

## DESCRIPTION

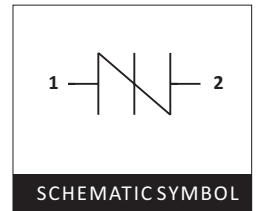
DO-214AA/SMB Thyristor solid state protection thyristor protect telecommunications equipment such as modems, line cards, fax machines and other CPE, This Series devices are used to enable equipment to meet various regulatory requirements including GR1089, ITUK.20, K.21 and K.45, IEC 60950, and TIA 968 (formerly known as FCC Part 68).

## FEATURES

- > Excellent capability of absorbing transient surge
- > Quick response to surge voltage
- > Eliminates overvoltage caused by fast rising transients
- > Solid-state silicon technology, non degenerative

## APPLICATIONS

- > Audio/Video line
- > Network and telecom
- > Data lines and security systems
- > Serial ports



## PART NUMBER AND ELECTRICAL PARAMETER @ T=25°C RH = 45%-75%

PART NUMBER	V <sub>DRM</sub> V Min.	I <sub>DRM</sub> uA Max.	V <sub>s</sub> V Max.	I <sub>s</sub> mA	V <sub>T</sub> V Max.	I <sub>T</sub> A	I <sub>H</sub> mA Min.	C <sub>o</sub> pF Typ.
P0060SA	6	5	15	800	4	2.2	40	50
P0080SA	6	5	25	800	4	2.2	40	50
P0150SA	15	5	25	800	4	2.2	40	50
P0300SA	25	5	40	800	4	2.2	40	70
P0640SA	58	5	77	800	4	2.2	120	50
P0720SA	65	5	88	800	4	2.2	120	50
P0900SA	75	5	98	800	4	2.2	120	45
P1100SA	90	5	130	800	4	2.2	120	45
P1300SA	120	5	160	800	4	2.2	120	45
P1500SA	140	5	180	800	4	2.2	120	40
P1800SA	170	5	220	800	4	2.2	120	40
P2300SA	190	5	260	800	4	2.2	120	35
P2600SA	220	5	300	800	4	2.2	120	35
P3100SA	275	5	350	800	4	2.2	120	30
P3500SA	320	5	400	800	4	2.2	120	30
P4200SA	400	5	520	800	4	2.2	≤50	30

- 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
- 3、All measurements are made at an ambient temperature of 25°C



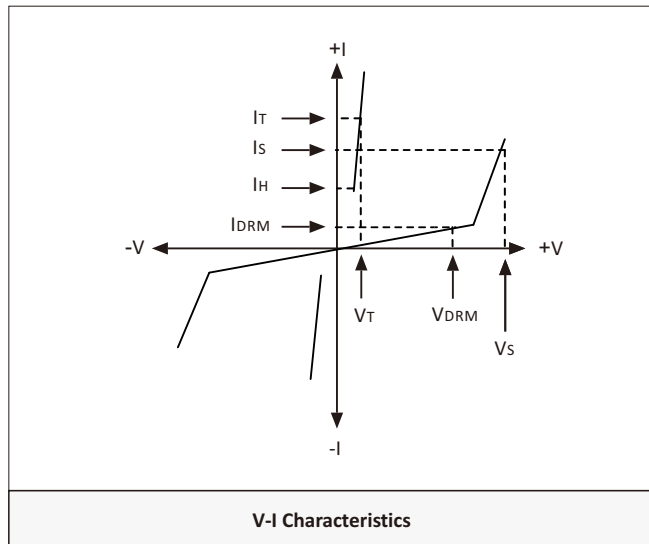
### SURGE RATINGS

Series	IPP 2x10us (A)	IPP 8x20us (A)	IPP 10x560us (A)	IPP 10x1000us (A)	VPP 10x700us (V)	I <sub>TSM</sub> 60Hz (A)	di/dt (A/us)
P0060SA Thru P4200SA	150	150	100	50	3000	20	500

