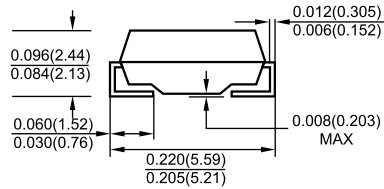
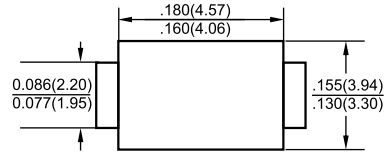


# S2A - S2M

## 2.0 AMPS. Surface Mount Rectifiers



### SMB/DO-214AA



### 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
- ✧ Packaging: 12mm tape
- ✧ Weight: 0.093 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                             | S2A         | S2B | S2D | S2G | S2J | S2K | S2M  | 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 @ $T_L = 100^\circ\text{C}$  | $I_{(AV)}$                         | 2.0         |     |     |     |     |     |      | A                              |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method )            | $I_{FSM}$                          | 50          |     |     |     |     |     |      | A                              |
| Maximum Instantaneous Forward Voltage @ 2.0A   | $V_F$                              | 1.15        |     |     |     |     |     |      | V                              |
| Maximum DC Reverse Current @ $T_A = 25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_A = 125^\circ\text{C}$ | $I_R$                              | 5.0<br>125  |     |     |     |     |     |      | $\mu\text{A}$<br>$\mu\text{A}$ |
| Typical Reverse Recovery Time ( Note 1 )   | $T_{rr}$                           | 1.5         |     |     |     |     |     |      | $\mu\text{S}$                  |
| Typical Junction Capacitance ( Note 2 )  | $C_j$                              | 30          |     |     |     |     |     |      | pF                             |
| Typical Thermal resistance (Note 3)  | $R_{\theta JL}$<br>$R_{\theta JA}$ | 16<br>53    |     |     |     |     |     |      | $^\circ\text{C}/\text{W}$      |
| Operating Temperature Range  | $T_J$                              | -55 to +150 |     |     |     |     |     |      | $^\circ\text{C}$               |
| Storage Temperature Range  | $T_{STG}$                          | -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 MHz and Applied  $V_R = 4.0$  Volts
  3. Measured on P.C. Board with 0.4" x 0.4" (10mm x 10mm) Copper Pad Areas.

# S2A - S2M

## 2.0 AMPS. Surface Mount Rectifiers

### RATINGS AND CHARACTERISTIC CURVES (S2A THRU S2M)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

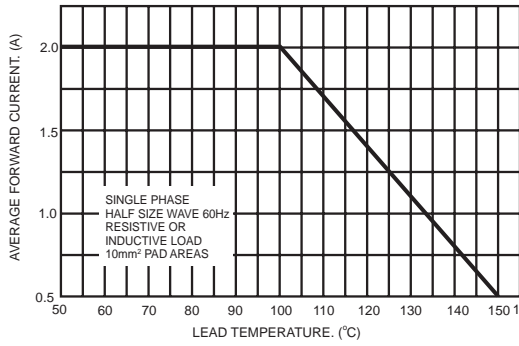


FIG.2- TYPICAL REVERSE CHARACTERISTICS

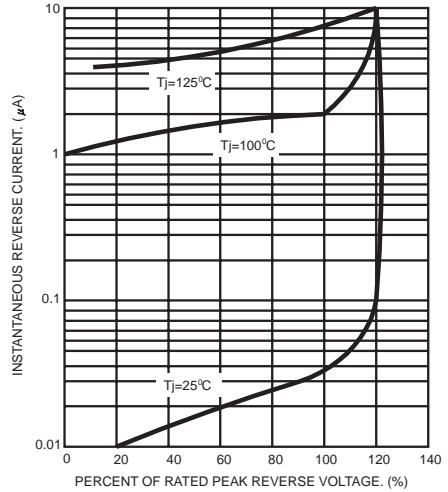


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

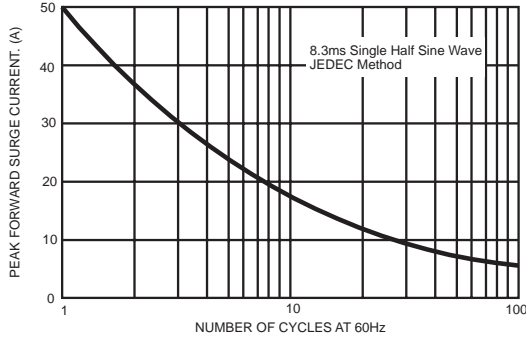


FIG.5- TYPICAL FORWARD CHARACTERISTICS

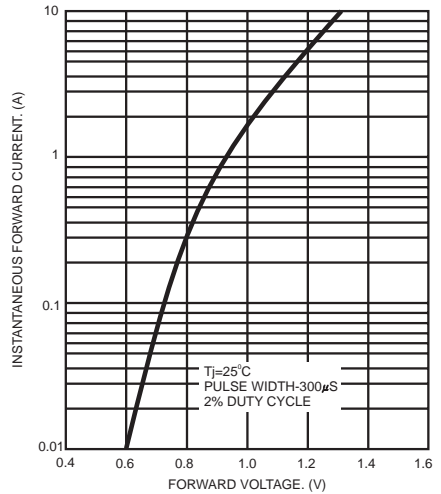


FIG.4- TYPICAL JUNCTION CAPACITANCE

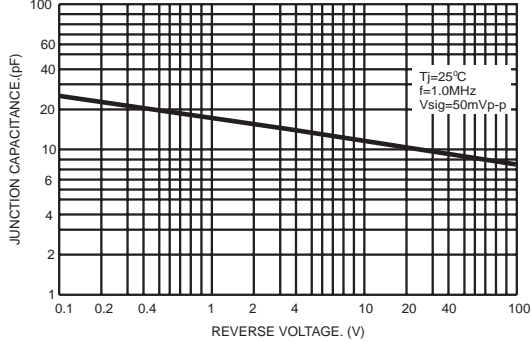
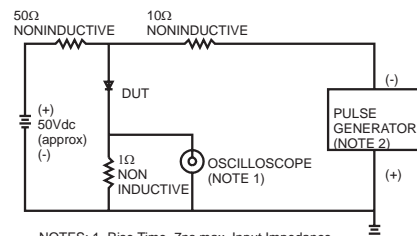
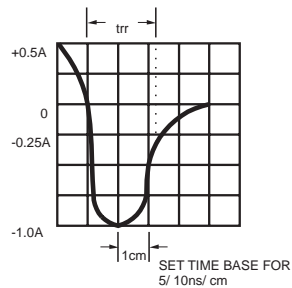


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



NOTES: 1. Rise Time=7ns max. Input Impedance=1 megohm 22pf  
2. Rise Time=10ns max. Source Impedance=50 ohms



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