

# S1AF THRU S1MF

## Surface Mount Standard Rectifier

### Features

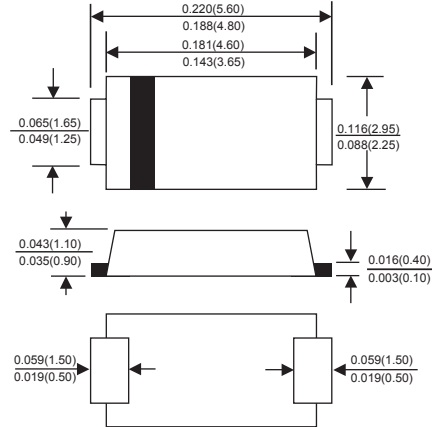
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability
- ★ Glass passivated chip
- ★ Qualified as per AEC-Q101

### Mechanical Data

- ★ Case: Molded plastic SMAF
- ★ Epoxy: UL 94V-0 rate flame retardant
- ★ Terminals: Solderable per MIL-STD-750 method 2026
- ★ Polarity: Color band denotes cathode end
- ★ Mounting position: Any
- ★ Weight: 0.040 gram

**Voltage Range 50 to 1000 V**  
**Current 1.0 Ampere**

### SMAF



Dimensions in inches and (millimeters)

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

PARAMETER	SYMBOL	S1AF	S1BF	S1DF	S1GF	S1JF	S1KF	S1MF	UNIT
Maximum Recurrent Peak Reverse Voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current T <sub>A</sub> =110°C	I <sub>(AV)</sub>	1.0							A
Peak Forward Surge Current, 8.3ms single Half sine-wave superimposed on rated load (JEDEC method)	I <sub>FSM</sub>	30							A
Maximum Instantaneous Forward Voltage @ 1.0 A	V <sub>F</sub>	1.1							V
Maximum DC Reverse Current @T <sub>J</sub> =25°C At Rated DC Blocking Voltage @T <sub>J</sub> =125°C	I <sub>R</sub>	5.0							uA
		100							uA
Typical junction Capacitance (Note 1)	C <sub>J</sub>	12							pF
Typical Thermal Resistance (Note 2)	R <sub>θJA</sub>	75					85		°C/W
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

NOTES : (1) Thermal Resistance junction to ambient.  
(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.

# RATINGS AND CHARACTERISTIC CURVES S1AF THRU S1MF

FIG.1 - FORWARD CURRENT DERATING CURVE

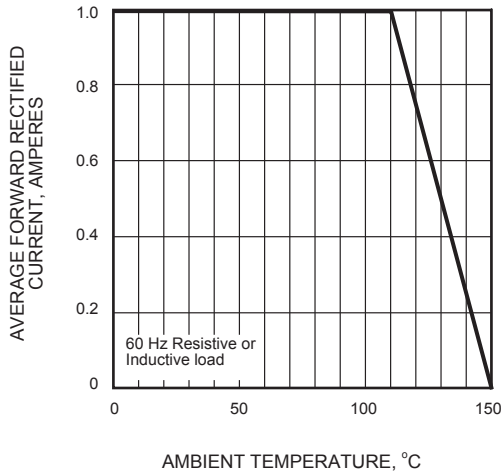


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

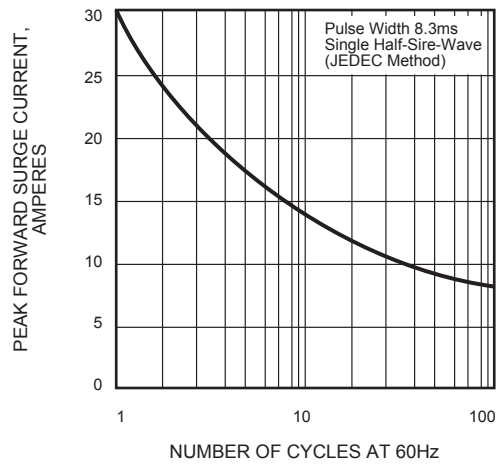


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

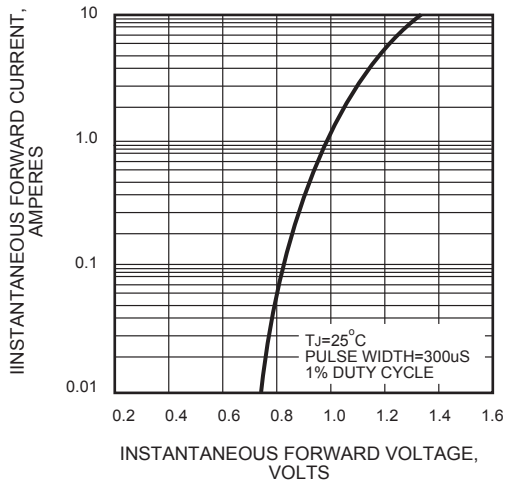


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

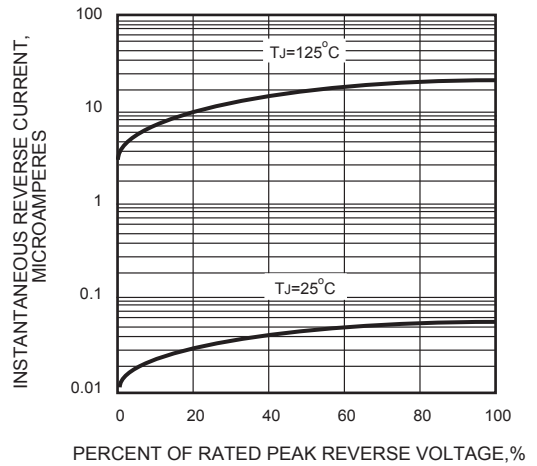


FIG.5 - TYPICAL JUNCTION CAPACITANCE

