



# RS1AFL THRU RS1MFL

## SURFACE MOUNT FAST RECOVERY RECTIFIER

**REVERSE VOLTAGE:** 50 to 1000 VOLTS  
**FORWARD CURRENT:** 1.0 AMPERE

### FEATURES

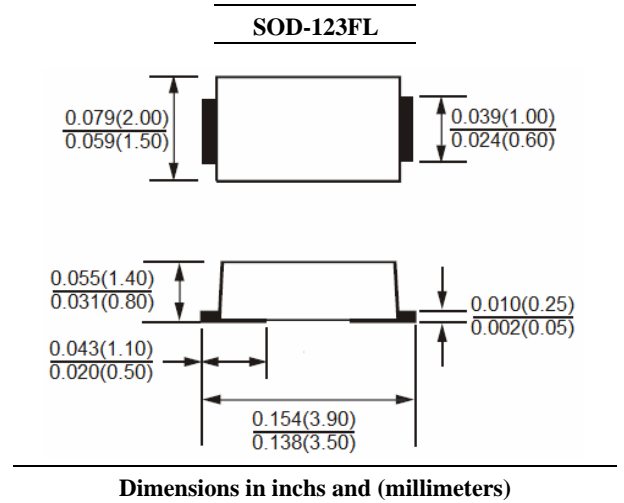
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass Passivated Die Construction
- For surface mounted applications
- Low profile package
- Easy pick and place
- Built-in strain relief
- Fast Recovery times for high efficiency
- Suffix "H" indicates Halogen-free parts, ex. RS1AFLH

### MECHANICAL DATA

Case : Molded plastic, SOD-123FL

Terminals : Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity : Color band denotes cathode end



Dimensions in inches and (millimeters)

### 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%.

| Parameter   | Symbols         | RS1AFL      | RS1BFL | RS1DFL | RS1GFL | RS1JFL | RS1KFL | RS1MFL | Units              |
|---|-----------------|-------------|--------|--------|--------|--------|--------|--------|--------------------|
| Maximum Recurrent 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<br>$T_A=50^\circ\text{C}$                                       | $I_{(AV)}$      | 1.0         |        |        |        |        |        |        | Amp                |
| Peak Forward Surge Current,<br>8.3ms single half-sine-wave<br>superimposed on rated load (JEDEC method)   | $I_{FSM}$       | 30          |        |        |        |        |        |        | Amp                |
| Maximum Forward Voltage at $I_F=1.0\text{A}$  | $V_F$           | 1.30        |        |        |        |        |        |        | Volts              |
| Maximum Reverse Current at $T_A=25^\circ\text{C}$<br>at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$ | $I_R$           | 5.0<br>100  |        |        |        |        |        |        | $\mu\text{Amp}$    |
| Typical Thermal Resistance (Note 1)   | $R_{\theta JA}$ | 150         |        |        |        |        |        |        | $^\circ\text{C/W}$ |
| Maximum Reverse Recovery Time (Note 2)  | $T_{RR}$        | 150         |        |        | 250    |        | 500    |        | nS                 |
| Operating Junction Temperature Range  | $T_J$           | -65 to +150 |        |        |        |        |        |        | $^\circ\text{C}$   |
| Storage Temperature Range   | $T_{stg}$       | -65 to +150 |        |        |        |        |        |        | $^\circ\text{C}$   |

#### NOTES:

1- Thermal resistance from junction to lead mounted on P.C.B. with 0.3 x 0.3" (8.0 x 8.0mm) copper pad areas

2- Reverse Recovery Test Conditions :  $I_F=0.5\text{A}$  ,  $I_R=1\text{A}$  ,  $IRR=0.25\text{A}$ .



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## SURFACE MOUNT FAST RECOVERY RECTIFIER

