

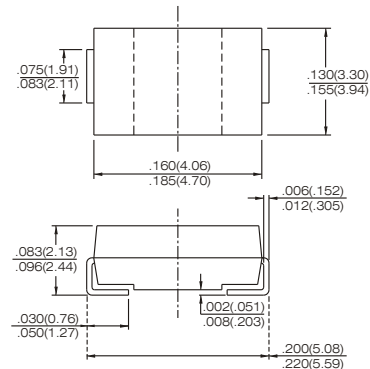
# S1AB thru S1MB

## SURFACE MOUNT STANDARD RECOVERY RECTIFIER

VOLTAGE - 50 TO 1000 VOLTS CURRENT - 1.0 AMPERES



SMB/DO-214AA



Dimensions in inches and (millimeters)

### FEATURES

- For surface mount applications
- Glass passivated junction
- Low profile package
- High current capability
- Easy pick and place
- High surge current capability
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature soldering : 250°C/10 seconds at terminals

### MECHANICAL DATA

Case : JEDEC DO-214AA molded plastic  
 Terminals : Pure tin plated, lead free  
 Polarity : Indicated by cathode band  
 Package : 12mm tape EIA STD RS-481  
 Weight : 0.093gram

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified  
 Single phase, half wave, 60Hz, resistive or inductive load  
 For capacitive load, derate current by 20%

|   | SYMBOL             | S1AB        | S1BB | S1DB | S1GB | S1JB | S1KB | S1MB | UNITS                       |
|---|--------------------|-------------|------|------|------|------|------|------|-----------------------------|
| 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 $T_L = 110^\circ\text{C}$  | $I_{(AV)}$         | 1.0         |      |      |      |      |      |      | Amps                        |
| Peak Forward Surge Current 8.3mm Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method)              | $I_{FSM}$          | 30          |      |      |      |      |      |      | Amps                        |
| Maximum Instantaneous Forward Voltage at 1.0A   | $V_F$              | 1.1         |      |      |      |      |      |      | Volts                       |
| Maximum DC Reverse Current $T_A = 25^\circ\text{C}$<br>at Rated DC Blocking Voltage $T_A = 125^\circ\text{C}$ | $I_R$              | 5<br>50     |      |      |      |      |      |      | $\mu\text{A}$               |
| Typical Junction Capacitance (NOTE 1)   | $C_J$              | 12          |      |      |      |      |      |      | pF                          |
| Maximum Thermal Resistance (NOTE 2)   | $R_{\theta JL}$    | 30          |      |      |      |      |      |      | $^\circ\text{C} / \text{W}$ |
| Operating and Storage Temperature Range   | $T_J$<br>$T_{STG}$ | -55 to +150 |      |      |      |      |      |      | $^\circ\text{C}$            |

NOTES :

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 volts
2. Measured on P.C.B. Board with 0.27" x 0.27" (7.0x7.0mm) copper pad areas

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### RATINGS AND CHARACTERISTIC CURVES S1AB THRU S1MB

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE

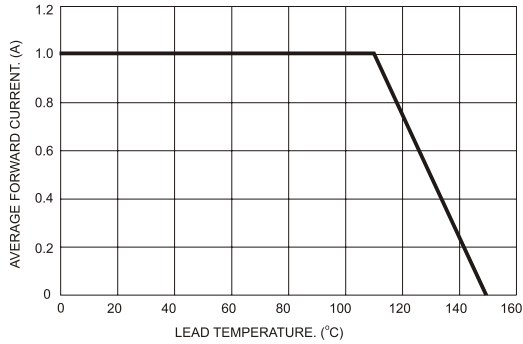


FIG.2- TYPICAL REVERSE CHARACTERISTICS

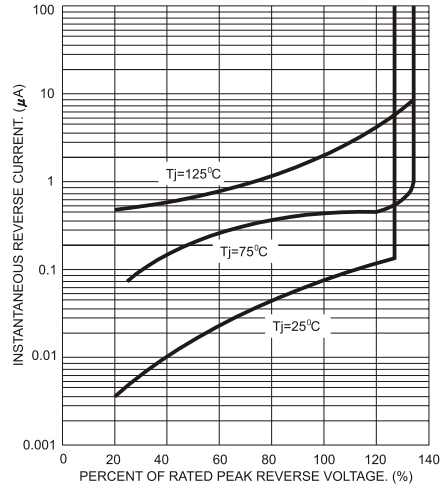


FIG.3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

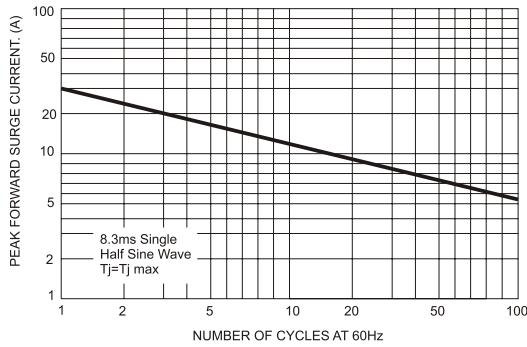


FIG.5- TYPICAL FORWARD CHARACTERISTICS

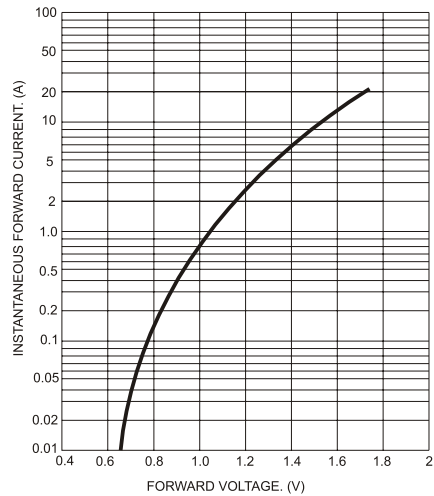


FIG.4- TYPICAL JUNCTION CAPACITANCE

