

DESCRIPTION

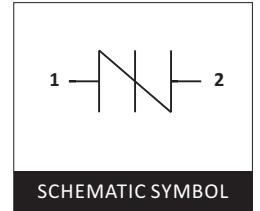
DO-214AA/SMB Thyristor solid state protection thyristor protect telecommunications equipment such as modems, line cards, fax machines, and other CPE. This Series devices are used to enable equipment to meet various regulatory requirements including GR1089, ITUK.20, K.21 and K.45, IEC 60950, and TIA-968 (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 _{DRM} V Min.	I _{DRM} uA Max.	V _s V Max.	I _s mA	V _T V Max.	I _T A	I _H mA	C _o pF Max.
P0080SB	6	5	25	800	4	2.2	≥50	80
P0300SB	25	5	40	800	4	2.2	≥50	80
P0640SB	58	5	77	800	4	2.2	≥150	80
P1800SB	170	5	220	800	4	2.2	≥150	80
P2300SB	190	5	260	800	4	2.2	≥150	80
P2600SB	220	5	300	800	4	2.2	≥150	80
P3100SB	275	5	350	800	4	2.2	≥150	40
P3500SB	320	5	400	800	4	2.2	≥150	40
P4200SB	390	5	500	800	4	2.2	≤50	70

1、Vs is measured at 100KV/S

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

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

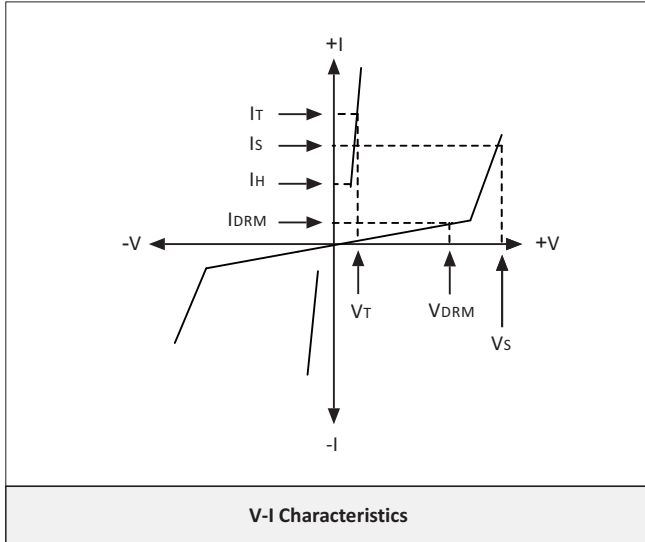
SURGE RATINGS

Series	IPP 2x10us (A)	IPP 8x20us (A)	IPP 10x560us (A)	IPP 10x1000us (A)	VPP 10x700us (V)	I _{TSM} 60Hz (A)	d _i /d _t (A/us)
P0080SB Thru P4200SB	300	300	100	80	4000	32	500

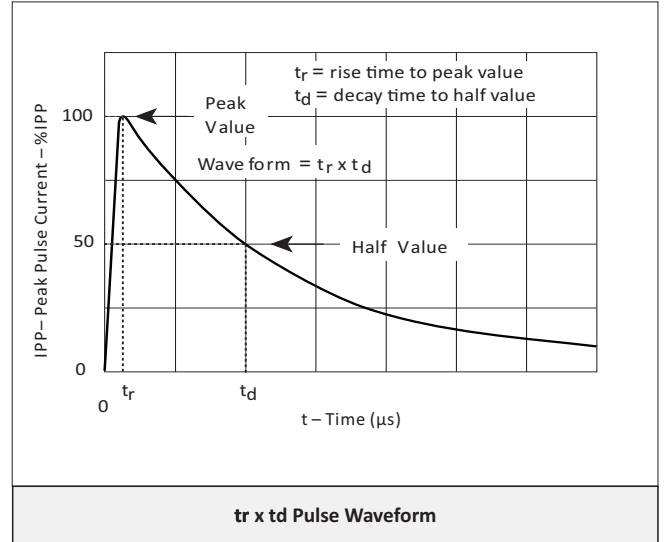
THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
T _J	Operating Junction Temperature	-40 to +150	°C
T _S	Storage Temperature Range	-40 to +150	°C
ReJA	Junction to Ambient on printed circuit	90	°C/W

