AiT Semiconductor Inc.
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RS1AF~ RS1MF

RECTIFIER DIODE
1A SURFACE MOUNT FAST RECOVERY RECTIFIER

FEATURES

The RS1AF~RS1MF are available in SMAF Package

- Glass Passivated Chip Junction
- Fast Recovery Time for High Efficiency
- Surge Overload Rating to 25A Peak
- Ideally Suited for Automated Assembly

MECHANICAL DATA

- Case: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 27mg / 0.00086oz

ORDERING INFORMATION

Package Type	Part Number
SMAF	RS1AF
	RS1BF
	RS1DF
	RS1GF
	RS1JF
	RS1KF
	RS1MF
SPQ	3,000pcs/Reel
AiT provides all RoHS Compliant Products	

PIN DESCRIPTION

SMAF

1 Cathode

2 Anode

ABSOLUTE MAXIMUM RATINGS

T_A = 25°C, unless otherwise specified.

Parameter	Symbols	RS1AF	RS1BF	RS1DF	RS1GF	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	V
Maximum Average Forward Rectified Current at T_A = 65 °C	$I_{F(AV)}$	1				A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	25				A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.3				V
Maximum DC Reverse Current T_A = 25 °C at Rated DC Blocking Voltage T_A =125 °C	I_R	5 100				μA
Maximum Reverse Recovery Time*	t_{rr}	150				ns
Typical Junction Capacitance **	C_j	15				pF
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150				°C

Parameter	Symbols	RS1JF	RS1KF	RS1MF	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	600	800	1000	V
Maximum RMS voltage	V_{RMS}	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	600	800	1000	V
Maximum Average Forward Rectified Current at T_A = 65 °C	$I_{F(AV)}$	1			A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	25			A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.3			V
Maximum DC Reverse Current T_A = 25 °C at Rated DC Blocking Voltage T_A =125 °C	I_R	5 100			μA
Maximum Reverse Recovery Time*	t_{rr}	250	500		ns
Typical Junction Capacitance**	C_j	15			pF
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150			°C

