

# S3A thru S3M



Surface Mount Glass Passivated Rectifiers  
Reverse Voltage 50 to 1000 Volts Forward Current 3.0 Amperes

## Features

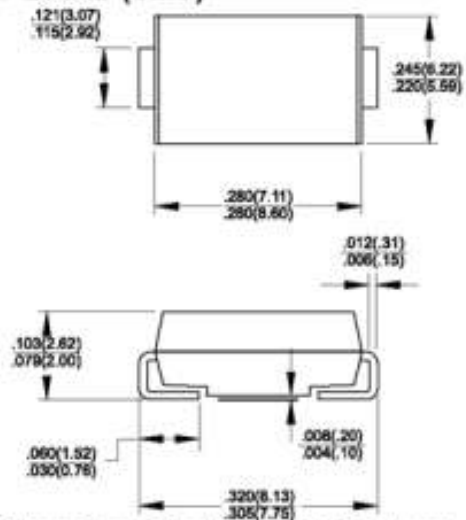
- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Built-in strain relief, ideal for automated placement
- ◆ Glass passivated chip junction



## Mechanical Data

- ◆ Case: JEDEC DO-214AB (SMC) molded plastic body over glass passivated chip
- ◆ Terminals: Solder plated, solderable per MIL-STD-750, Method 2026  
High temperature soldering:  
260°C/10 seconds at terminals
- ◆ Polarity: Color band denotes cathode end
- ◆ Weight: 0.009 ounce, 0.25 gram

DO-214AB (SMC)



Dimensions in inches and (millimeters)

## Maximum Ratings and Electrical Characteristics

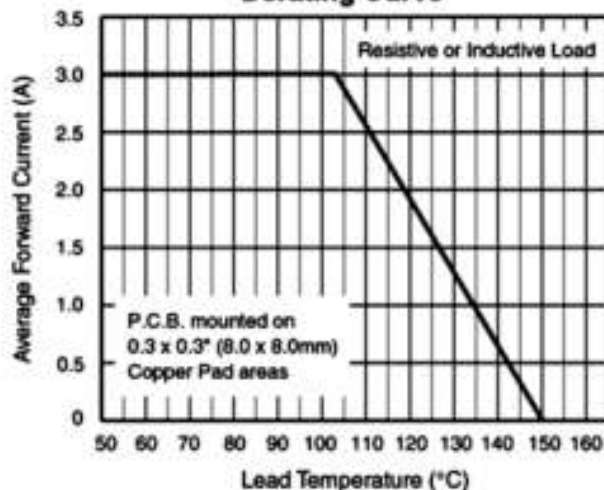
Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	S3A	S3B	S3D	S3G	S3J	S3K	S3M	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	Volts
Maximum RMS voltage	$V_{RRS}$	35	70	140	280	420	560	700	Volts
Maximum DC blocking voltage	$V_{OC}$	50	100	200	400	600	800	1000	Volts
Maximum average forward rectified current at $T_J=103^\circ\text{C}$ (1)	$I_{FAV}$	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_J=75^\circ\text{C}$	$I_{FSM}$	100.0							Amps
Maximum instantaneous forward voltage at 2.5A	$V_F$	1.15							Volts
Maximum DC reverse current at rated DC blocking voltage @ $T_A=25^\circ\text{C}$ @ $T_A=125^\circ\text{C}$	$I_R$	10.0 250							$\mu\text{A}$
Typical reverse recovery time at $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $t_r=0.25\text{A}$	$t_r$	1.0							$\mu\text{s}$
Typical junction capacitance at 4.0V, 1MHz	$C_j$	60							pF
Typical thermal resistance (NOTE 1)	$R_{\theta JN}$ $R_{\theta JL}$	47 13							$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	-55 to +150							$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-55 to +150							$^\circ\text{C}$