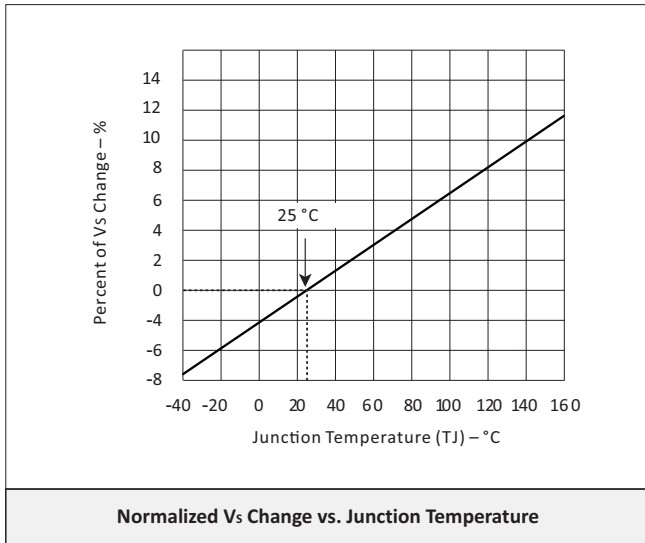
TYPICAL DEVICE CHARACTERISTICS



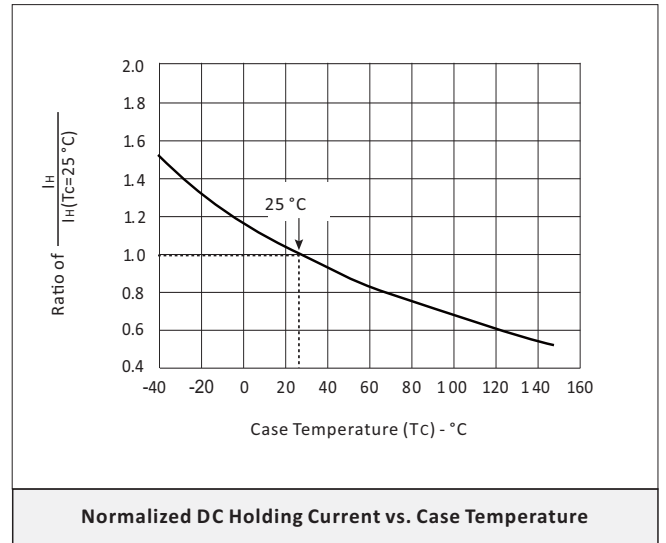
V-I Characteristics



tr x td Pulse Waveform



Normalized V_S Change vs. Junction Temperature



Normalized DC Holding Current vs. Case Temperature

ENVIRONMENTAL CHARACTERISTICS

Testing Items	Technical Standards
High Temperature Reverse Bias Test	Temperature:150±3°C,Bias=80%V _{DRM} ;Time:168H
High Temperature Life Test	Temperature:150°C;Time:168H
High-Low Temperature Cycle Test	Temperature:From -40°C to 150°C;Dwell Time:30min,10-100 Cycles
High Temperature&High Humidity Test	Temperature:85°C.Humidity:85%; Time:168H
Pressure Cooker Test	Temperature:121°C,2 atm.Humidity:100%; Time:24H To 168H
Resistance Of Soldering Heat	Temperature:260±5°C;Time Of Dip Soldering:10s,3 Times

PRODUCT 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:

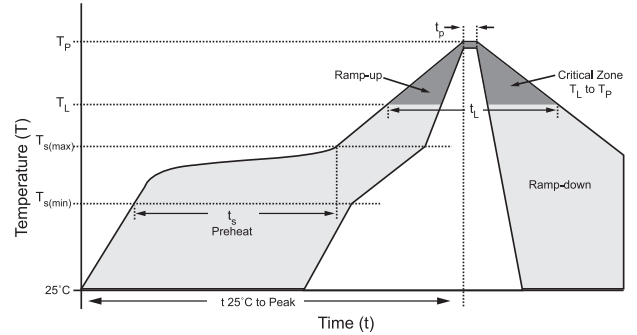
- 1.Dimensions are exclusive of mold flash and metal burrs
- 2.Cathode Band is only applicable to the unidirectional package

