

2A, 200V - 1000V Fast Recovery Surface Mount Rectifier

FEATURES

- Glass passivated chip junction
- Ideal for automated placement
- Low reverse leakage
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- DC to DC converter
- Switching mode converters and inverters
- General purpose

MECHANICAL DATA

- Case: SMAF
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.035g (approximately)

KEY PARAMETERS				
PARAMETER VALUE UNI				
I _F	2	А		
V _{RRM}	200 - 1000	V		
I _{FSM}	50 A			
T _{J MAX}	150 °C			
Package	SMAF			
Configuration	Single die			







ABSOLUTE MAXIMUM RATINGS (T _A = 25°C unless otherwise noted)							
PARAMETER	SYMBOL	RS 2DAF-T	RS 2GAF-T	RS 2JAF-T	RS 2KAF-T	RS 2MAF-T	UNIT
Marking code on the device		RS2DAF	RS2GAF	RS2JAF	RS2KAF	RS2MAF	
Repetitive peak reverse voltage	V _{RRM}	200	400	600	800	1000	V
Reverse voltage, total rms value	V _{R(RMS)}	140	280	420	560	700	V
Forward current	l _F			2			Α
Surge peak forward current single half sine- t = 8.3r				50			А
wave superimposed on rated load t = 1.0r	I _{FSM}			130			А
Junction temperature	TJ			-55 to +150			°C
Storage temperature	T _{STG}			-55 to +150			°C



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THERMAL PERFORMANCE				
PARAMETER	SYMBOL	ТҮР	UNIT	
Junction-to-lead thermal resistance	R _{ƏJL}	15	°C/W	
Junction-to-ambient thermal resistance	R _{eja}	89	°C/W	
Junction-to-case thermal resistance	R _{eJC}	22	°C/W	

Thermal Performance Note: Units mounted on PCB (5mm x 5mm Cu pad test board)

ELECTRICAL SPECIFICATIONS (T _A = 25°C unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	ТҮР	МАХ	UNIT
		$I_F = 1A, \ T_J = 25^\circ C$		0.86	-	V
	RS2DAF-T	$I_F = 2A, T_J = 25^{\circ}C$		0.93	1.30	V
	RS2GAF-T	$I_F = 1A, T_J = 125^{\circ}C$	_	0.71	-	V
F (1)		$I_F = 2A, T_J = 125^{\circ}C$		0.80	0.94	V
Forward voltage ⁽¹⁾		$I_F = 1A, T_J = 25^{\circ}C$	- V _F	1.04	-	V
	RS2JAF-T RS2KAF-T RS2MAF-T	$I_F = 2A, T_J = 25^{\circ}C$		1.14	1.30	V
		$I_F = 1A, T_J = 125^{\circ}C$		0.87	-	V
		$I_F = 2A, T_J = 125^{\circ}C$		0.98	1.23	V
Reverse current @ rated V _R ⁽²⁾		$T_J = 25^{\circ}C$		-	5	μΑ
		T _J = 125°C	– I _R	-	100	μΑ
	RS2DAF-T RS2GAF-T	I _F = 0.5A, I _R = 1.0A I _{rr} = 0.25A	t _{rr}	-	150	ns
Reverse recovery time	RS2JAF-T RS2KAF-T RS2MAF-T			-	250	ns
Junction capacitance	RS2DAF-T RS2GAF-T	1MHz, V _R = 4.0V	CJ	21	-	pF
	RS2JAF-T RS2KAF-T RS2MAF-T			10	-	pF

Notes:

1. Pulse test with PW = 0.3ms

2. Pulse test with PW = 30ms

ORDERING INFORMATION				
ORDERING CODE ⁽¹⁾	PACKAGE	PACKING		
RS2xAF-T	SMAF	7,500 / Tape & Reel		

Notes:

1. "x" defines voltage from 200V (RS2DAF-T) to 1000V (RS2MAF-T)



