

RS1AFL THRU RS1MFL

SURFACE MOUNT FAST RECOVERY RECTIFIER

REVERSE VOLTAGE: 50 to 1000 VOLTS

FORWARD CURRENT: 1.0 AMPERE

FEATURES

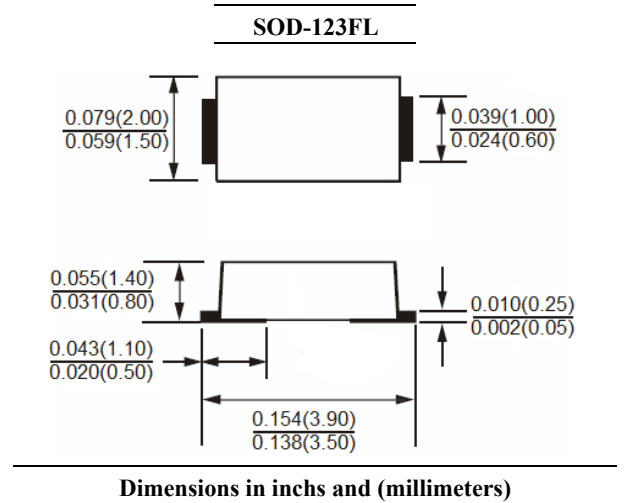
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass Passivated Die Construction
- For surface mounted applications
- Low profile package
- Easy pick and place
- Built-in strain relief
- Fast Recovery times for high efficiency
- Suffix "H" indicates Halogen-free parts,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



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 $T_A=50^\circ\text{C}$	$I_{(AV)}$	1.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave 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 $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$	I_R	5.0 100							μAmp
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 : $I_F=5\text{A}$, $I_R=1\text{A}$, $IRR=.25\text{A}$.

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RATINGS AND CHARACTERISTIC CURVES

