

SMAF Plastic-Encapsulate Diodes

RS3AF THRU RS3MF

Fast Recovery Rectifier Diodes

Features

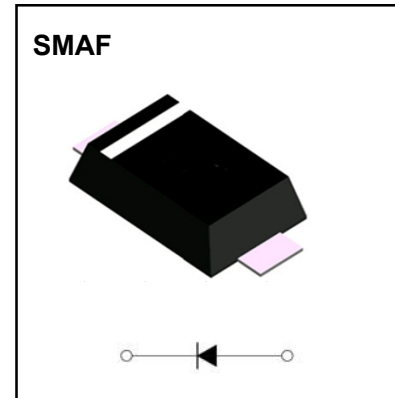
- $I_{F(AV)}$ 3A
- V_{RRM} 50V-1000V
- High surge current capability
- Polarity: Color band denotes cathode

Applications

- Rectifier

Marking

- RS3X
X : From A To M



Limiting Values(Absolute Maximum Rating)

Item	Symbol	Unit	Test Conditions	RS3						
				AF	BF	DF	GF	JF	KF	MF
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, $T_L = 120^\circ\text{C}$	3.0						
Surge(Non-repetitive)Forward Current	I_{FSM}	A	60Hz Half-sine wave, 1 cycle, $T_a = 25^\circ\text{C}$	90						
Operation Junction and Storage Temperature Range	T_J, T_{STG}	$^\circ\text{C}$		-55 ~ +150						

Electrical Characteristics ($T = 25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Test Condition	RS3						
				AF	BF	DF	GF	JF	KF	MF
Peak Forward Voltage	V_F	V	$I_F = 3.0\text{A}$	1.3						
Peak Reverse Current	I_{RRM1}	μA	$V_{RM} = V_{RRM}$	$T_a = 25^\circ\text{C}$						
	I_{RRM2}			$T_a = 100^\circ\text{C}$						
Thermal Resistance(Typical)	$R_{\theta J-A}$	$^\circ\text{C/W}$	Between junction and ambient	90						
Typical junction capacitance per diode	C_J	pF	Measured at 1.0MHz and applied reverse voltage of 4.0 volts.	15						
Maximum reverse recovery time	t_{rr}	ns	$I_F = 0.5\text{A}, I_R = 1.0\text{A}, I_{rr} = 0.25\text{A}$	150				250	500	