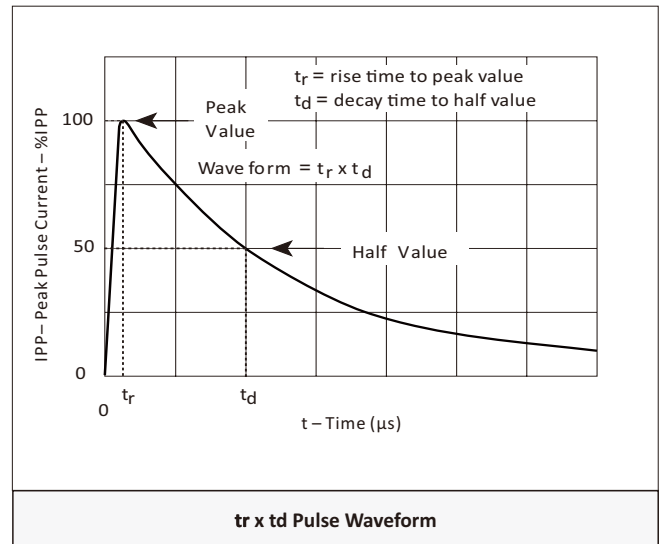
### THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
T <sub>J</sub>	Operating Junction Temperature	-55 to +125	°C
T <sub>S</sub>	Storage Temperature Range	-55 to +150	°C
R <sub>θJA</sub>	Junction to Ambient on printed circuit	90	°C/W

