



# S1A THRU S1M

## Surface Mount Standard Rectifier

### Features

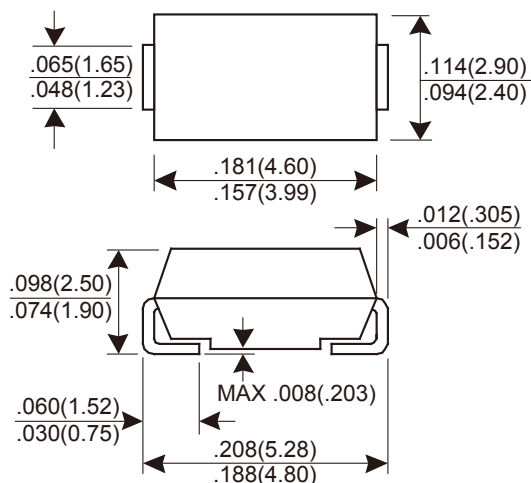
- ★ Low forward voltage drop
- ★ High current capability
- ★ Low reverse leakage current
- ★ High surge current capability

### Mechanical Data

- ★ Case: Molded plastic, SMA/DO-214AC
- ★ Epoxy: UL 94V-0 rate flame retardant
- ★ Terminals: Solderable per MIL-STD-750, method 2026
- ★ Polarity: Color band denotes cathode end
- ★ Mounting position: Any

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

### SMA/DO-214AC



### 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	S1A	S1B	S1D	S1G	S1J	S1K	S1M	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum average forward rectified current @ $T_L=130^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	$I_{FSM}$	30							A
Maximum instantaneous forward voltage @ $I_F=1.0\text{A}$	$V_F$	1.1							V
Maximum DC reverse current at rated DC blocking voltage @ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$	$I_R$	1 50							$\mu\text{A}$
Typical junction capacitance (Note 1)	$C_J$	12							pF
Typical thermal resistance from junction to ambient (Note 2)	$R_{\theta JA}$	95							$^\circ\text{C/W}$
Typical thermal resistance from junction to lead (Note 2)	$R_{\theta JL}$	22							$^\circ\text{C/W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$

NOTES : (1) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts DC.  
(2) Mounted on PCB with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas.

# RATINGS AND CHARACTERISTICS CURVES S1A THRU S1M

Fig.1 - Forward Current Derating Curve

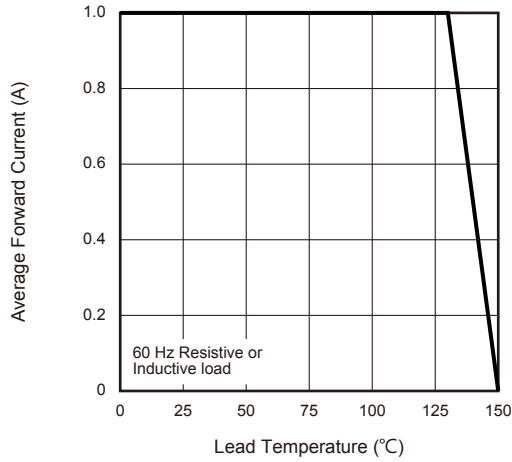


Fig.2 - Maximum Non-Repetitive Peak Forward Surge Current

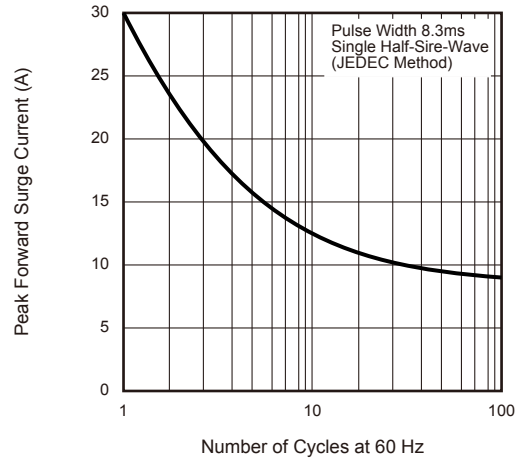


Fig.3 - Typical Instantaneous Forward Characteristics

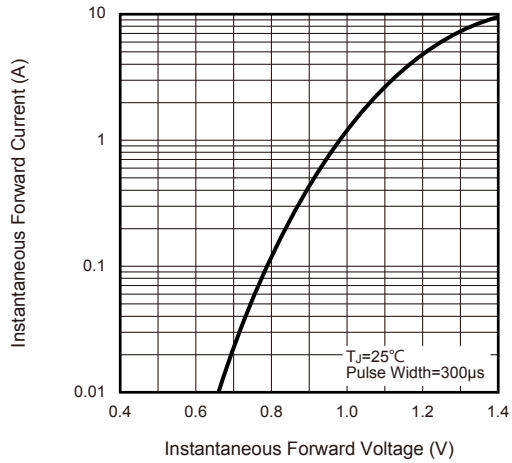


Fig.4 - Typical Reverse Leakage Characteristics

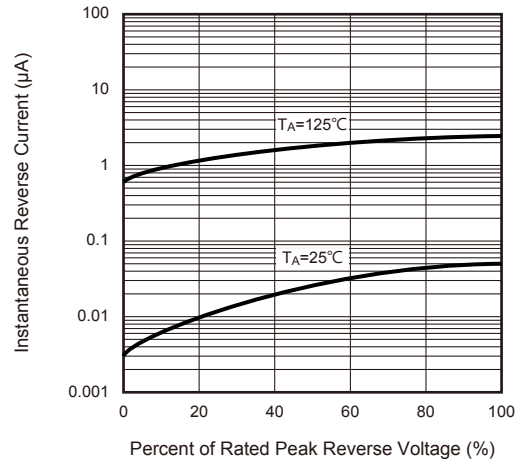


Fig.5 - Typical Junction Capacitance

