



*DC COMPONENTS CO., LTD.*

RECTIFIER SPECIALISTS

S1A  
THRU  
S1M

**TECHNICAL SPECIFICATIONS OF GENERAL PURPOSE SILICON RECTIFIER**

**VOLTAGE RANGE - 50 to 1000 Volts**

**CURRENT - 1.0 Ampere**

**FEATURES**

- \* Ideal for surface mounted applications
- \* Glass passivated junction
- \* Low leakage current
- \* Low forward voltage drop
- \* High surge capability

**MECHANICAL DATA**

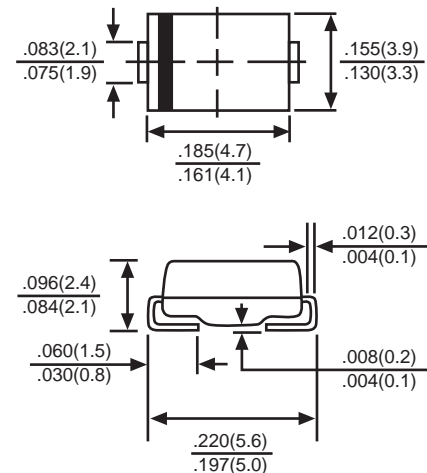
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rated flame retardant
- \* Lead: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Color band denotes cathode end
- \* Mounting position: Any
- \* Weight: 0.093 gram approx.

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive load, derate current by 20%.



SMB(DO-214AA)



Dimensions in inches and (millimeters)

	SYMBOL	S1A	S1B	S1D	S1G	S1J	S1K	S1M	UNITS
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Rectified Current at T <sub>A</sub> = 75°C	I <sub>O</sub>	1.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	30							Amps
Maximum Instantaneous Forward Voltage at 1.0A DC	V <sub>F</sub>	1.1							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ T <sub>A</sub> =25°C	5.0							μAmps
	@ T <sub>A</sub> =100°C	50							
Typical Junction Capacitance (Note 1)	C <sub>J</sub>	15							pF
Typical Thermal Resistance (Note 2)	R <sub>θJL</sub>	25							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

Note 1: Measured at 1 MHz and applied reverse voltage of 4.0 volts.

Note 2: Typical thermal resistance from junction to lead, with 0.28 x 0.28 in<sup>2</sup> (7 x 7 mm<sup>2</sup>) copper pads to each terminal.

# RATING AND CHARACTERISTIC CURVES (S1A THRU S1M)

FIG. 1  
TYPICAL FORWARD CURRENT  
DERATING CURVE

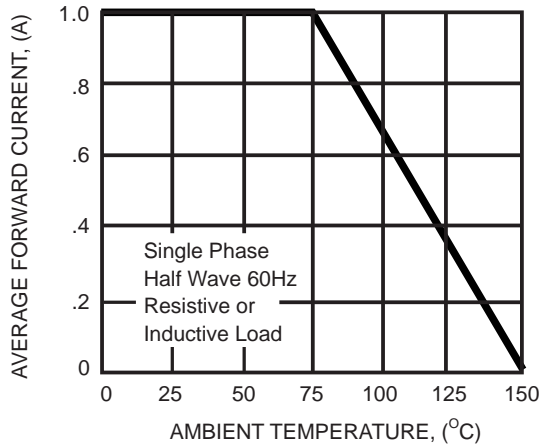


FIG. 2  
MAXIMUM NON-REPETITIVE FORWARD  
SURGE CURRENT

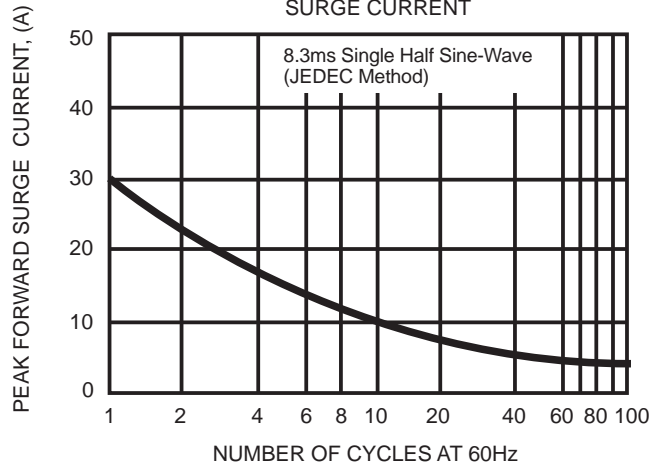


FIG. 3  
TYPICAL INSTANTANEOUS  
FORWARD CHARACTERISTICS

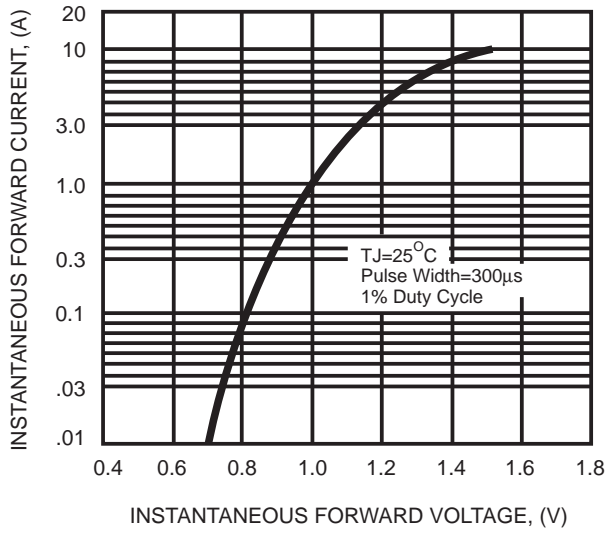
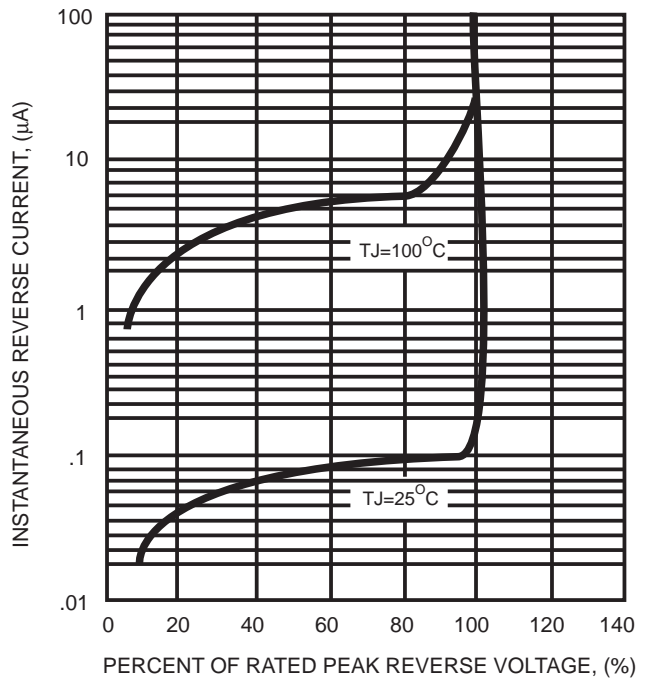


FIG. 4  
TYPICAL REVERSE CHARACTERISTICS



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