

# RS1A/B - RS1M/B

# 1.0A SURFACE MOUNT FAST RECOVERY RECTIFIER

### **Features**

- Glass Passivated Die Construction
- Fast Recovery Time For High Efficiency
- Surge Overload Rating to 30A Peak
- Ideally Suited for Automated Assembly
- Lead Free Finish/RoHS Compliant (Note 4)

### **Mechanical Data**

Case: SMA/SMB

Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0

Moisture Sensitivity: Level 1 per J-STD-020C

Terminals: Lead Free Plating (Matte Tin Finish). Solderable per MIL-STD-202, Method 208 (3)

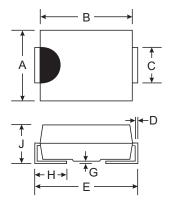
Polarity: Cathode Band or Cathode Notch

Marking Information: See Page 3

Ordering Information: See Page 3

SMA Weight: 0.064 grams (approximate)

SMB Weight: 0.093 grams (approximate)



Dim	SI	/IΑ	SMB			
	Min	Max	Min	Max		
Α	2.29	2.92	3.30	3.94		
В	4.00	4.60	4.06	4.57		
С	1.27	1.63	1.96	2.21		
D	0.15	0.31	0.15	0.31		
E	4.80	5.59	5.00	5.59		
G	0.10	0.20	0.10	0.20		
Н	0.76	1.52	0.76	1.52		
J	2.01	2.30	2.00	2.40		

A, B, D, G, J, K, M Suffix Designates SMA Package AB, BB, DB, GB, JB, KB, MB Suffix Designates SMB Package

# Maximum Ratings and Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Characteristic	Symbol	RS1 A/AB	RS1 B/BB	RS1 D/DB	RS1 G/GB	RS1 J/JB	RS1 K/KB	RS1 M/MB	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage (Note 5)	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	50	100	200	400	600	800	1000	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	35	70	140	280	420	560	700	V
Average Rectified Output Current @ T <sub>T</sub> = 120	C Io		•	•	1.0		•	•	Α
Non-Repetitive Peak Forward Surge Current, 8.3ms single half sine-wave Superimposed on Rated Load		30					Α		
Forward Voltage Drop @ I <sub>F</sub> = 1.	A V <sub>FM</sub>				1.3				V
Peak Reverse Current @ T <sub>A</sub> = 25°C at Rated DC Blocking Voltage (Note 5) @ T <sub>A</sub> = 125°C		5.0 200						μА	
Reverse Recovery Time (Note 3)		150 250 500			00	ns			
Typical Total Capacitance (Note 2)		15					pF		
Typical Thermal Resistance, Junction to Terminal (Note 1)		20						°C/W	
Operating and Storage Temperature Range		-65 to +150						°C	

- 1. Valid provided that terminals are kept at ambient temperature.
- 2. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
- 3. Reverse recovery test conditions:  $I_F = 0.5A$ ,  $I_R = 1.0A$ ,  $I_{rr} = 0.25A$ . See figure 5.
- 4. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see EU Directive Annex Notes 5 and 7.
- 5. Short duration pulse test used to minimize self-heating effect.

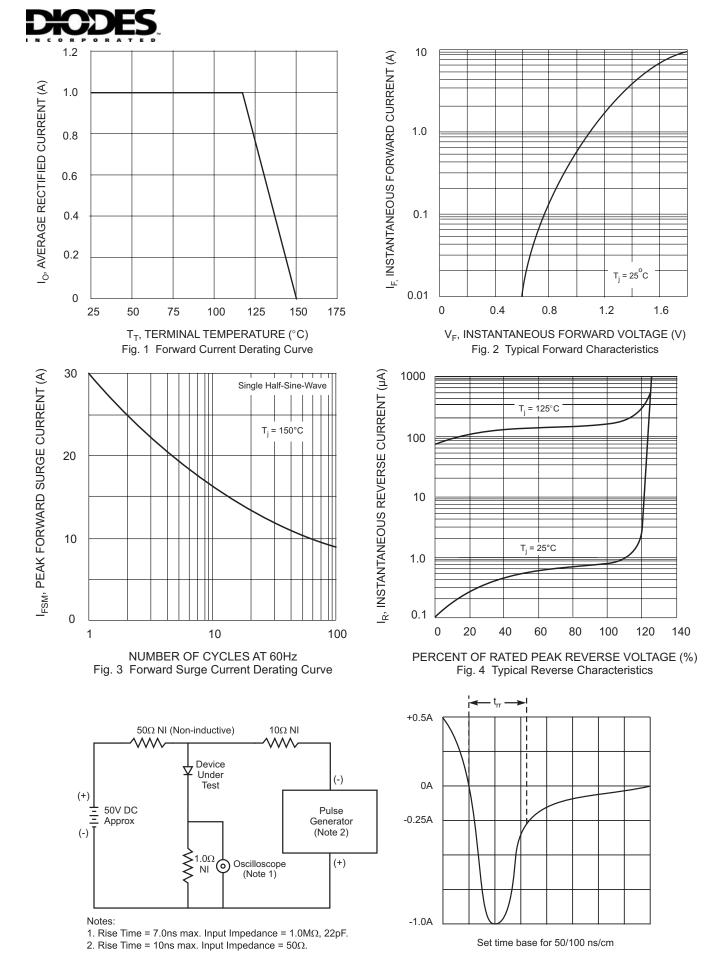


Fig. 5 Reverse Recovery Time Characteristic and Test Circuit



# Ordering Information (Note 6)

Device*	Packaging	Shipping		
RS1x-13-F	SMA	5000/Tape & Reel		
RS1xB-13-F	SMB	3000/Tape & Reel		

<sup>\*</sup> x = Device type, e.g. RS1D-13-F (SMA package); RS1JB-13-F (SMB package).

Notes: 6. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

# **Marking Information**



RS1X = Product Type Marking Code, ex: RS1G (SMA package)
RS1XB = Product Type Marking Code, ex: RS1GB (SMB package)
1; = Manufacturer's Code Marking
YWW = Date Code Marking
Y = Last Digit of Year ex: 6 for 2006
WW = Week code 01 to 52

#### IMPORTANT NOTICE

Diodes Incorporated and its subsidiaries reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. Diodes Incorporated does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold Diodes Incorporated and all the companies whose products are represented on our website, harmless against all damages.

# LIFE SUPPORT

Diodes Incorporated products are not authorized for use as critical components in life support devices or systems without the expressed written approval of the President of Diodes Incorporated.