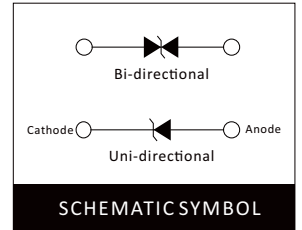


DESCRIPTION

The SA is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

FEATURES

- > Plastic package.
- > Glass passivated chip junction in DO-15 Package
- > 500W peak pulse power capability on 10/1000 μ s waveform.
- > Excellent clamping capability.
- > Low zener impedance.
- > Fast response time: typically less than 1.0ps from 0 Volts to BV min.
- > Typical IR less than 1 μ A when VBR max > 13V.
- > Halogen free and RoHS compliant.



MECHANICAL DESIGN

- > Case: JEDEC DO-15 Molded Plastic.
- > Terminals: Axial leads, solderable per MIL-STD-750, Method 2026.
- > Polarity: Color band denoted cathode except bidirectional.
- > Mounting Position: Any.

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μ s waveform (Note1).	P_{PPM}	500	Watts
Peak Pulse Current of on 10/1000 μ s waveform(Note1).	I_{PPM}	See Table	Amps
Steady State Power Dissipation on Infinite Heat Sink at $T_L=75^\circ\text{C}$	$P_M(AV)$	3.0	Watts
Maximum Instantaneous Forward Voltage at 35A for Unidirectional Only	V_F	3.5	Volts
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load, (JEDEC Method) (Note 2).	I_{FSM}	70	Amps

NOTES:

1. Non-repetitive current pulse, $T_A = 25^\circ\text{C}$.
2. 8.3ms single half sine-wave, or equivalent square wave for Unidirectional Only, Duty cycle=4 pulses per minutes maximum.

THERMAL CONSIDERATIONS

Symbol	Parameter	Value	Unit
T_j	Operating Junction Temperature	-55 to +175	$^\circ\text{C}$
T_s	Storage Temperature Range	-55 to +175	$^\circ\text{C}$
$R_{\theta JA}$	Junction to Ambient on printed circuit	75	$^\circ\text{C}/\text{W}$



ELECTRICAL CHARACTERISTICS PER LINE@ 25°C UNLESS OTHERWISE SPECIFIED

Part Number		Reverse Stand-off Voltage	Breakdown Voltage Min.@I _T	Breakdown Voltage Max.@I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
UNT-POLAR	BI-POLAR	V _{RWM} (V)	V _{BR} (V)	V _{BR} (V)	I _T (mA)	V _c (V)	I _{PP} (A)	I _r (μA)
SA5.0A	SA5.0CA	5.0	6.40	7.00	10	9.2	55.4	600
SA6.0A	SA6.0CA	6.0	6.67	7.37	10	10.3	49.5	600
SA6.5A	SA6.5CA	6.5	7.22	7.98	10	11.2	45.5	400
SA7.0A	SA7.0CA	7.0	7.78	8.60	10	12.0	42.5	150
SA7.5A	SA7.5CA	7.5	8.33	9.21	1	12.9	39.5	50
SA8.0A	SA8.0CA	8.0	8.89	9.83	1	13.6	37.5	25
SA8.5A	SA8.5CA	8.5	9.44	10.40	1	14.4	35.4	10
SA9.0A	SA9.0CA	9.0	10.00	11.10	1	15.4	33.1	5
SA10A	SA10CA	10.0	11.10	12.30	1	17.0	30.0	3
SA11A	SA11CA	11.0	12.20	13.50	1	18.2	28.0	1
SA12A	SA12CA	12.0	13.30	14.70	1	19.9	25.6	1
SA13A	SA13CA	13.0	14.40	15.90	1	21.5	23.7	1
SA14A	SA14CA	14.0	15.60	17.20	1	23.2	22.0	1
SA15A	SA15CA	15.0	16.70	18.50	1	24.4	20.9	1
SA16A	SA16CA	16.0	17.80	19.70	1	26.0	19.6	1
SA17A	SA17CA	17.0	18.90	20.90	1	27.6	18.5	1
SA18A	SA18CA	18.0	20.00	22.10	1	29.2	17.5	1
SA20A	SA20CA	20.0	22.20	24.50	1	32.4	15.7	1
SA22A	SA22CA	22.0	24.40	26.90	1	35.5	14.4	1
SA24A	SA24CA	24.0	26.70	29.50	1	38.9	13.1	1
SA26A	SA26CA	26.0	28.90	31.90	1	42.1	12.1	1
SA28A	SA28CA	28.0	31.10	34.40	1	45.4	11.2	1
SA30A	SA30CA	30.0	33.30	36.80	1	48.4	10.5	1
SA33A	SA33CA	33.0	36.70	40.60	1	53.3	9.6	1
SA36A	SA36CA	36.0	40.00	44.20	1	58.1	8.8	1
SA40A	SA40CA	40.0	44.40	49.10	1	64.5	7.9	1
SA43A	SA43CA	43.0	47.80	52.80	1	69.4	7.3	1
SA45A	SA45CA	45.0	50.00	55.30	1	72.7	7.0	1
SA48A	SA48CA	48.0	53.30	58.90	1	77.4	6.6	1
SA51A	SA51CA	51.0	56.70	62.70	1	82.4	6.2	1
SA54A	SA54CA	54.0	60.00	66.30	1	87.1	5.9	1