RECOMMENDED PAD LAYOUT DIMENSIONS

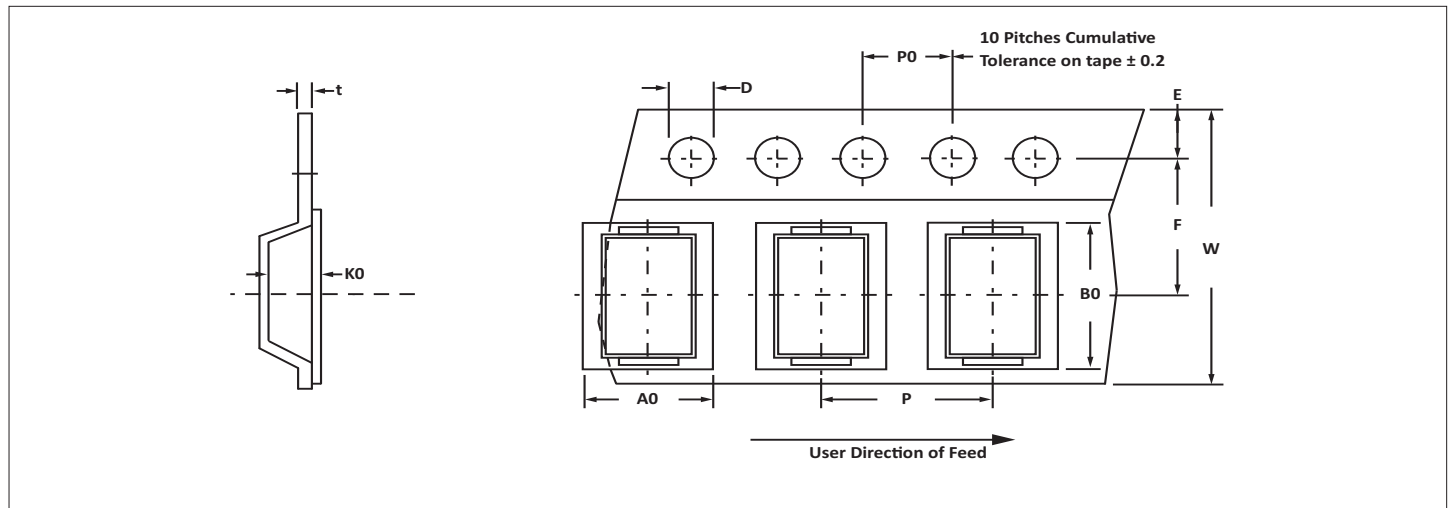
RECOMMENDED PAD LAYOUT DIMENSIONS				
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	2.20	-	0.087	-
B	1.45	-	0.057	-
C	-	2.55	-	0.100
D	1.45	-	0.057	-
E	5.60 REF		0.220 REF	

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 – 180 secs
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) (ts)	60 – 150 seconds
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



TAPE AND REEL SPECIFICATION



SPECIFICATIONS

REEL DIA.	TAPE WIDTH	A0	B0	K0	D	E	F	W	P0	P	tmax
330mm (13")	12mm	3.79 ± 0.15	5.72 ± 0.15	2.46 ± 0.30	1.55 ± 0.05	1.75 ± 0.10	5.5 ± 0.05	12.00 ± 0.30	4.00 ± 0.10	8.00 ± 0.10	0.25 ± 0.10

NOTES

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.
- Suffix - T = 13" Reel - 3,000 pieces per 12mm tape.

ORDERING INFORMATION

Part Number	Component Package	QTY/Reel	Reel Size
PxxxxSB	DO-214AA	3000PCS	13"

CONTACT US

Headquarters

A Building Caohejing I&E Park Pujiang Minhang Shanghai
China

Hotline

400-021-5756

Web

<http://www.semiware.com.cn>

By Telephone

Sales: 86-21-3463-7345

Customer Service: 86-21-3463-7172-8810/8826

Technical Support: 86-21-3463-7173-8811

By Email

Sales: sales03@semiware.com.cn

Customer Service: sales17@semiware.com.cn

Technical Support: fae03@semiware.com.cn

By Fax

General: 86-21-3965-0654

Sales: 86-21-3463-7458

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