

# S1A THRU S1M

## SURFACE MOUNT RECTIFIER

VOLTAGE - 50 to 1000 Volts CURRENT - 1.0 Ampere

### FEATURES

- For surface mounted applications
- High temperature metallurgically bonded-no compression contacts as found in other diode-constructed rectifiers
- Glass passivated junction
- Built-in strain relief
- Easy pick and place
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Complete device submersible temperature of 260 °C for 10 seconds in solder bath

### MECHANICAL DATA

Case: JEDEC DO-214AA molded plastic

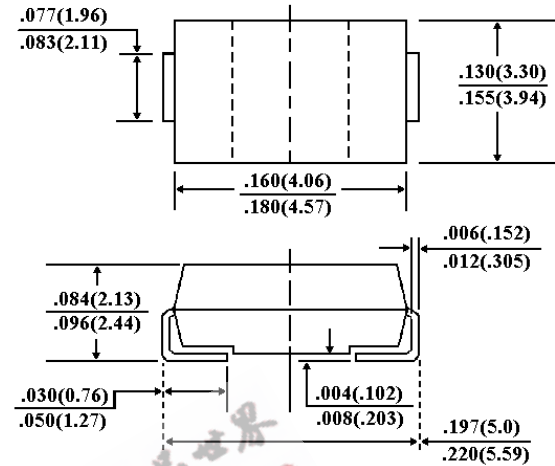
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026

Polarity: Indicated by cathode band

Standard packaging: 12mm tape (EIA-481)

Weight: 0.003 ounce, 0.093 gram

### SMB/DO-214AA



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

	SYMBOLS	S1A	S1B	S1D	S1G	S1J	S1K	S1M	UNITS
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current, at $T_L=100$ °C	$I_{(AV)}$	1.0							Amps
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC method)	$I_{FSM}$	30.0							Amps
Maximum Instantaneous Forward Voltage at 1.0A	$V_F$	1.10							Volts
Maximum DC Reverse Current $T_A=25$ °C	$I_R$	5.0							µg A
At Rated DC Blocking Voltage $T_A=125$ °C		50							
Maximum Reverse Recovery Time (Note 1)	$T_{RR}$	2.5							µg S
Typical Junction capacitance (Note 2)	$C_J$	12							pF
Typical Thermal Resistance (Note 3)	R θKJL	30.0							°C/W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150							°C

### NOTES:

1. Reverse Recovery Test Conditions:  $I_F=0.5A$ ,  $I_R=1.0A$ ,  $I_{rr}=0.25A$
2. Measured at 1 MHz and Applied  $V_r=4.0$  volts
3. 8.0mm<sup>2</sup> (.013mm thick) land areas

# RATING AND CHARACTERISTIC CURVES

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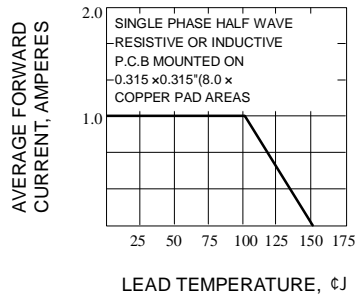


Fig. 1-FORWARD CURRENT DERATING CURVE

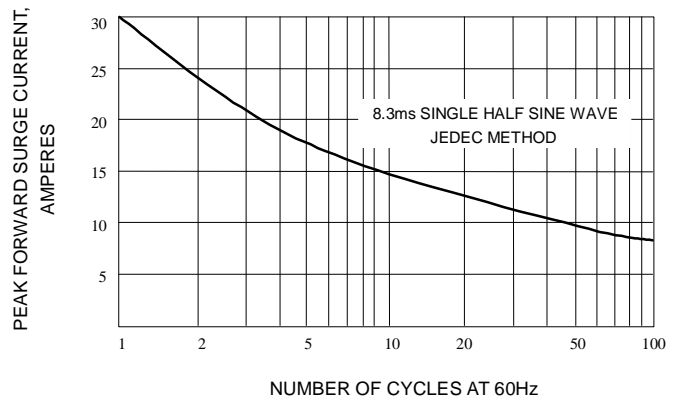


Fig. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

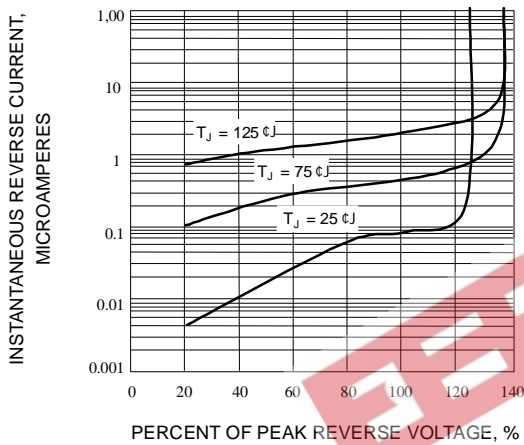


Fig. 3-TYPICAL REVERSE CHARACTERISTICS

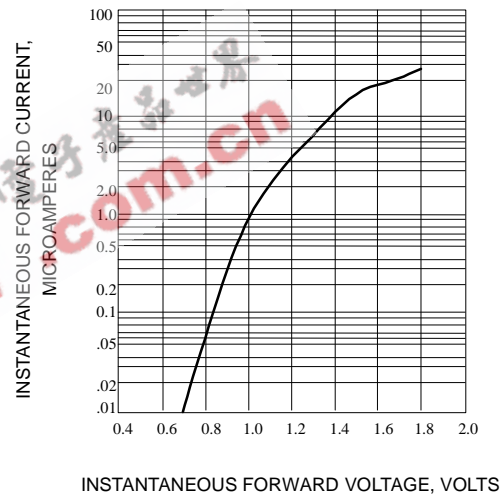


Fig. 4-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

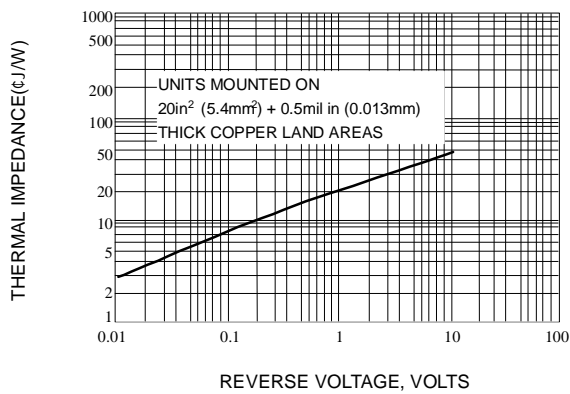


Fig. 5-TRANSIENT THERMAL IMPEDANCE

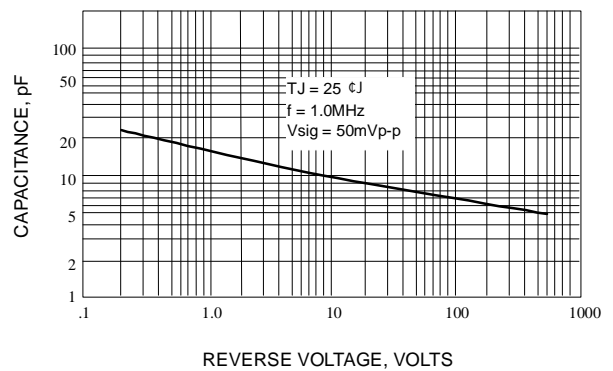


Fig. 6-TYPICAL JUNCTION CAPACITANCE