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CHARACTERISTICS CURVES

 $(T_A = 25^{\circ}C \text{ unless otherwise noted})$

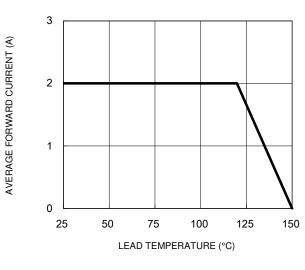


Fig.1 Forward Current Derating Curve

Fig.3 Typical Reverse Characteristics

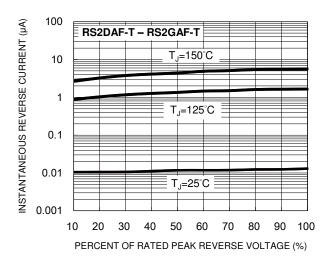
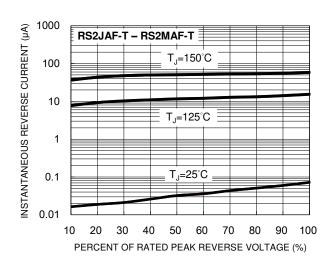


Fig.5 Typical Reverse Characteristics



(10) (10)

Fig.2 Typical Junction Capacitance

Fig.4 Typical Forward Characteristics

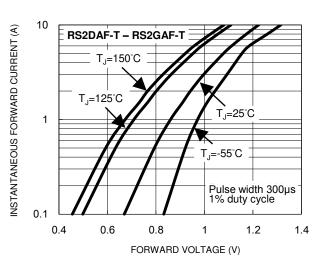
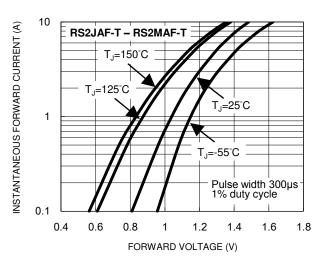


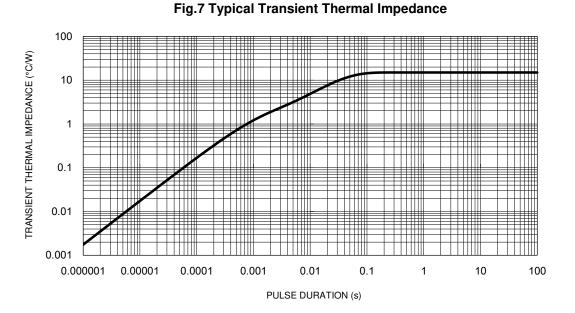
Fig.6 Typical Forward Characteristics





CHARACTERISTICS CURVES

 $(T_A = 25^{\circ}C \text{ unless otherwise noted})$

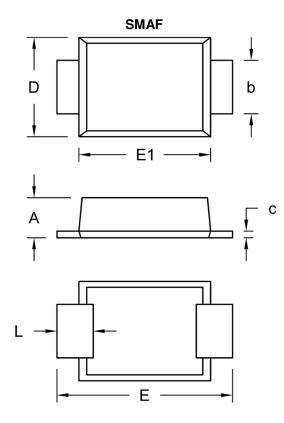




RS2DAF-T – RS2MAF-T

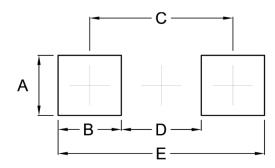
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PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
DIN.	Min.	Max.	Min.	Max.
A	1.00	1.10	0.039	0.043
b	1.30	1.50	0.051	0.059
С	0.10	0.25	0.004	0.010
D	2.40	2.80	0.094	0.110
E	4.40	4.80	0.173	0.189
E1	3.25	3.65	0.128	0.144
L	0.70	1.20	0.028	0.047

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.57	0.062
В	1.66	0.065
С	3.76	0.148
D	2.10	0.083
E	5.42	0.213

MARKING DIAGRAM



P/N = Marking	Code
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- G = Green Compound
- YW = Date Code
- F = Factory Code



RS2DAF-T – RS2MAF-T

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