

## 0.8A, 200V - 600V Miniature Glass Passivated Fast Recovery Surface Mount Bridge Rectifier

### FEATURES

- Ideal for automated placement
- Reliable low cost construction utilizing molded plastic technique
- High surge current capability
- Small size, simple installation
- UL Recognized File # E-326243
- Moisture sensitivity level: level 1, per J-STD-020
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

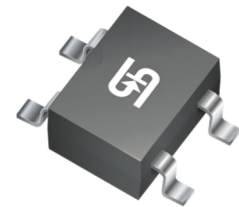
### APPLICATIONS

- Switching mode power supply (SMPS)
- Lighting application

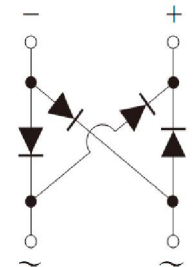
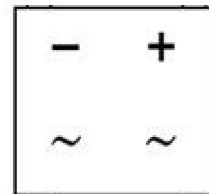
### MECHANICAL DATA

- Case: TO-269AA (MBS)
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 0.12g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
$I_{F(AV)}$	0.8	A
$V_{RRM}$	200 - 600	V
$I_{FSM}$	30	A
$T_{J\ MAX}$	150	°C
Package	TO-269AA (MBS)	
Configuration	Quad	



TO-269AA (MBS)



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

PARAMETER	SYMBOL	RMB2S	RMB4S	RMB6S	UNIT
Marking code on the device		RMB2S	RMB4S	RMB6S	
Repetitive peak reverse voltage	$V_{RRM}$	200	400	600	V
Reverse voltage, total rms value	$V_{R(RMS)}$	140	280	420	V
Maximum DC blocking voltage	$V_{DC}$	200	400	600	V
Maximum average forward current 60Hz sine wave resistance load on glass-epoxy P.C.B.	$I_{F(AV)}$	0.5			A
Maximum average forward current 60Hz sine wave resistance load on aluminum substrate		0.8			A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	30			A
Rating for fusing ( $t < 8.3\text{ms}$ )	$I^2t$	3.74			$A^2s$
Junction temperature	$T_J$	- 55 to +150			°C
Storage temperature	$T_{STG}$	- 55 to +150			°C

<b>THERMAL PERFORMANCE</b>			
<b>PARAMETER</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>UNIT</b>
Junction-to-ambient thermal resistance per diode	$R_{\theta JA}$	85	°C/W

<b>ELECTRICAL SPECIFICATIONS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
<b>PARAMETER</b>	<b>CONDITIONS</b>	<b>SYMBOL</b>	<b>TYP</b>	<b>MAX</b>	<b>UNIT</b>
Forward voltage per diode <sup>(1)</sup>	$I_F = 0.4\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	1	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	5	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	100	$\mu\text{A}$
Junction capacitance	1 MHz, $V_R = 4.0\text{V}$	$C_J$	13	-	pF
Reverse recovery time	$I_F = 0.5\text{A}, I_R = 1.0\text{A}$ $I_{RR} = 0.25\text{A}$	$t_{rr}$	-	150	ns

**Notes:**

1. Pulse test with  $PW = 0.3\text{ ms}$
2. Pulse test with  $PW = 30\text{ ms}$

<b>ORDERING INFORMATION</b>					
<b>PART NO.</b>	<b>PART NO. SUFFIX(*)</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>PACKAGE</b>	<b>PACKING</b>
RMBxS (Note 1, 2)	H	RC	G	MBS	3,000 / 13" Paper reel
		MC			3,000 / 13" Plastic reel

**Notes:**

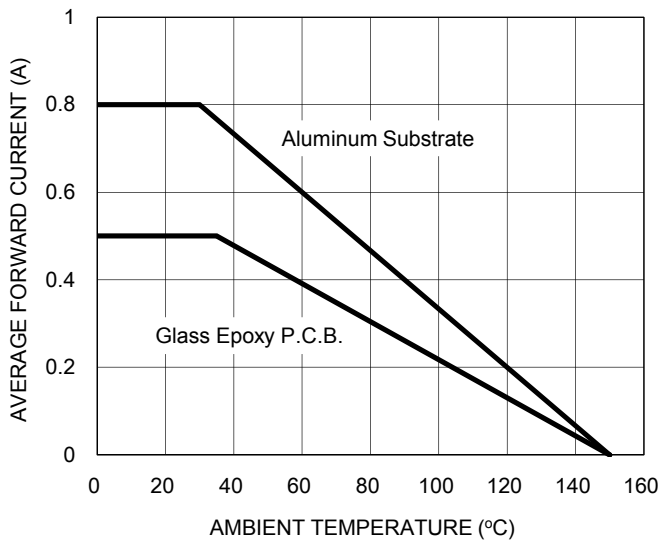
1. "x" defines voltage from 200V (RMB2S) to 600V (RMB6S)
  2. Whole series with green compound (halogen-free)
- \*: Optional available