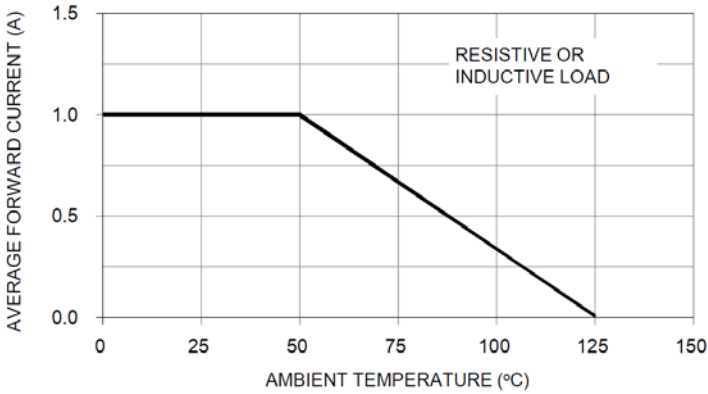


FIG. 1- MAXIMUM AVERAGE FORWARD CURRENT DERATING

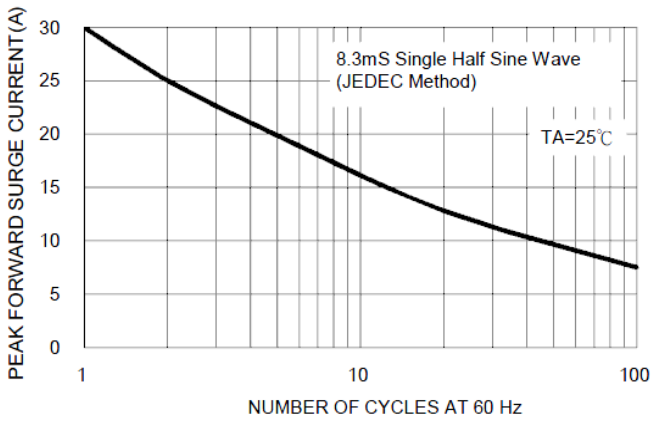


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD PEAK SURGE CURRENT

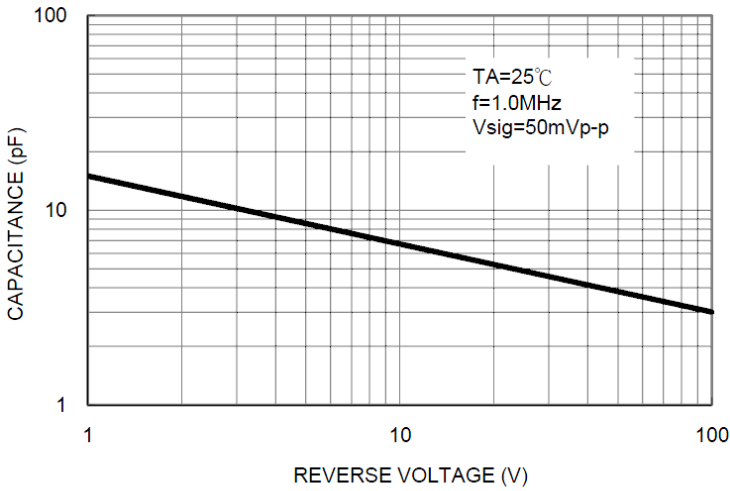


FIG. 4 TYPICAL JUNCTION CAPACITANCE

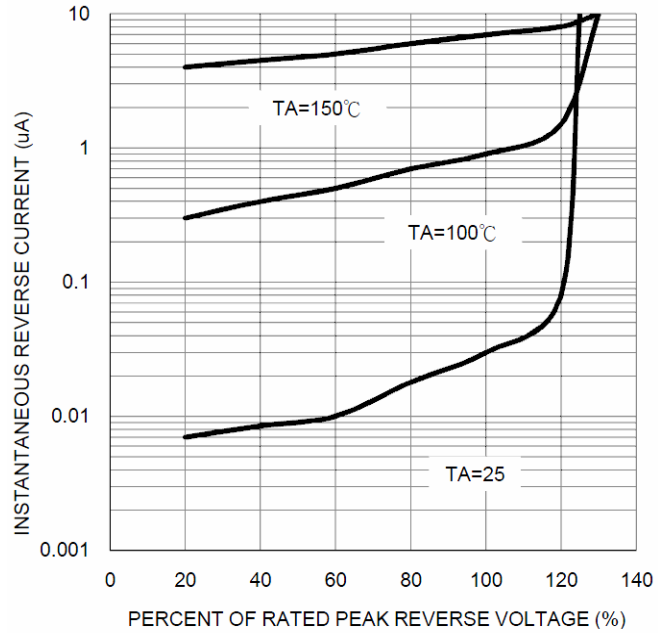


FIG. 2 TYPICAL REVERSE CHARACTERISTICS

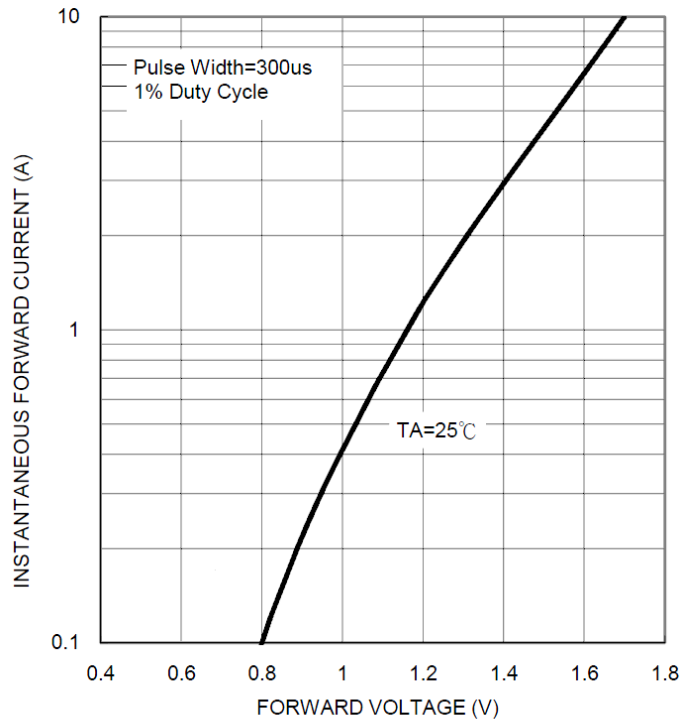


FIG. 5 TYPICAL FORWARD CHARACTERISTICS