### RATINGS AND CHARACTERISTIC CURVES

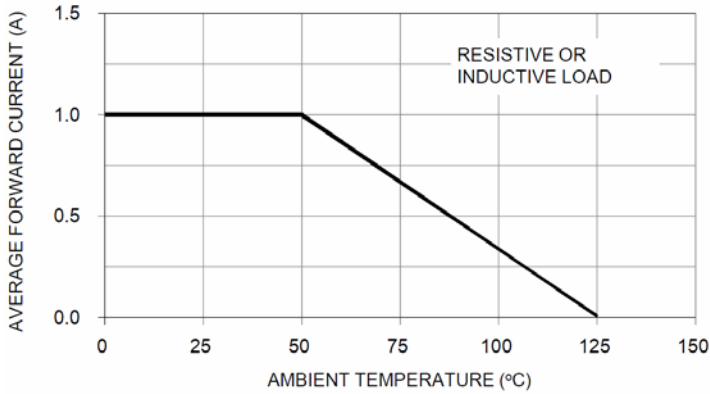


FIG. 1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

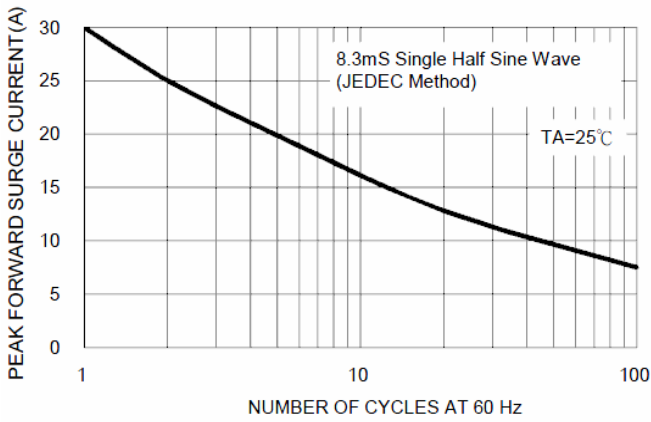


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD PEAK SURGE CURRENT

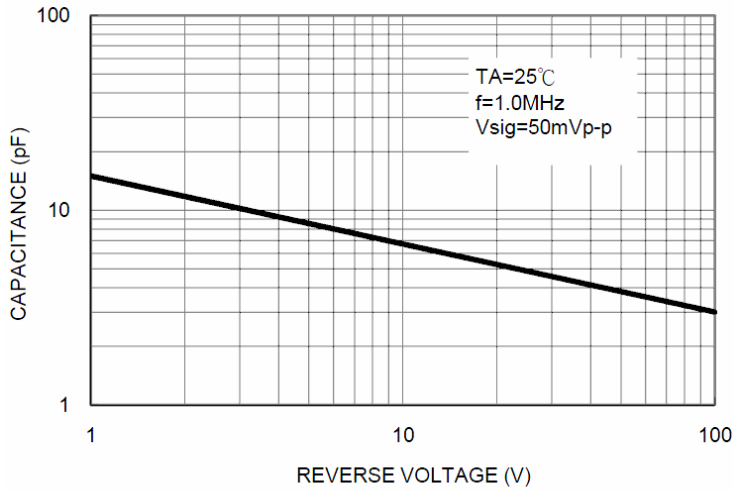


FIG. 4 TYPICAL JUNCTION CAPACITANCE

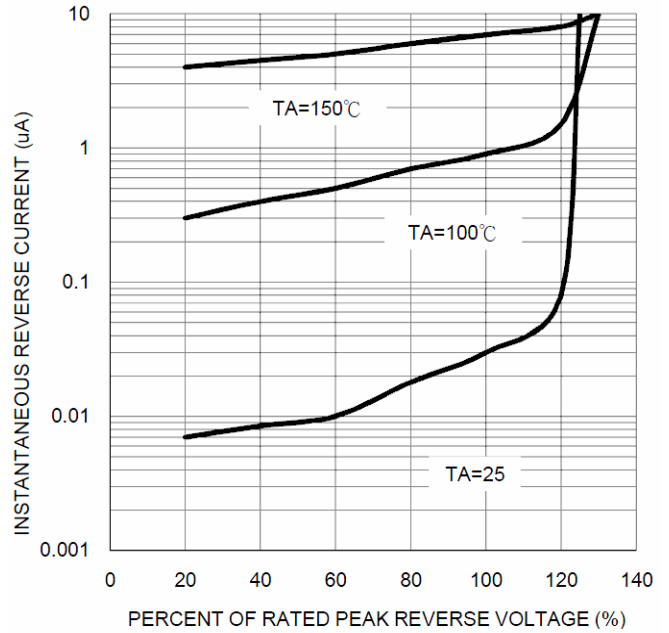


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

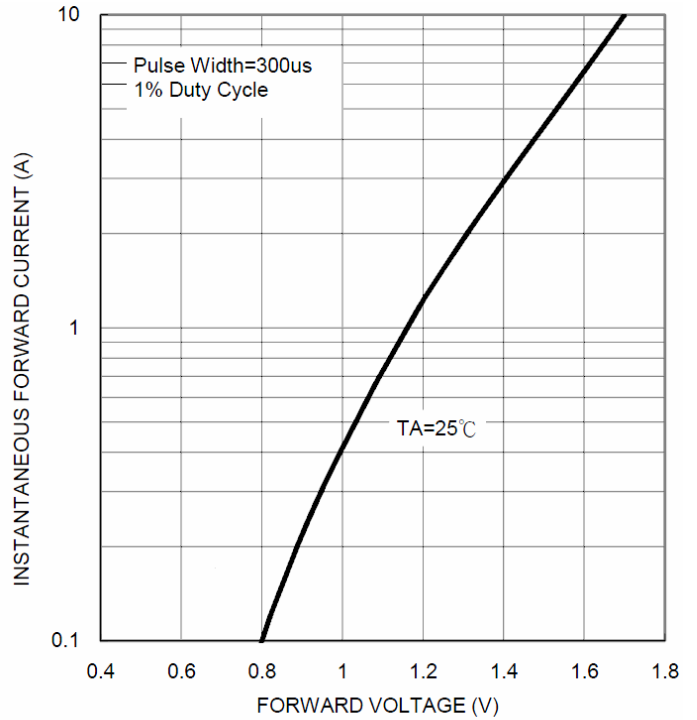


FIG. 5 TYPICAL FORWARD CHARACTERISTICS