

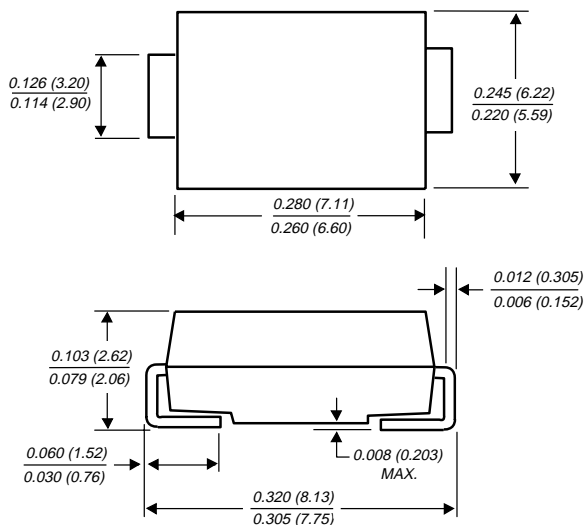
# S3A THRU S3M

## SURFACE MOUNT RECTIFIER

Reverse Voltage - 50 to 1000 Volts

Forward Current - 3.0 Amperes

### DO-214AB MODIFIED J-BEND



Dimensions in inches and (millimeters)

### FEATURES

- ◆ Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mount applications
- ◆ Low profile package
- ◆ Built-in strain relief, ideal for automated placement
- ◆ Glass passivated chip junction
- ◆ High temperature soldering: 260°C/10 seconds at terminals



### MECHANICAL DATA

**Case:** JEDEC DO-214AB molded plastic body over passivated chip

**Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Weight:** 0.007 ounce, 0.25 gram

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	S3A	S3B	S3D	S3G	S3J	S3K	S3M	UNITS
Device marking code		SA	SB	SD	SG	SJ	SK	SM	
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>L</sub> =75°C (NOTE 3)	I <sub>(AV)</sub>	3.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) T <sub>L</sub> =75°C	I <sub>FSM</sub>	100.0							Amps
Maximum instantaneous forward voltage at 2.5A	V <sub>F</sub>	1.15							Volts
Maximum DC reverse current T <sub>A</sub> =25°C at rated DC blocking voltage T <sub>A</sub> =125°C	I <sub>R</sub>	10.0 250.0							μA
Typical reverse recovery time (NOTE 1)	t <sub>rr</sub>	2.5							μs
Typical junction capacitance (NOTE 2)	C <sub>J</sub>	60.0							pF
Typical thermal resistance (NOTE 3)	R <sub>θJA</sub> R <sub>θJL</sub>	47.0 13.0							°C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

#### NOTES:

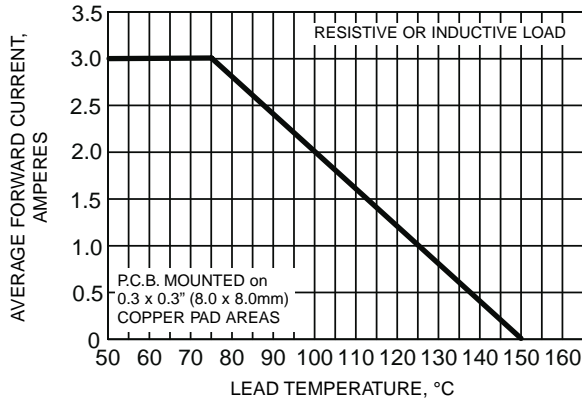
(1) Reverse recovery test conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>rr</sub>=0.25A