ELECTRICAL CHARACTERISTICS PER LINE@ 25°C UNLESS OTHERWISE SPECIFIED

Part Number		Reverse Stand-off Voltage	Breakdown Voltage Min.@IT	Breakdown Voltage Max.@IT	Test Current	Maximum Clamping Voltage @IPP	Peak Pulse Current	Reverse Leakage @VRWM
UNT-POLAR	BI-POLAR	VRWM(V)	VBR (V)	VBR (V)	IT(mA)	Vc(V)	IPP(A)	IR(uA)
SA58A	SA58CA	58	64.40	71.20	1	93.6	5.4	1
SA60A	SA60CA	60	66.70	73.70	1	96.8	5.3	1
SA64A	SA64CA	64	71.10	78.60	1	103.0	5.0	1
SA70A	SA70CA	70	77.80	86.00	1	113.0	4.5	1
SA75A	SA75CA	75	83.30	92.10	1	121.0	4.2	1
SA78A	SA78CA	78	86.70	95.80	1	126.0	4.0	1
SA85A	SA85CA	85	94.40	104.00	1	137.0	3.7	1
SA90A	SA90CA	90	100.00	111.00	1	146.0	3.5	1
SA100A	SA100CA	100	111.00	123.00	1	162.0	3.1	1
SA110A	SA110CA	110	122.00	135.00	1	177.0	2.9	1
SA120A	SA120CA	120	133.00	147.00	1	193.0	2.6	1
SA130A	SA130CA	130	144.00	159.00	1	209.0	2.4	1
SA150A	SA150CA	150	167.00	185.00	1	243.0	2.1	1
SA160A	SA160CA	160	178.00	197.00	1	259.0	2.0	1
SA170A	SA170CA	170	189.00	209.00	1	275.0	1.9	1
SA180A	SA180CA	180	201.00	222.00	1	292.0	1.7	1
SA190A	SA190CA	190	211.00	233.00	1	308.0	1.6	1
SA200A	SA200CA	200	224.00	247.00	1	324.0	1.5	1
SA210A	SA210CA	210	237.00	263.00	1	340.0	1.5	1
SA220A	SA220CA	220	246.00	272.00	1	356.0	1.4	1



RATINGS AND CHARACTERISTIC CURVES ($T_A=25^\circ\text{C}$ unless otherwise noted)