Typical Characteristics

FIG1. FORWARD CURRENT DERATING CURVE

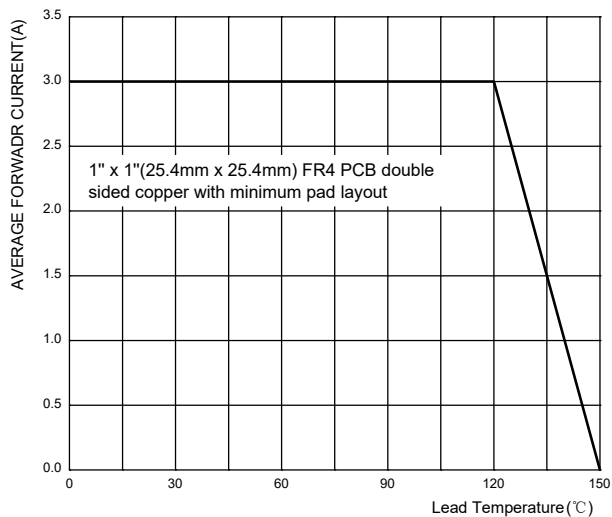


FIG2: Surge Forward Current Capability

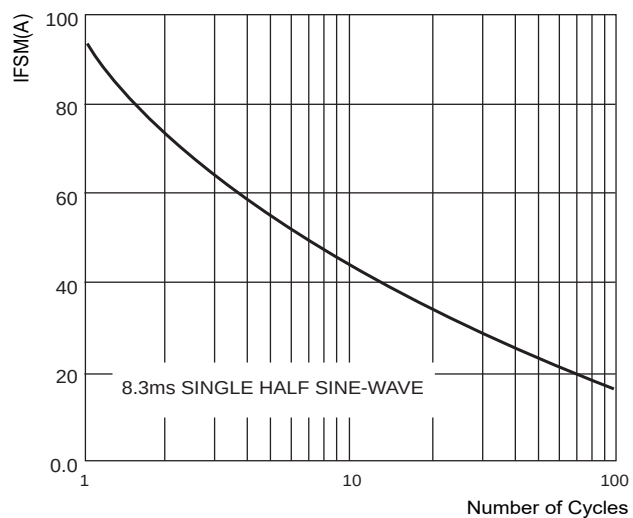


FIG.3: TYPICAL FORWARD CHARACTERISTICS

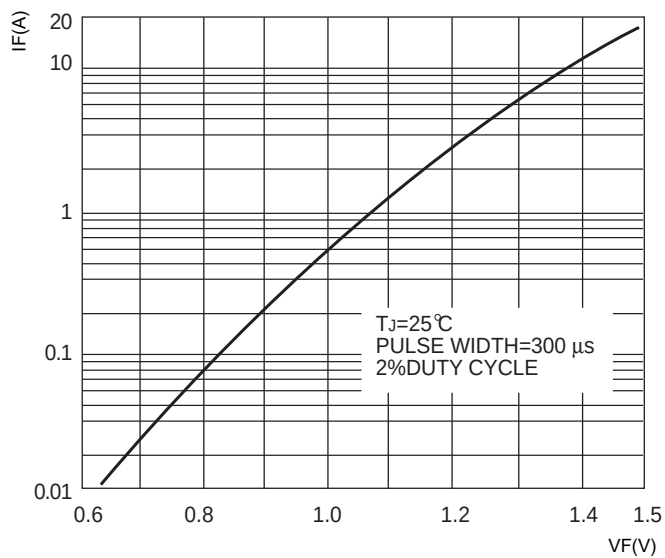


FIG.4 : TYPICAL REVERSE CHARACTERISTICS

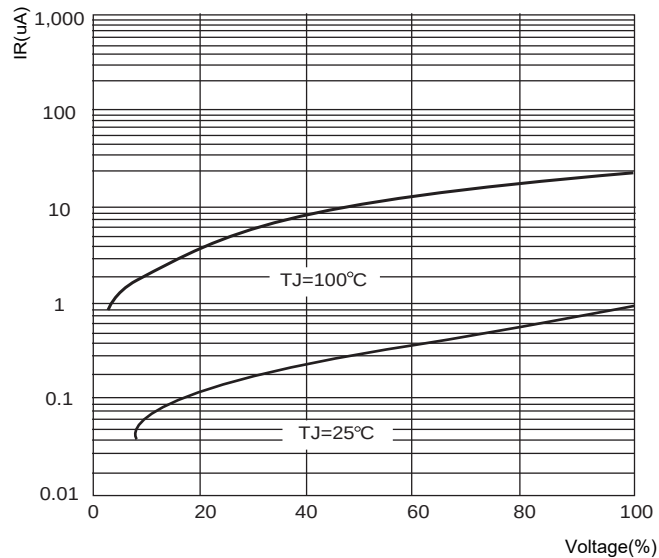
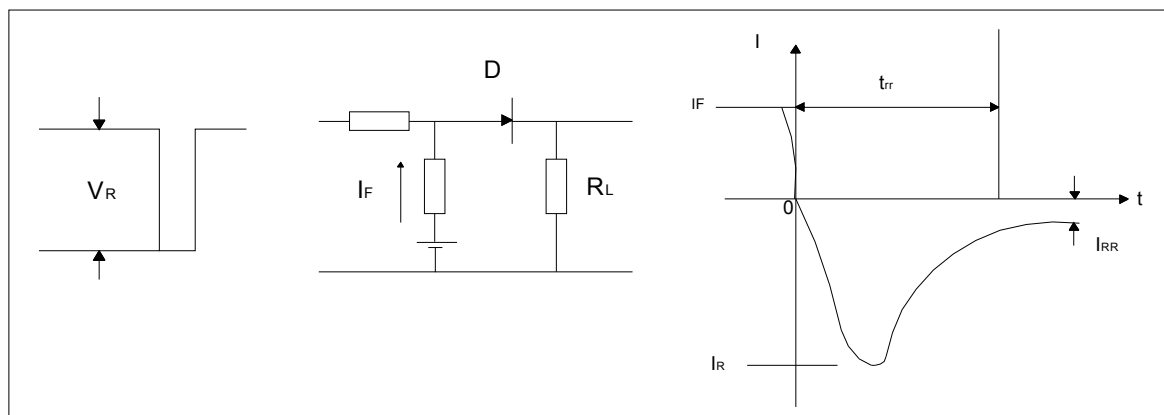
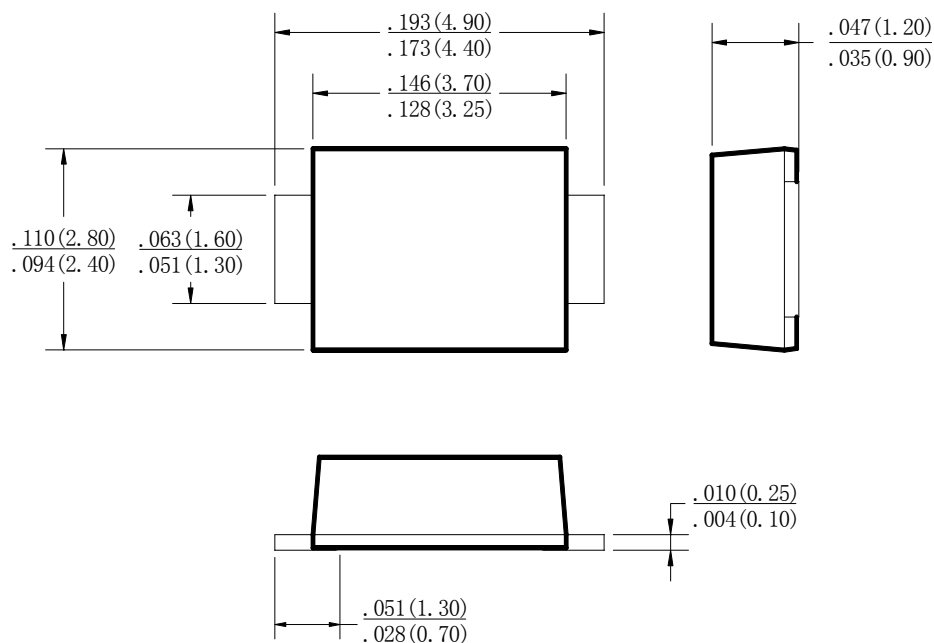


FIG.5: Diagram of circuit and Testing wave form of reverse recovery time

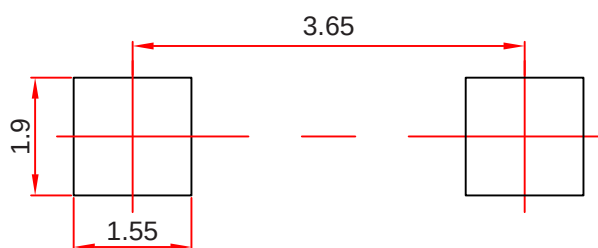


SMAF Package Outline Dimensions



Dimensions in inches and (millimeters)

SMAF Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

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