

RS1AL - RS1ML Fast Recovery Rectifier Diodes

Features

- $I_{F(AV)}$ 1A
- V_{RRM} 50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

Applications

- Rectifier



SOD-123FL

Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	RS1						
				AL	BL	DL	GL	JL	KL	ML
Repetitive Peak Reverse Voltage	V_{RRM}	V		50	100	200	400	600	800	1000
Maximum RMS Voltage	V_{RMS}	V		35	70	140	280	420	560	700
Average Forward Current	$I_{F(AV)}$	A	60Hz Half-sine wave, Resistance load, $T_a=90^\circ\text{C}$	1.0						
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave, 1 cycle, $T_a=25^\circ\text{C}$	30						
Operation Junction and Storage Temperature Range	T_J, T_{STG}	$^\circ\text{C}$		-55 ~ +150						

Electrical Characteristics (T=25°C Unless otherwise specified)

Item	Symbol	Unit	Test Condition		RS1						
					AL	BL	DL	GL	JL	KL	ML
Peak Forward Voltage	V _F	V	I _F =1.0A		1.3						
Maximum reverse recovery time	t _{rr}	ns	I _F =0.5A,I _R =1.0A,I _{rr} =0.25A		150				250	500	
Peak Reverse Current	I _{RRM1}	μA	V _{RM} =V _{RRM}	T _a =25℃	10						
	T _a =125℃			100							
Thermal Resistance(Typical)	R _{θJ-A}	℃/W	Between junction and ambient		70						
	R _{θJ-L}		Between junction and terminal		25						

Notes:

Thermal resistance from junction to ambient and from junction to lead mounted on P.C.B. with 0.2" x 0.2" (5.0 mm x 5.0 mm) copper pad areas

Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

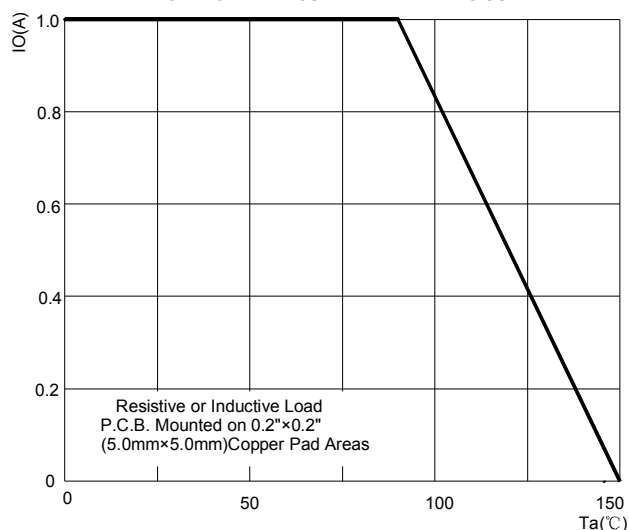


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

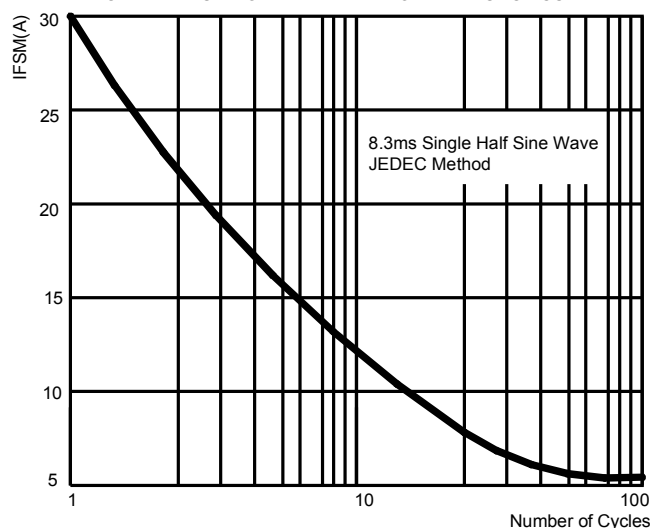


FIG.3: TYPICAL FORWARD CHARACTERISTICS

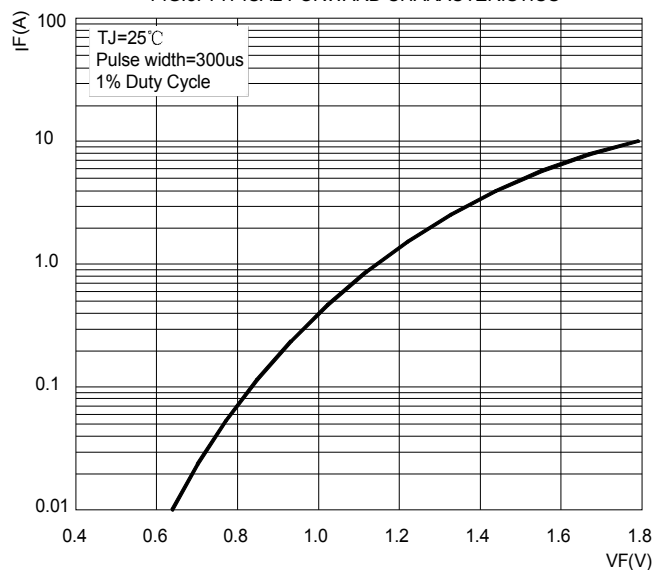


FIG.4: TYPICAL REVERSE CHARACTERISTICS

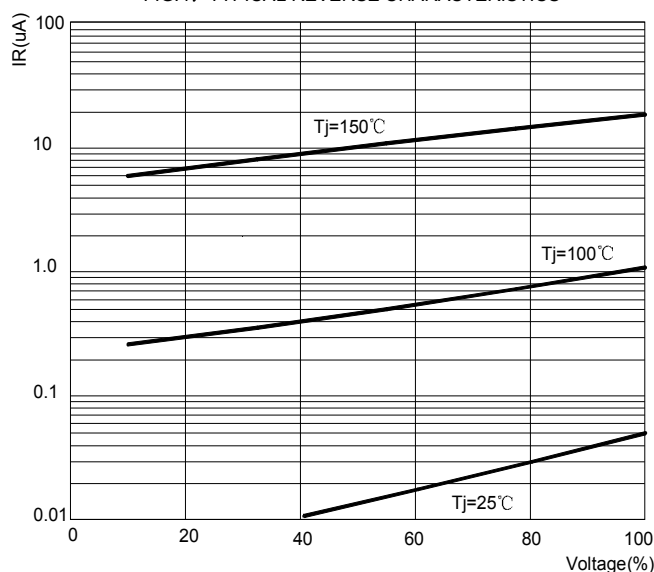
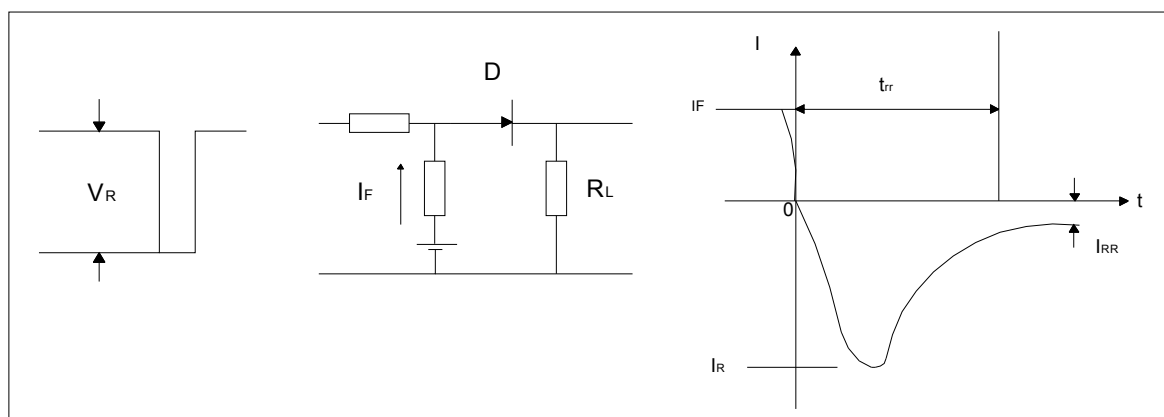
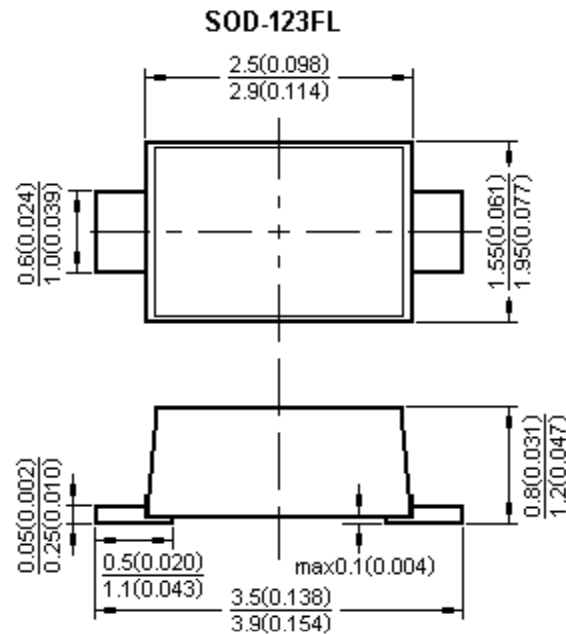


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time





Dimensions in millimeters and (inches)

Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage. or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.

$I_{F(AV)}$: We recommend that the worst case current be no greater than 80% .

T_J : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_J of below 125°C.

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