Figure 1 - Steady State Power Dissipation Derating Curve

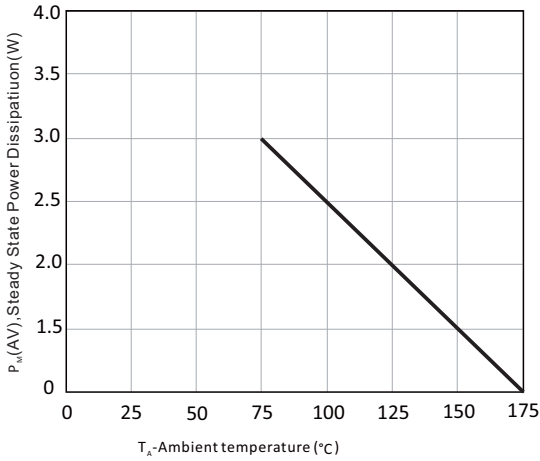


Figure 2 - Peak Pulse Power Rating Curve

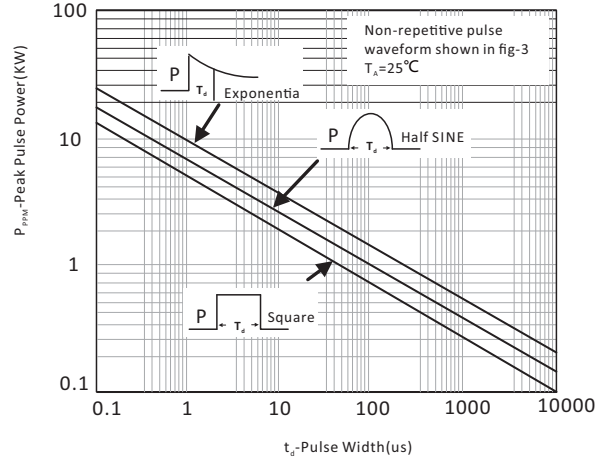


Figure 3 - Pulse Waveform

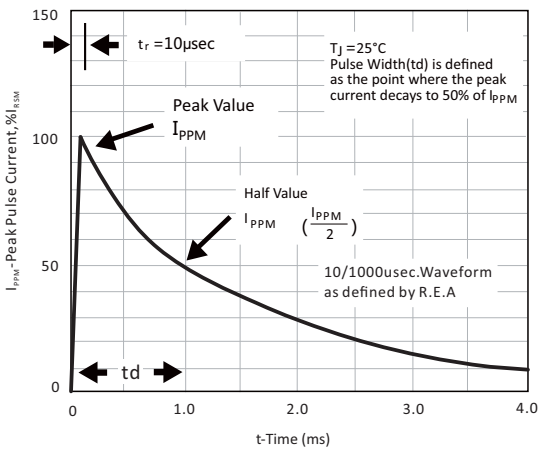


Figure 4 - Pulse Derating Curve

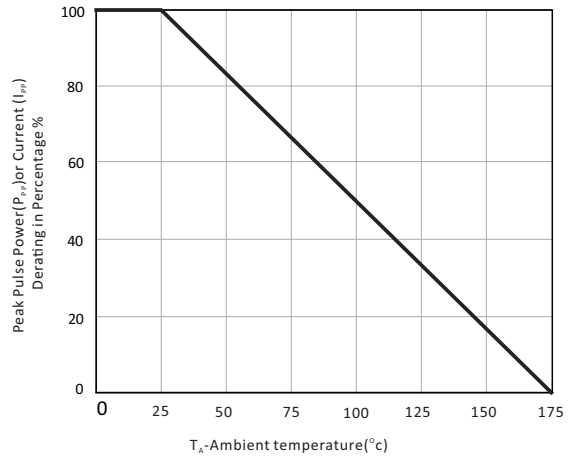


Figure 5 - Typical Junction Capacitance

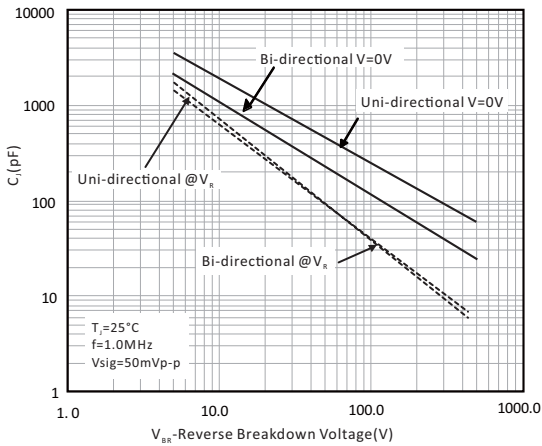
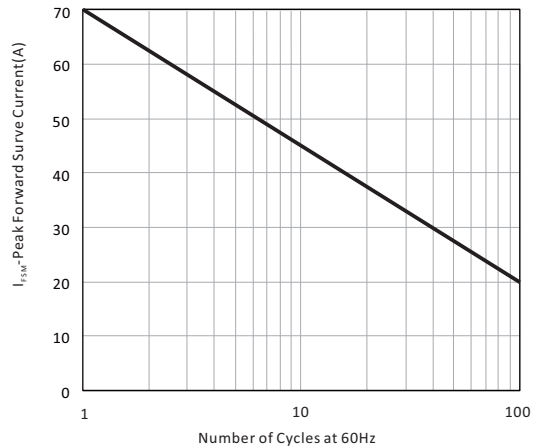
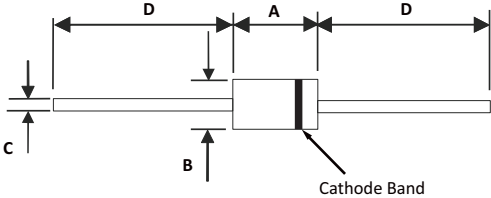


Figure 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



DO-15 PACKAGE DIMENSIONS

	Dimension	Inches		Millimeters	
		Min	Max	Min	Max
	A	0.230	0.300	5.800	7.600
	B	0.104	0.140	2.600	3.600
	C	0.028	0.034	0.710	0.860
	D	1.000		25.40	
NOTES: 1.Cathode Band is only applicable to the unidirectional package					

ORDERING INFORMATION

Part Number	Component Package	QTY/BOX
SAXxA/CA	DO-15	2000PCS

CONTACT US

Headquarters

A Building Caohejing I&E Park Pujiang Minhang Shanghai
China

Hotline

400-021-5756

Web

<http://www.semiwill.com>

By Telephone

General: 86-21-3463-7173

Sales: 86-21-3463-7172

Customer Service: 86-21-3463-7173-8810/8826

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

By Email

Sales: sales08@semiwill.com

Customer Service: sales17@semiwill.com

Technical Support: fae03@semiwill.com

By Fax

General: 86-21-3965-0654

Sales: 86-21-3463-7458

COPYRIGHT ©Semiwill 2009 - This literature is subject to all applicable copyright laws and is not for resale in any manner.

SPECIFICATIONS: Semiwill reserves the right to change the electrical and or mechanical characteristics described herein without notice.

DESIGN CHANGES: Semiwill reserves the right to discontinue product lines without notice and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance. Semiwill assumes no responsibility with respect to the selection or specifications of such products. Semiwill makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Semiwill assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability without limitation special, consequential or incidental damages.

LIFE SUPPORT POLICY: Semiwill products are not authorized for use in life support systems without written consent from the factory.

