDAC	<b>064</b> Median Voltage	<b>0</b> 0:Bi-direction, 1:Uni	<b>SA</b> Surge Ratings :4KV(10/700μs)
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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

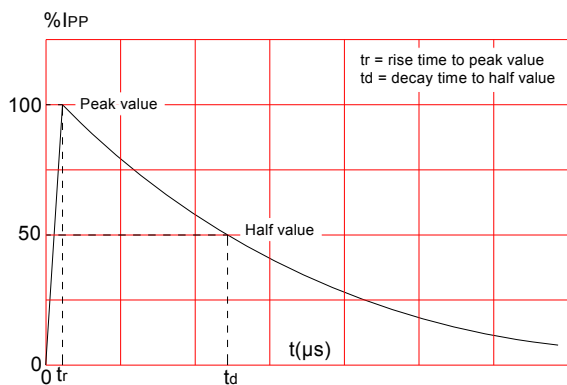
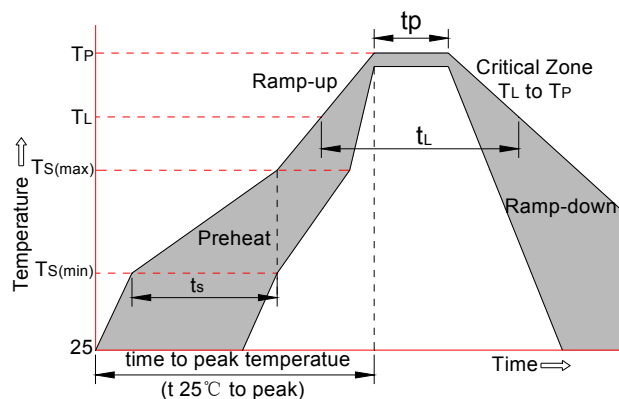
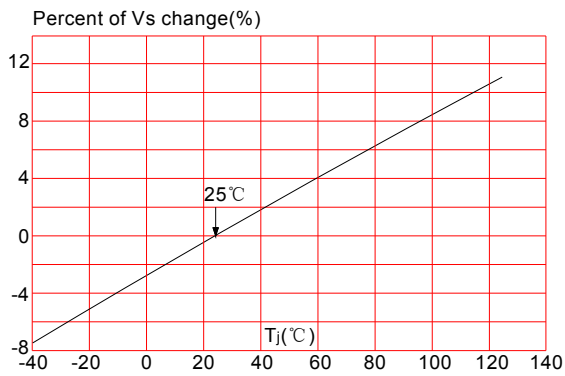


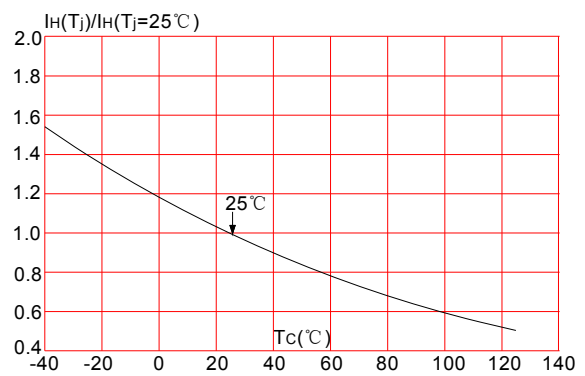
FIG.2: Reflow condition



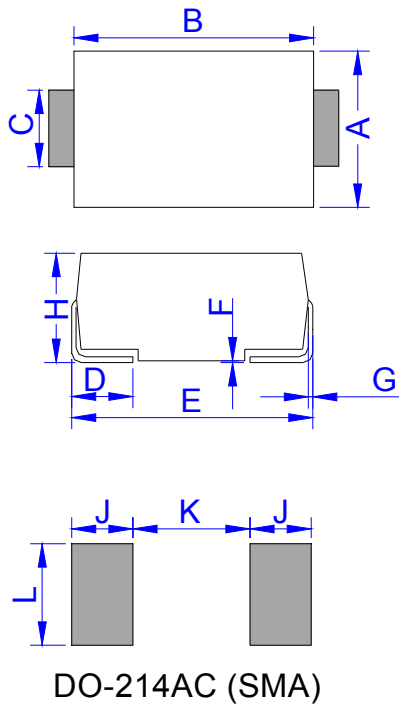
**FIG.3:** Normalized  $V_s$  change vs. junction temperature



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

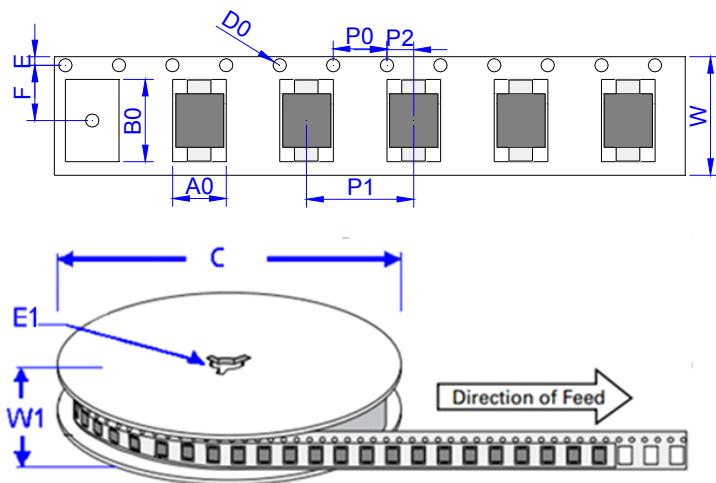


**PACKAGE MECHANICAL DATA**



Ref.	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	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)	REEL DIAMETERS (mm)
PxxxxSA	0.07	5,000	80,000	330

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