

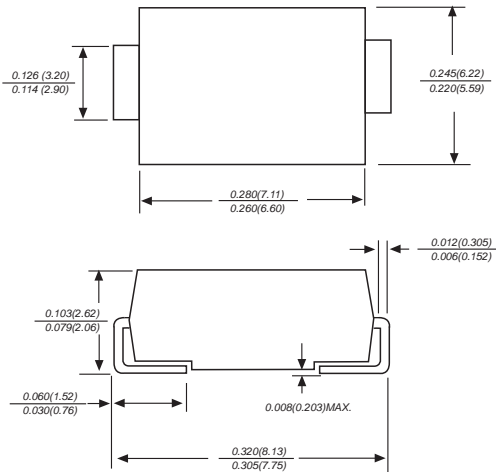


# S3A THRU S3M

## SURFACE MOUNT GENERAL RECTIFIER

Reverse Voltage - 50 to 1000 Volts Forward Current - 3.0 Amperes

### DO-214AB/SMC



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Low reverse leakage
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals

### MECHANICAL DATA

**Case:** JEDEC DO-214AB molded plastic body  
**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denotes cathode end  
**Mounting Position:** Any  
**Weight:** 0.007 ounce, 0.25grams

## 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 current derate by 20%.

MDD Catalog Number	SYMBOLS	S3A	S3B	S3D	S3G	S3J	S3K	S3M	UNITS
Maximum repetitive 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 $T_L=75^\circ\text{C}$	$I_{(AV)}$	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	100.0							Amps
Maximum instantaneous forward voltage at 3.0A	$V_F$	1.15							Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	10.0 100.0							$\mu\text{A}$
Typical junction capacitance (NOTE 1)	$C_J$	60.0							pF
Typical thermal resistance (NOTE 2)	$R_{\theta JA}$	47.0							$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-50 to +150							$^\circ\text{C}$

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 2. P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

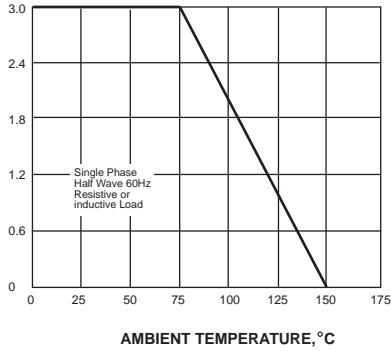


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# RATINGS AND CHARACTERISTIC CURVES S3A THRU S3M

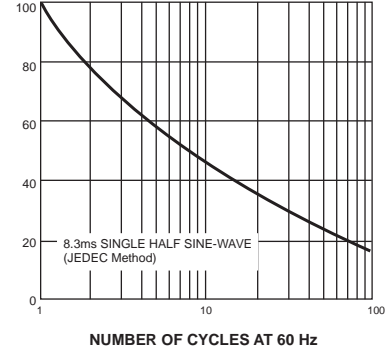
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



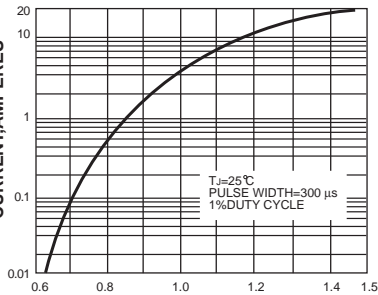
PEAK FORWARD SURGE CURRENT,  
AMPERES

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



INSTANTANEOUS FORWARD  
CURRENT, AMPERES

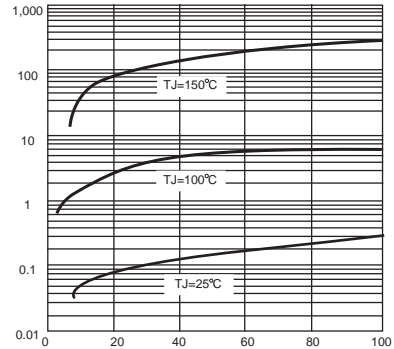
FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS FORWARD VOLTAGE,  
VOLTS

INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

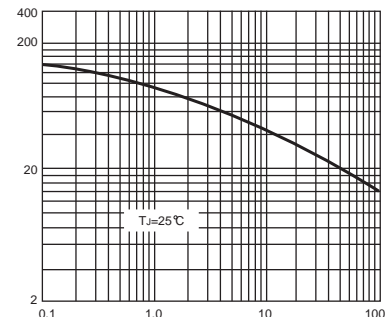
FIG. 4-TYPICAL REVERSE CHARACTERISTICS



PERCENT OF PEAK REVERSE VOLTAGE, %

JUNCTION CAPACITANCE, pF

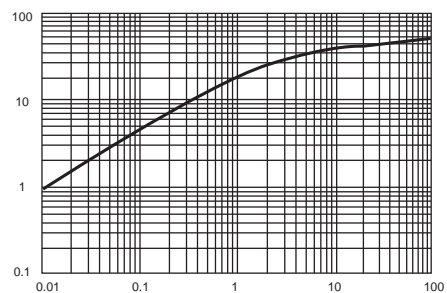
FIG. 5-TYPICAL JUNCTION CAPACITANCE



REVERSE VOLTAGE, VOLTS

TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



t, PULSE DURATION, sec.

The cruve graph is for reference only, can't be the basis for judgment(曲线图仅供参考)!



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