<b>EXAMPLE</b>					
<b>EXAMPLE P/N</b>	<b>PART NO.</b>	<b>PART NO. SUFFIX</b>	<b>PACKING CODE</b>	<b>PACKING CODE SUFFIX</b>	<b>DESCRIPTION</b>
RMB2SHRCG	RMB2S	H	RC	G	Green compound AEC-Q101 qualified

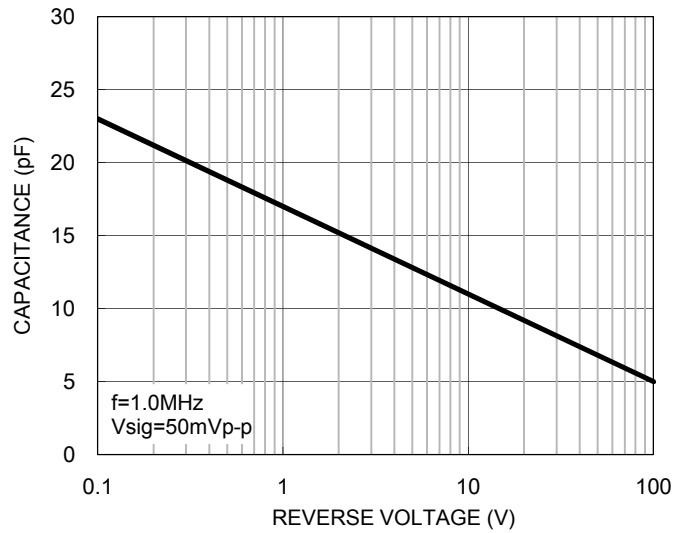
**CHARACTERISTICS CURVES**

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

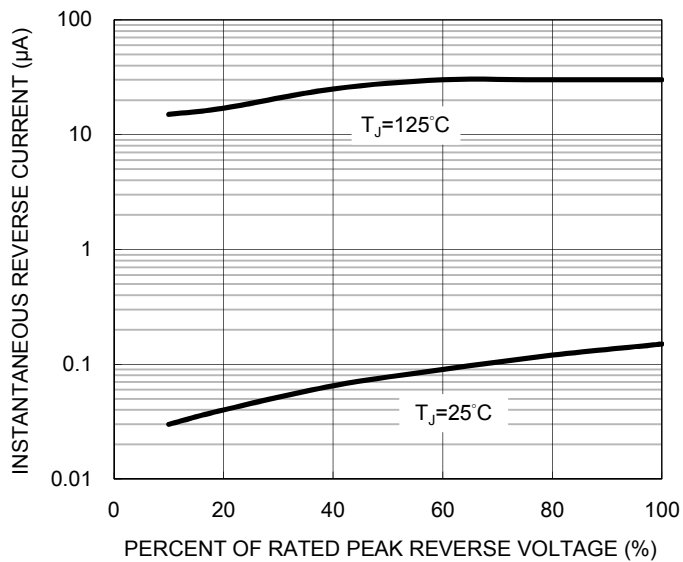
**Fig.1 Forward Current Derating Curve**



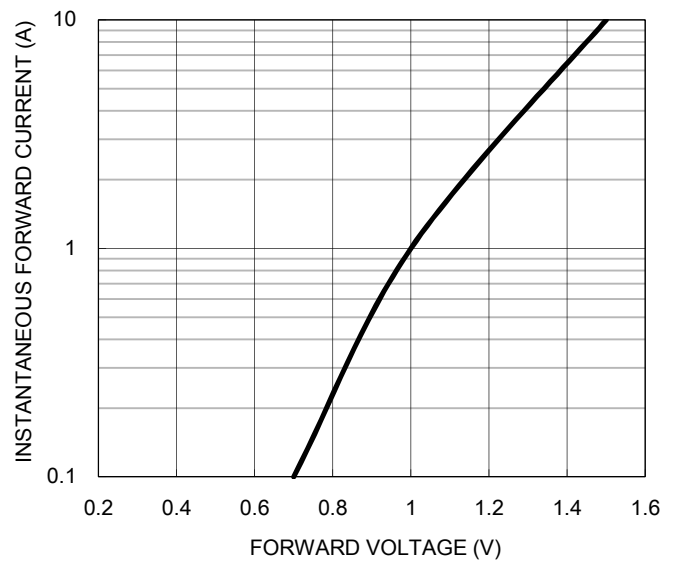
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**



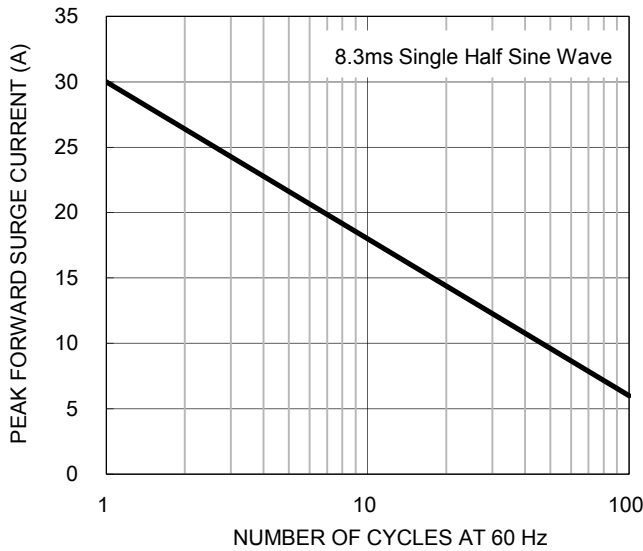
**Fig.4 Typical Forward Characteristics**