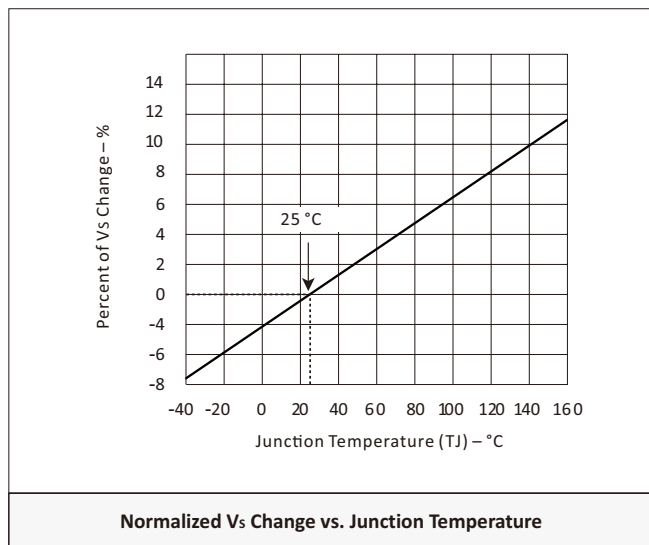
### TYPICAL DEVICE CHARACTERISTICS



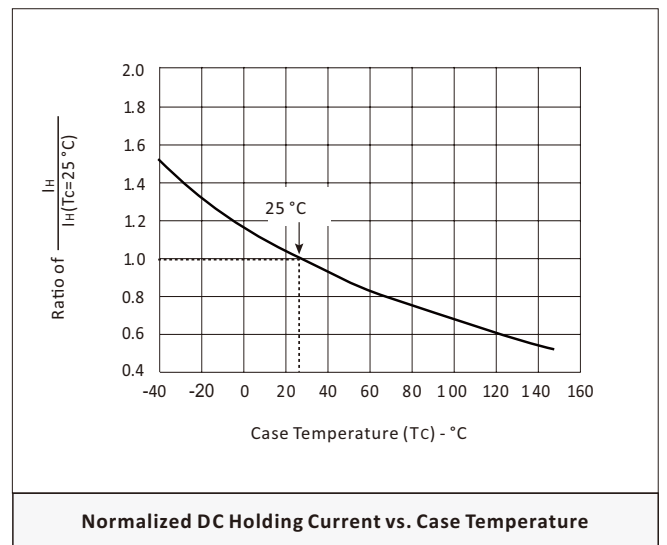
V-I Characteristics



tr x td Pulse Waveform



Normalized Vs Change vs. Junction Temperature

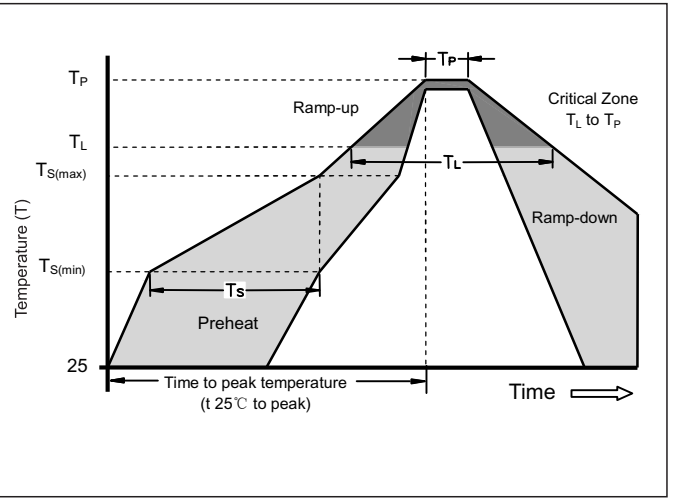


Normalized DC Holding Current vs. Case Temperature

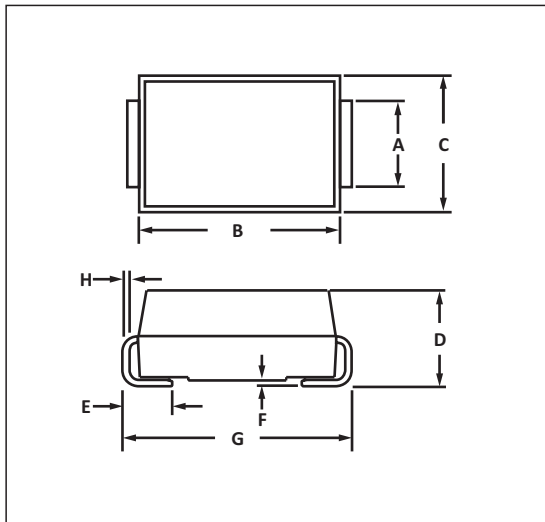


### SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Min (Ts(min))	150°C
	Temperature Max (Ts(max))	200°C
	Time (min to max) (ts)	60 – 180secs
Average ramp up rate (Liquidus Temp (TL) to peak)		3°C/second max
Ts(max) to TL - Ramp-up Rate		3°C/second max
Reflow	Temperature (TL) (Liquidus)	217°C
	Time (min to max) (tL)	60 – 150seconds
Peak Temperature (TP)		260°C
Time within 5°C of actual peak Temperature (tp)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (TP)		8 minutes Max.
Do not exceed		260°C



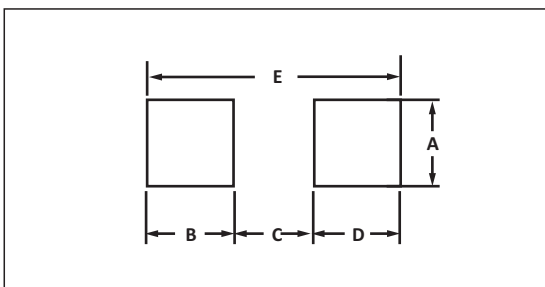
### DO-214AA(SMB) PACKAGE DIMENSIONS



SMB PACKAGE DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.96	2.20	0.077	0.087
B	4.35	4.85	0.171	0.191
C	3.30	3.94	0.130	0.155
D	2.20	2.50	0.087	0.098
E	0.76	1.52	0.030	0.060
F	0.02	0.20	0.001	0.008
G	5.08	5.59	0.200	0.220
H	0.15	0.30	0.006	0.012

