

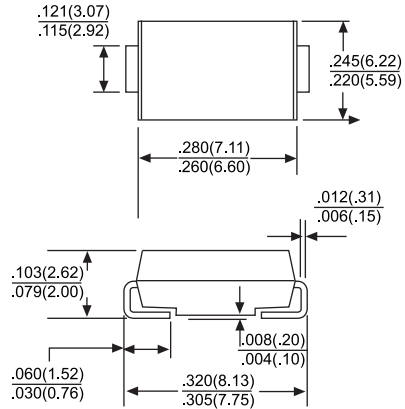


# S3A THRU S3M

## 3.0 AMPS. SURFACE MOUNT RECTIFIERS

**Voltage Range**  
50 to 1000 Volts  
**Current**  
3.0 Amperes

### SMC/DO-214AB



Dimensions in inches and (millimeters)

#### Features

- For surface mounted application
- Class passivated junction chip.
- Low forward voltage drop
- High current capability
- Easy pick and place
- High surge current capability
- Plastic material used carriers Underwriters Laboratory Classification 94V-O
- High temperature soldering:  
250°C/ 10 seconds at terminals

#### Mechanical Data

- Case: Molded plastic
- Terminals: Solder plated
- Polarity: Indicated by cathode band
- Packaging: 16mm tape per EIA STD RS-481
- Weight: 0.21 gram

### 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%

Type Number		S3A	S3B	S3D	S3G	S3J	S3K	S3M	UNITS
Maximum Repetitive 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 at T <sub>L</sub> =75°C	I <sub>F(AV)</sub>	3.0							A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I <sub>FSM</sub>					100			A
Maximum Instantaneous Forward Voltage @ 3.0A	V <sub>F</sub>					1.15			V
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			uA uA
Maximum Reverse Recovery Time (Note 1)	T <sub>RR</sub>					2.5			uS
Typical Junction Capacitance (Note 2)	C <sub>J</sub>					60			pF
Operating Junction Temperature Range	T <sub>J</sub>					-55 to +150			°C
Storage Temperature Range	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 1MHz and Applied V<sub>R</sub>=4.0 Volts

# RATING AND CHARACTERISTIC CURVES S3A THRU S3M



FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

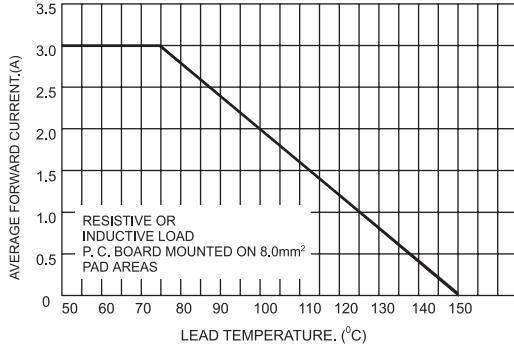


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

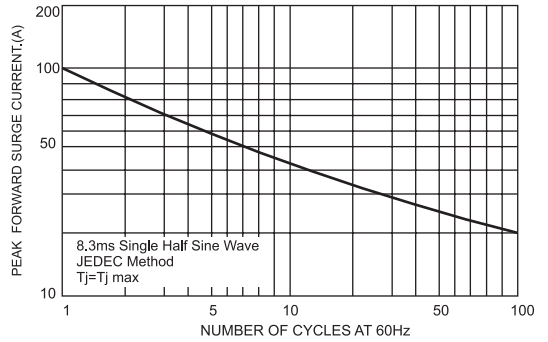


FIG.3-TYPICAL FORWARD CHARACTERISTICS

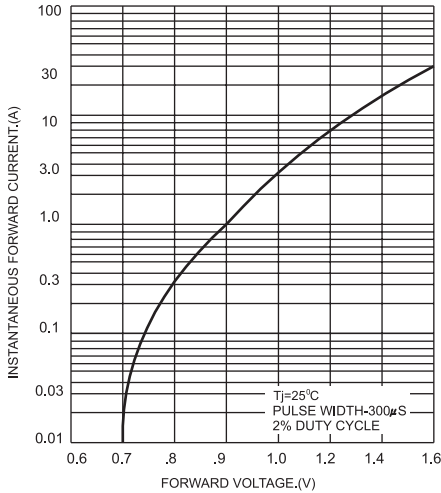


FIG.4-TYPICAL REVERSE CHARACTERISTICS

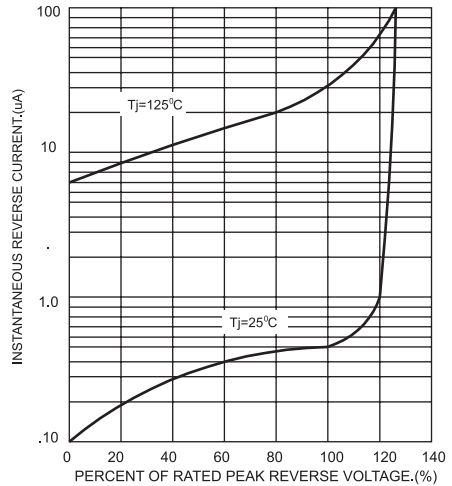


FIG.5-TYPICAL JUNCTION CAPACITANCE