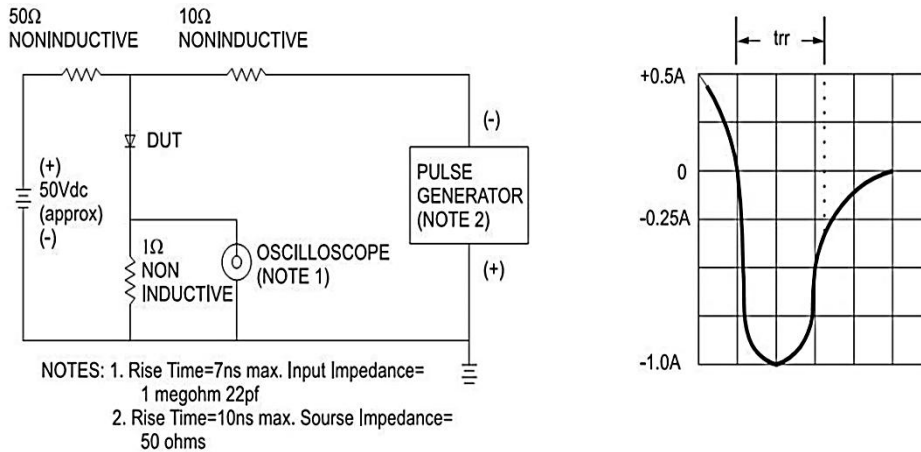
**CHARACTERISTICS CURVES**

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

**Fig.5 Maximum Non-repetitive Forward Surge Current**

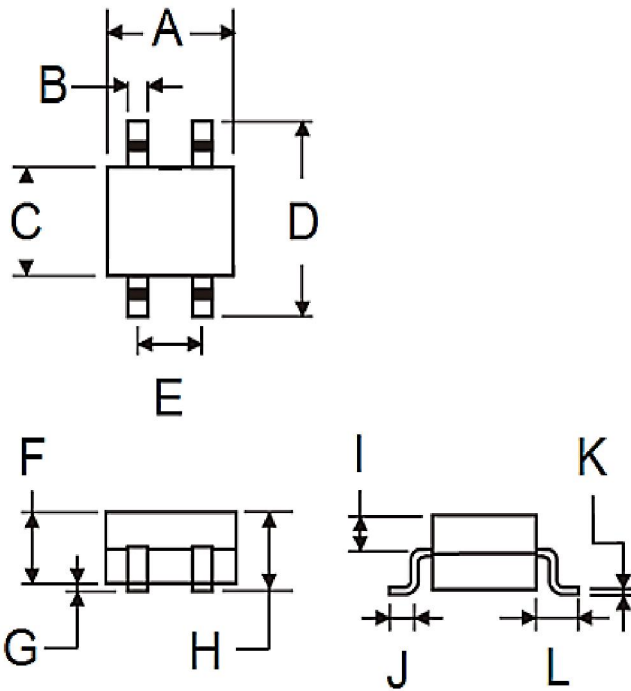


**Fig.6 Reverse Recovery Time Characteristic and Test Circuit Diagram**



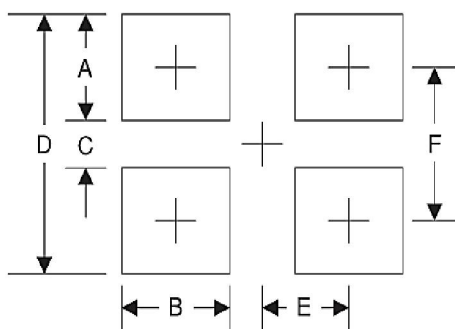
**PACKAGE OUTLINE DIMENSIONS**

TO-269AA (MBS)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	4.50	4.90	0.177	0.193
B	0.56	0.84	0.022	0.033
C	3.60	5.00	0.142	0.197
D	-	6.90	-	0.272
E	2.20	2.60	0.087	0.102
F	2.30	2.70	0.091	0.106
G	-	0.20	-	0.008
H	-	2.90	-	0.114
I	0.95	1.53	0.037	0.060
J	0.70	1.10	0.028	0.043
K	0.15	0.35	0.006	0.014
L	1.10	2.12	0.043	0.083

**SUGGESTED PAD LAYOUT**



Symbol	Unit (mm)	Unit (inch)
A	1.70	0.067
B	0.90	0.035
C	4.40	0.173
D	8.10	0.319
E	1.30	0.051
F	6.30	0.248

**MARKING DIAGRAM**



P/N = Marking Code  
YW = Date Code  
F = Factory Code

## Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.