(2) Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts

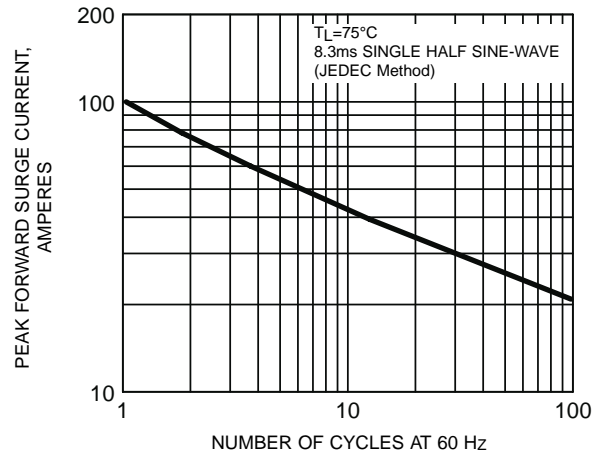
(3) Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

# RATINGS AND CHARACTERISTIC CURVES S3A THRU S3M

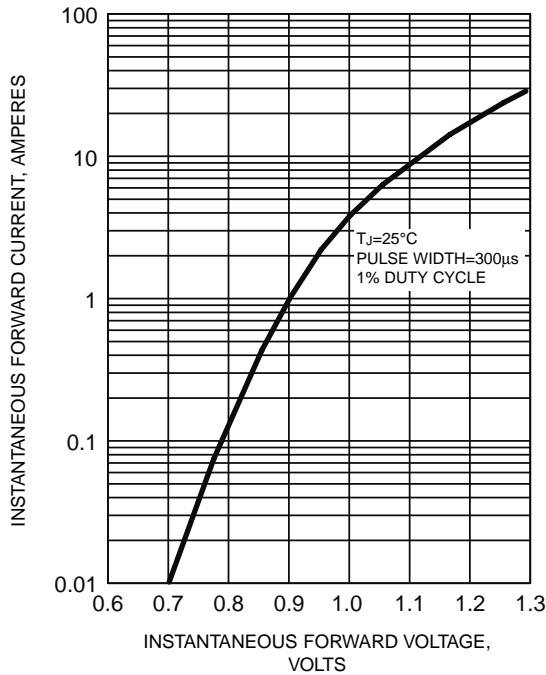
**FIG. 1 - FORWARD CURRENT DERATING CURVE**



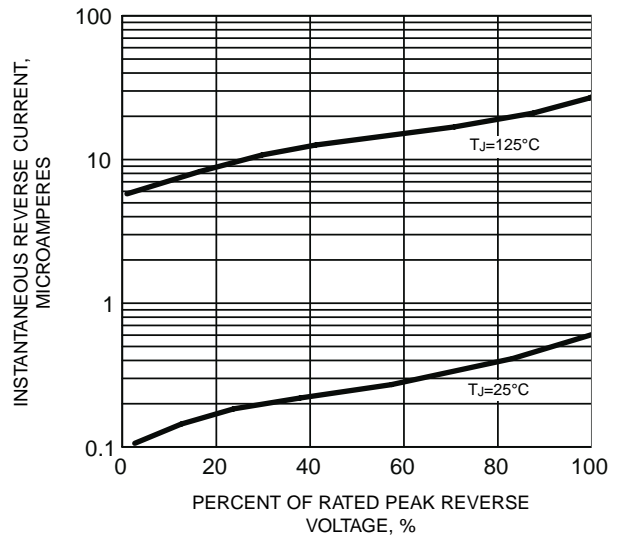
**FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



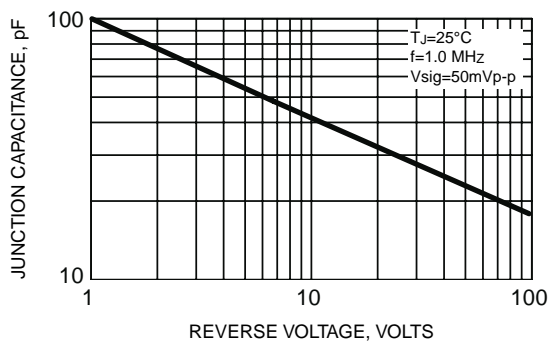
**FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5 - TYPICAL JUNCTION CAPACITANCE**



**FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE**

