

S3A-S3M

3.0AMPS. Surface Mount Rectifiers

SMC/DO-214AB

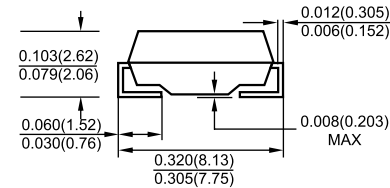
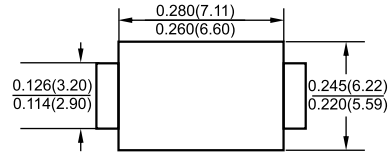


Features

- ✧ For surface mounted application
- ✧ Glass passivated junction chip.
- ✧ Low forward voltage drop
- ✧ High current capability
- ✧ Easy pick and place
- ✧ High surge current capability
- ✧ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✧ High temperature soldering:
260°C / 10 seconds at terminals

Mechanical Data

- ✧ Case: Molded plastic
- ✧ Terminals: Pure tin plated, lead free.
- ✧ Polarity: Indicated by cathode band
- ✧ Weight: 0.21 gram



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

| Type Number | Symbol | S3A | S3B | S3D | S3G | S3J | S3K | S3M | Units |
|---|--------------------------------------|-------------|-----|-----|-----|-----|-----|------|----------|
| Maximum Recurrent Peak Reverse Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC Blocking Voltage | V _{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Average Forward Rectified Current @ T _L =105 °C | I _(AV) | 3.0 | | | | | | | A |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) | I _{FSM} | 100 | | | | | | | A |
| Maximum Instantaneous Forward Voltage @ 3.0A | V _F | 1.15 | | | | | | | V |
| Maximum DC Reverse Current @ T _A =25 °C at Rated DC Blocking Voltage @ T _A =125 °C | I _R | 10.0 250 | | | | | | | uA uA |
| Typical Reverse Recovery Time (Note 1) | T _{rr} | 1.5 | | | | | | | uS |
| Typical Junction Capacitance (Note 2) | C _j | 60 | | | | | | | pF |
| Typical Thermal Resistance (Note 3) | R _{θJL} R _{θJA} | 13 47 | | | | | | | °C/W |
| Operating Temperature Range | T _J | -55 to +150 | | | | | | | °C |
| Storage Temperature Range | T _{STG} | -55 to +150 | | | | | | | °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 MHz and Applied $V_R = 4.0\text{ Volts}$
 3. Measured on P.C. Board with 0.4" x 0.4" (10mm x 10mm) Copper Pad Areas.

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RATINGS AND CHARACTERISTIC CURVES (S3A THRU S3M)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

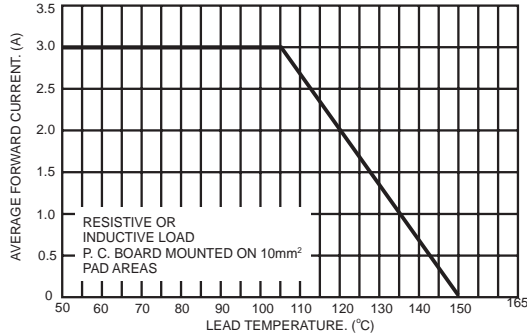


FIG.2- TYPICAL REVERSE CHARACTERISTICS

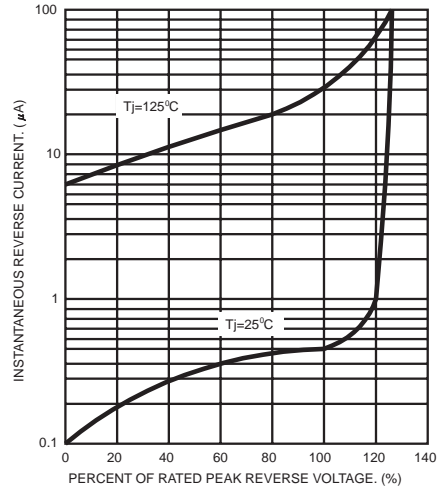


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

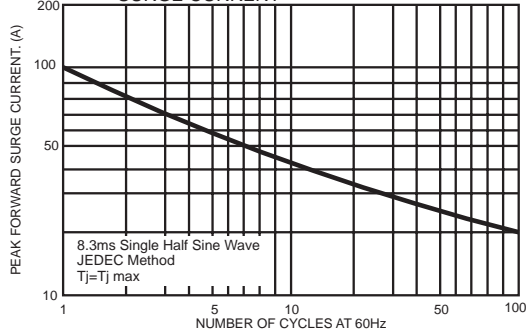


FIG.5- TYPICAL FORWARD CHARACTERISTICS

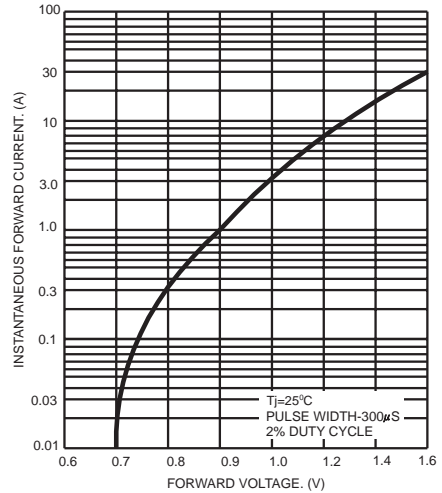


FIG.4- TYPICAL JUNCTION CAPACITANCE

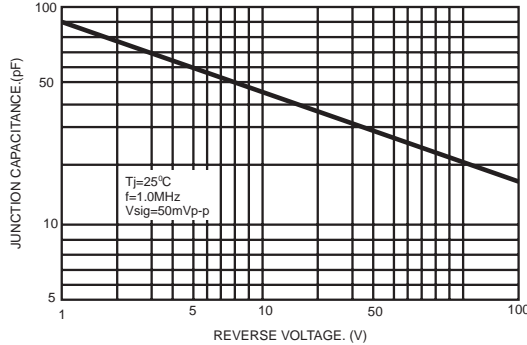
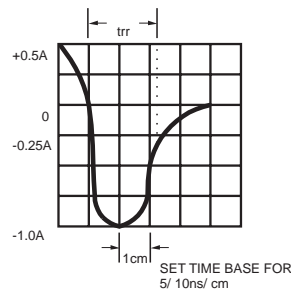
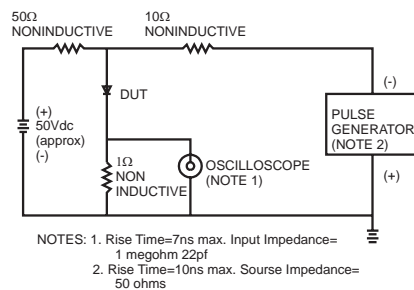


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



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