* Measured with I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A

** Measured at 1MHz and applied reverse voltage of 4V D.C.

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

TYPICAL CHARACTERISTICS

Fig 1. Forward Current Derating Curve

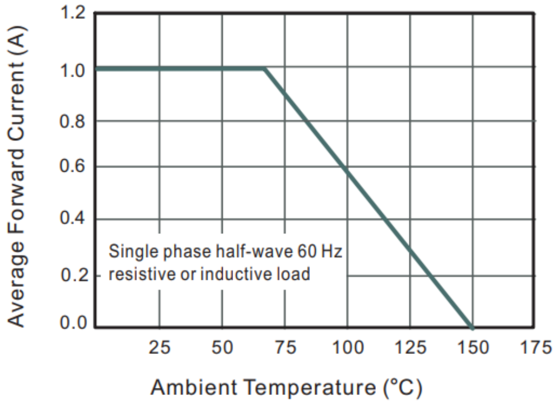


Fig 2. Typical Reverse Characteristics

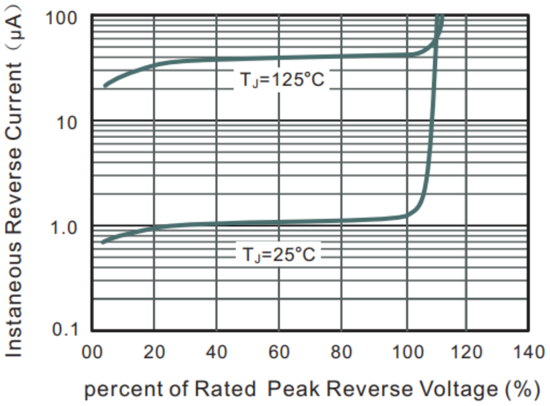


Fig 3. Typical Instantaneous Forward Characteristics

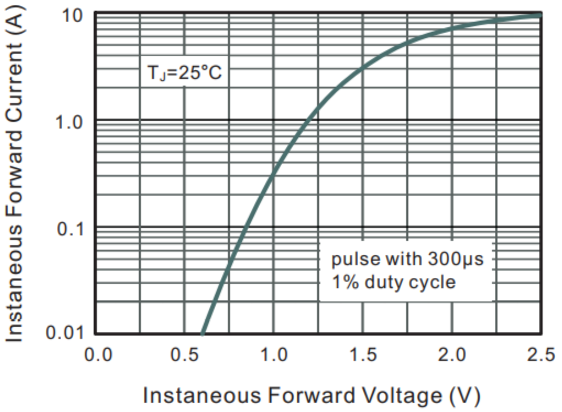


Fig 4. Typical Junction Capacitance

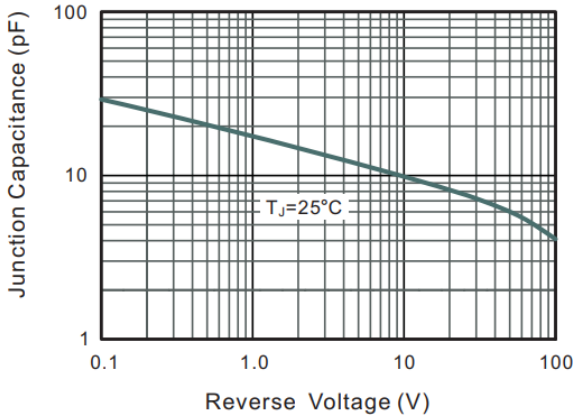
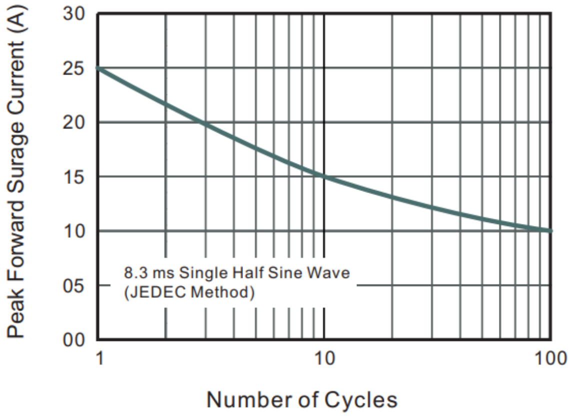
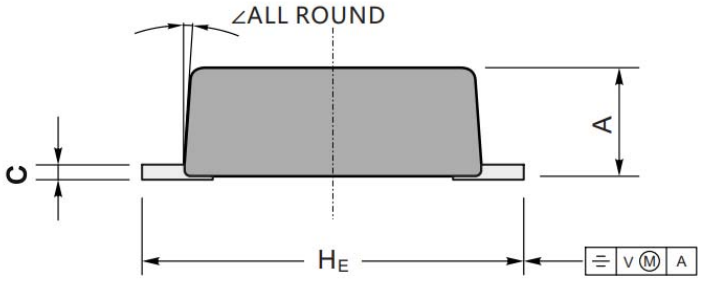


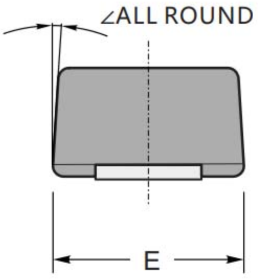
Fig 5. Maximum Non-Repetitive Peak Forward Surge Current

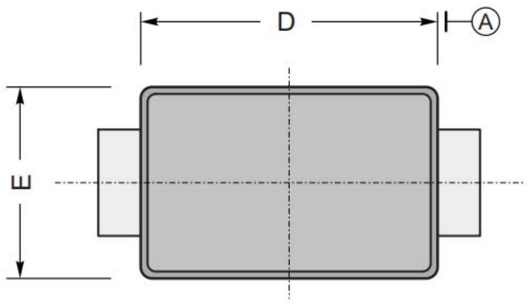


PACKAGE INFORMATION

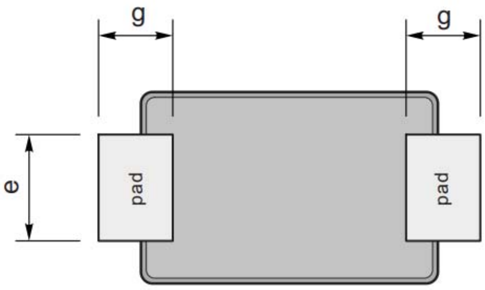
Dimension in SMAF (Unit: mm)



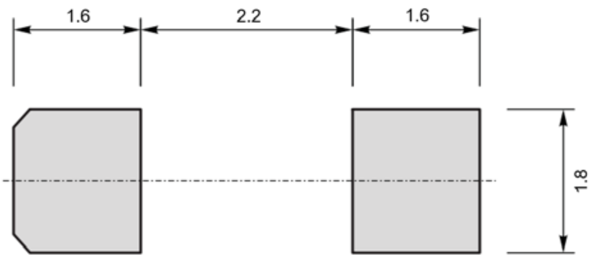




Top View



Bottom View



RECOMMENDED LAND PATTERN

Symbol	Min	Max
A	0.9	1.1
C	0.12	0.20
D	3.3	3.7
E	2.4	2.7
e	1.3	1.6
g	0.8	1.2
H_E	4.4	4.9
∠	7°	

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