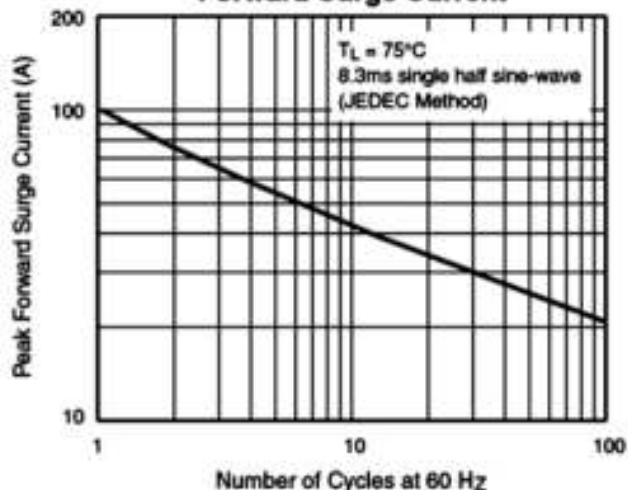
Notes: 1. Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

## RATINGS AND CHARACTERISTIC CURVES

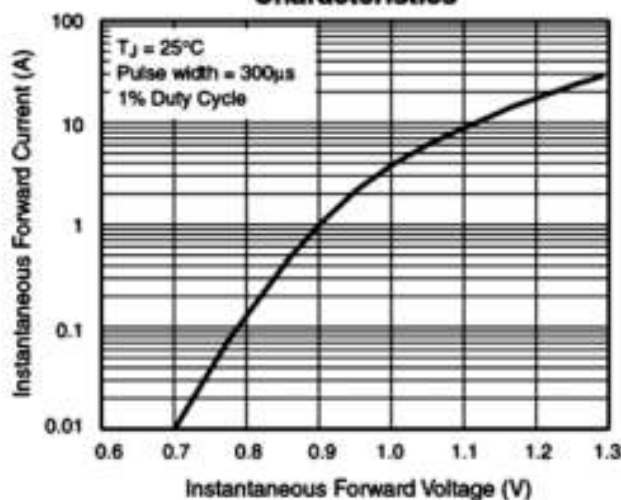
**Fig. 1 - Forward Current Derating Curve**



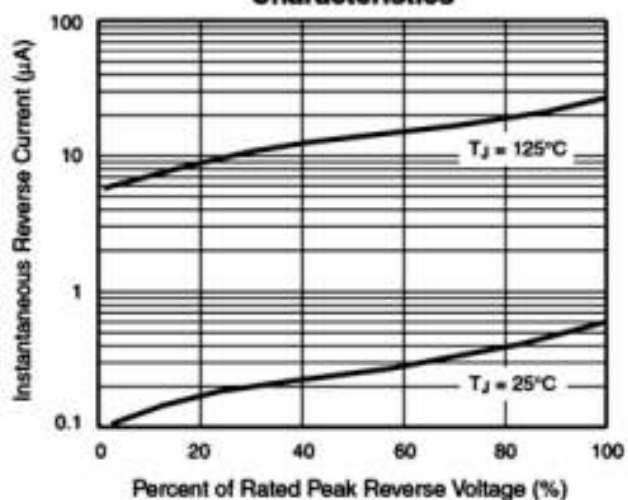
**Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current**



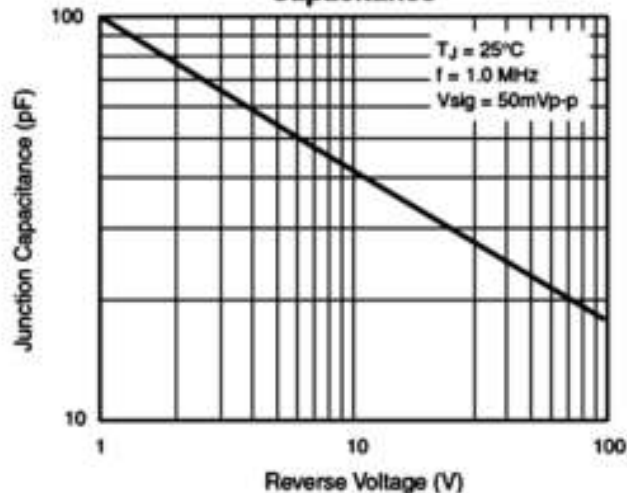
**Fig. 3 - Typical Instantaneous Forward Characteristics**



**Fig. 4 - Typical Reverse Characteristics**



**Fig. 5 - Typical Junction Capacitance**



**Fig. 6 - Typical Transient Thermal Impedance**

