



## S2A - S2M

2.0 AMPS. Surface Mount Rectifiers

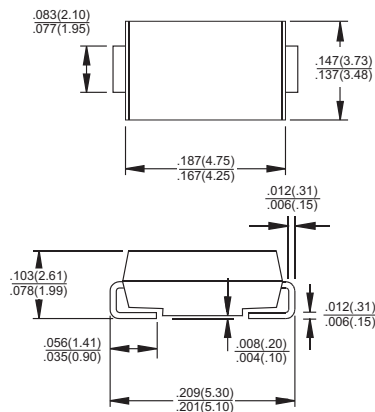
**SMB/DO-214AA**

### 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 per EIA STD RS-481
- ✦ 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 @ $T_A = 125^\circ\text{C}$	$I_R$	5.0 125							uA uA
Maximum Reverse Recovery Time ( Note 1 )	$T_{rr}$	2.0							uS
Typical Junction Capacitance ( Note 2 )	$C_j$	30							pF
Typical Thermal resistance (Note 3)	$R_{\theta JL}$ $R_{\theta JA}$	16 53							$^\circ\text{C/W}$
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.

## RATINGS AND CHARACTERISTIC CURVES (S2A THRU S2M)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

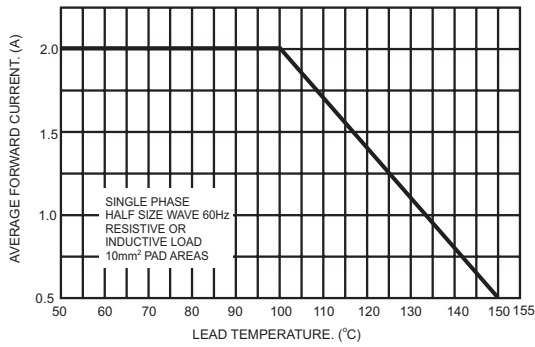


FIG.2- TYPICAL REVERSE CHARACTERISTICS

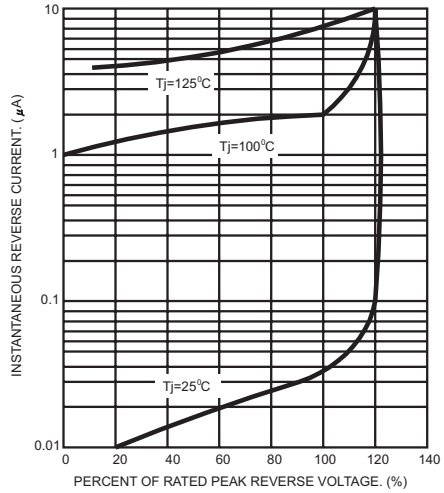


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

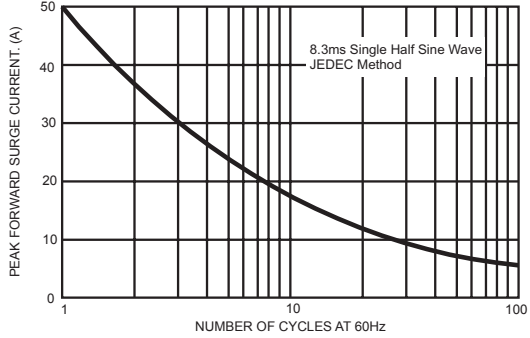


FIG.5- TYPICAL FORWARD CHARACTERISTICS

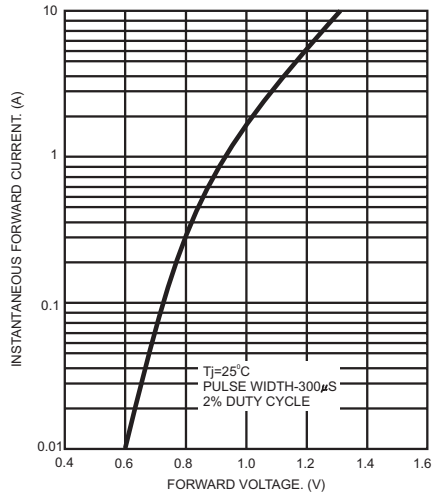


FIG.4- TYPICAL JUNCTION CAPACITANCE

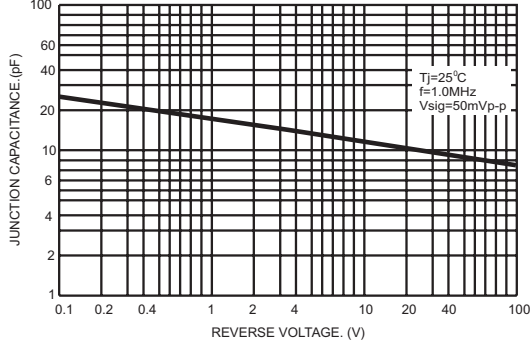


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