**NOTES:**  
1. Dimensions are exclusive of mold flash and metal burrs

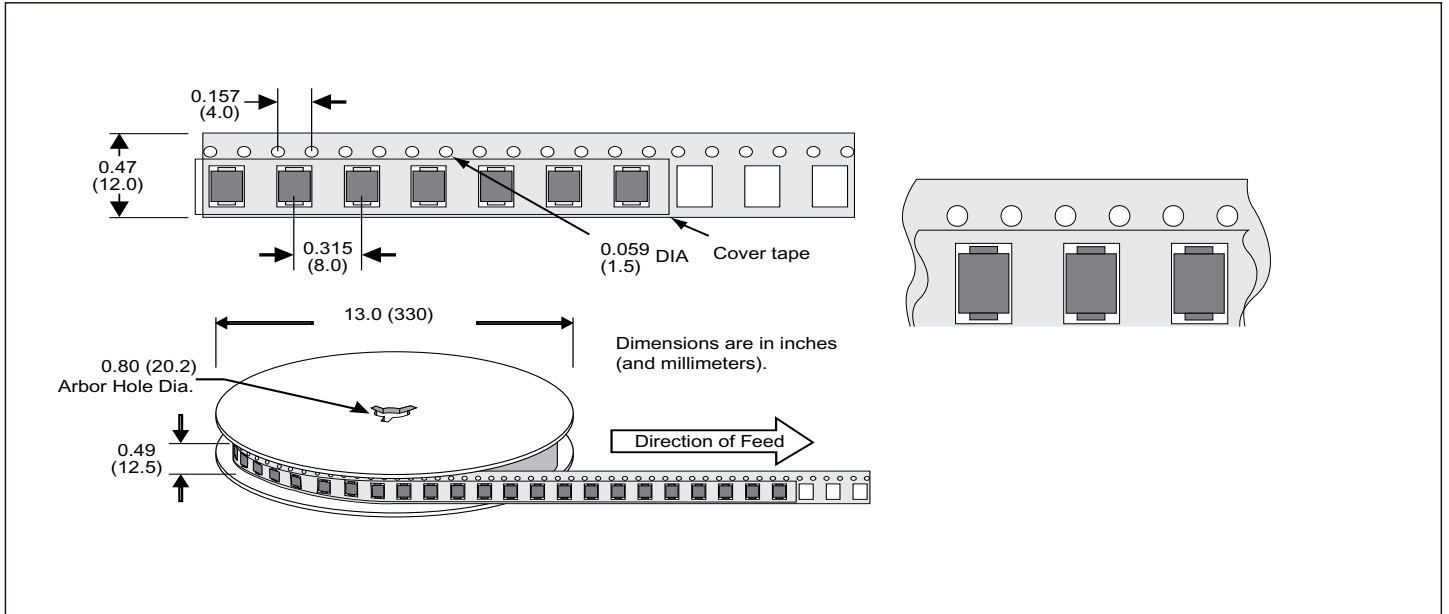
### RECOMMENDED PAD LAYOUT DIMENSIONS



RECOMMENDED PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.20	-	0.087	-
B	1.45	-	0.057	-
C	-	2.55	-	0.100
D	1.45	-	0.057	-
E	5.60 REF		0.220 REF	



### TAPE AND REEL SPECIFICATION



### ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
PxxxxSA	DO-214AA(SMB)	3000PCS	13"



## CONTACT US

### Headquarters

No.3387 Shendu Road Pujiang I&E Park Minhang Shanghai  
China

### Hotline

400-021-5756

### Web

[Http://www.semiware.com.cn](http://www.semiware.com.cn)

### By Telephone

General: 86-21-3463-7172

Sales: 86-21-3463-7345

Technical Support: 86-21-34637172-8811

### By Fax

General: 86-21-3965-0654

Sales: 86-21-3463-7458

### By Email

General: [china@semiware.com.cn](mailto:china@semiware.com.cn)

Sales: [sales33@semiware.com.cn](mailto:sales33@semiware.com.cn)

Technical Support: [fae03@semiware.com.cn](mailto:fae03@semiware.com.cn)

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