



## SURFACE MOUNT RECTIFIER

**S3A THRU S3M**

**VOLTAGE RANGE**      **50 to 1000 Volts**  
**CURRENT**              **3.0 Ampere**

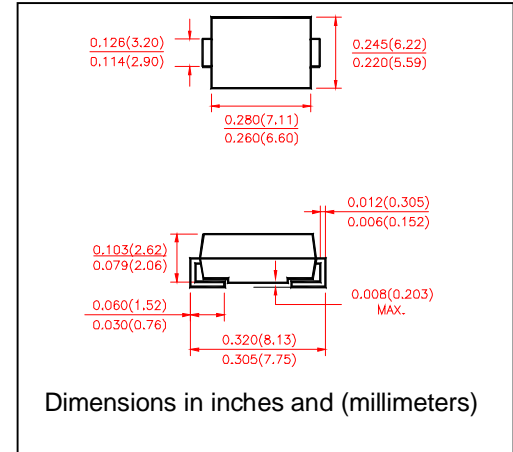
### FEATURES

- Plastic package has underwrites laboratory flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Built-in strain relief, ideal for automated placement
- Glass Passivated chip junction
- High temperature soldering:  
250°C/10 second at terminals

### MECHANICAL DATA

- Case: JEDED DO-214AA molded plastic over glass passivated chip
- Terminals: Solder plated, Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end
- Weight: 0.007ounce, 0.25 gram

DO-214AB(SMC)



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

- Ratings at 25°C ambient temperature unless otherwise specified

|   | 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   | $V_{RMS}$                 | 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 $T_L=100^\circ\text{C}$ (NOTE 3)   | $I_{(AV)}$                | 3.0         |     |     |     |     |     |      | Amps               |
| Peak Forward Surge Current<br>8.3ms single half sine wave superimposed on rated load (JEDEC method) $T_L=100^\circ\text{C}$ | $I_{FSM}$                 | 100         |     |     |     |     |     |      | Amps               |
| Maximum Instantaneous Forward Voltage at 3.0A   | $V_F$                     | 1.15        |     |     |     |     |     |      | Volts              |
| Maximum DC Reverse Current at rated DC Blocking Voltage   | $T_A = 25^\circ\text{C}$  | 10.0        |     |     |     |     |     |      | $\mu\text{A}$      |
|   | $T_A = 125^\circ\text{C}$ | 250         |     |     |     |     |     |      |                    |
| Typical Reverse Recovery Time (NOTE 1)  | $T_{rr}$                  | 2.5         |     |     |     |     |     |      | $\mu\text{s}$      |
| Typical junction capacitance (NOTE 2)   | $C_j$                     | 60          |     |     |     |     |     |      | pF                 |
| Typical Thermal Resistance (NOTE 3)   | $R_{\theta JL}$           | 47          |     |     |     |     |     |      | $^\circ\text{C/W}$ |
|   | $R_{\theta JA}$           | 13          |     |     |     |     |     |      |                    |
| Operating and Storage Temperature Range   | $T_J, T_{STG}$            | -55 to +150 |     |     |     |     |     |      | $^\circ\text{C}$   |

**Notes:**

1. Reverse recovery test conditions:  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $I_{rr} = 0.25\text{A}$
2. Measured at 1.0MHz 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 0.3×0.3" (8.0 × 8.0mm) copper pad areas.



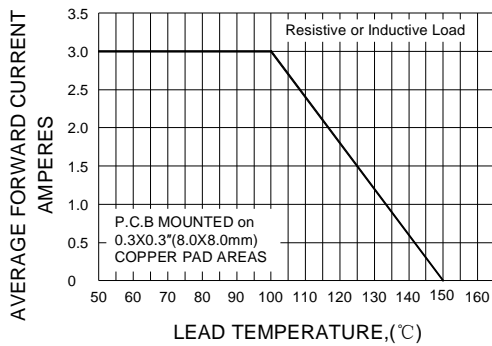
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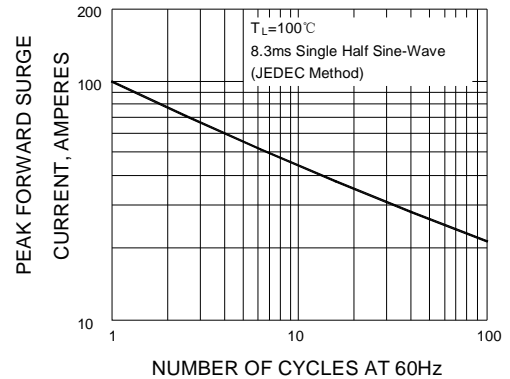
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## RATINGS AND CHARACTERISTIC CURVES S3A THRU S3M

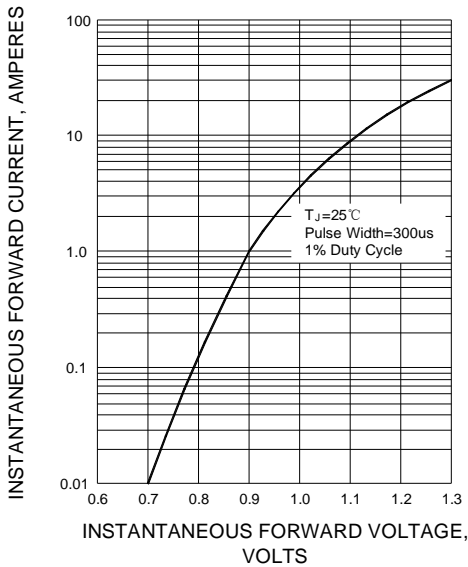
F1G.1-FORWARD CURRENT DERATING CURVE



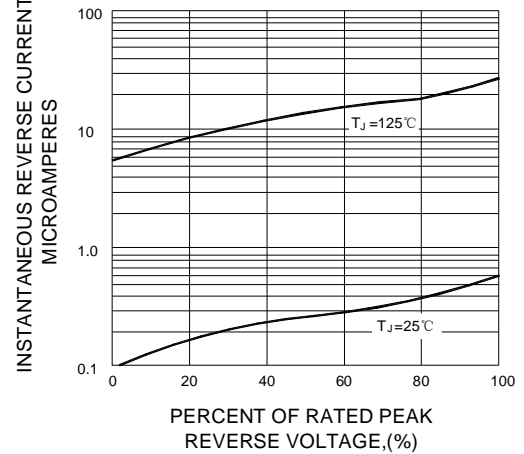
F1G.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



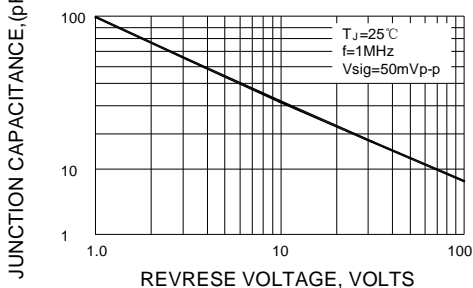
F1G.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



F1G.4-TYPICAL REVERSE CHARACTERISTICS



F1G.5-TYPICAL JUNCTION CAPACITANCE



F1G.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

