

2A, 1000V Glass Passivated Fast Recovery Bridge Rectifiers

FEATURES

- Glass passivated junction
- Ideal for automated placement
- High surge current capability
- UL Recognized file # E-326854
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

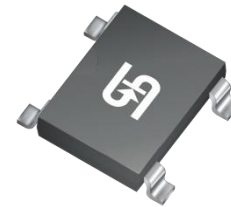
APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application

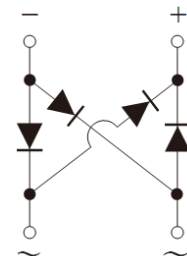
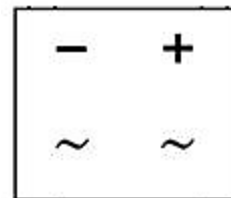
MECHANICAL DATA

- Case: ABS
- Molding compound meets UL 94V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whisker test
- Polarity: As marked
- Weight: 0.096 g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	2	A
V_{RRM}	1000	V
I_{FSM}	50	A
$T_{J\ MAX}$	150	°C
Package	ABS	
Configuration	Quad	



ABS



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

PARAMETER	SYMBOL	RABS20M	UNIT	
Marking code on the device		RA20M		
Repetitive peak reverse voltage	V_{RRM}	1000	V	
Reverse voltage, total rms value	$V_{R(RMS)}$	700	V	
Forward current	I_F	2	A	
Surge peak forward current, single half sine-wave superimposed on rated load per diode	I_{FSM}	8.3 ms at $T_A = 25^\circ\text{C}$	50	A
		1.0 ms at $T_A = 25^\circ\text{C}$	120	A
I^2t value (of a surge on-state current) at 8.3ms	I^2t	10	A^2s	
Junction temperature	T_J	-55 to +150	°C	
Storage temperature	T_{STG}	-55 to +150	°C	

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	39	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	82	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	24	°C/W

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

ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 1.0\text{A}, T_J = 25^\circ\text{C}$	V_F	1.06	-	V
	$I_F = 2.0\text{A}, T_J = 25^\circ\text{C}$		1.16	1.30	V
	$I_F = 1.0\text{A}, T_J = 125^\circ\text{C}$		0.89	-	V
	$I_F = 2.0\text{A}, T_J = 125^\circ\text{C}$		1.00	1.16	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	5	μA
	$T_J = 125^\circ\text{C}$		-	90	μA
Junction Capacitance per diode	1 MHz, $V_R=4.0\text{V}$	C_j	15	-	pF
Maximum reverse recovery time per diode	$I_F=0.5\text{A}, I_R=1.0\text{A}$ $I_{RR}=0.25\text{A}$	t_{rr}	-	300	ns

Notes:

- (1) Pulse test with PW=0.3 ms
- (2) Pulse test with PW=30 ms

ORDERING INFORMATION		
ORDERING CODE	PACKAGE	PACKING
RABS20M M3G	ABS	1,000 / 7" reel
RABS20M M2G	ABS	5,000 / 13" reel

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

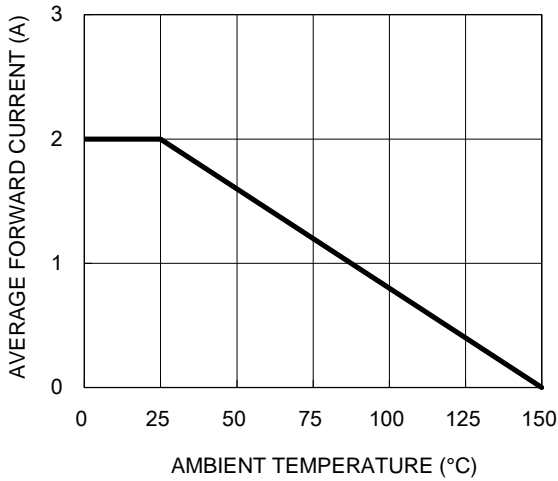


Fig.2 Typical Junction Capacitance

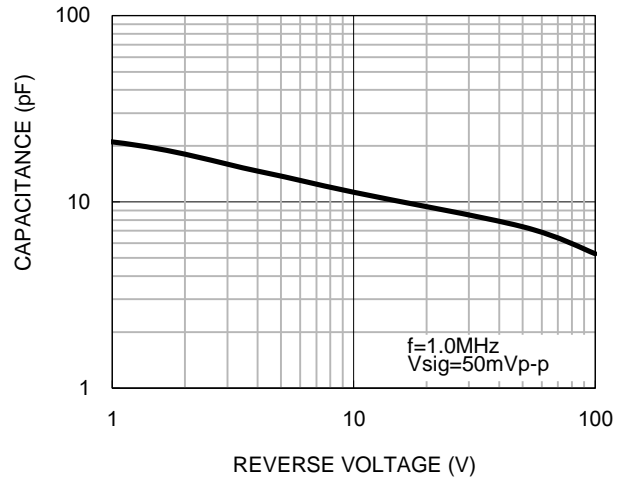


Fig.3 Typical Reverse Characteristics

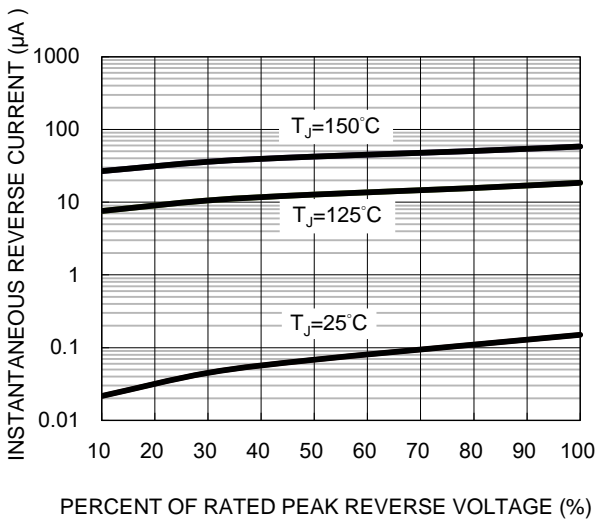
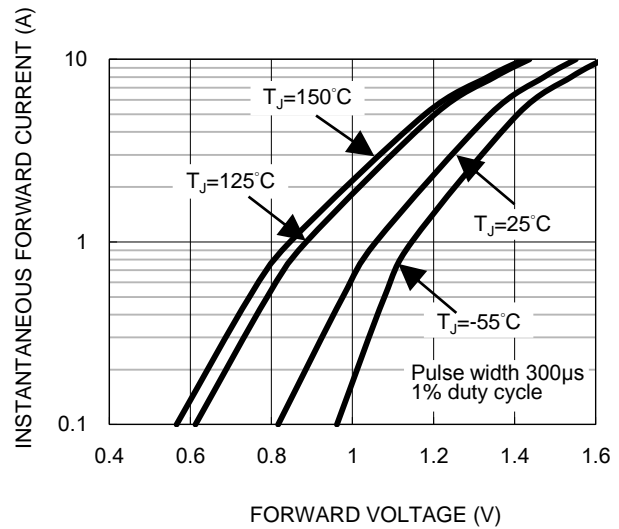
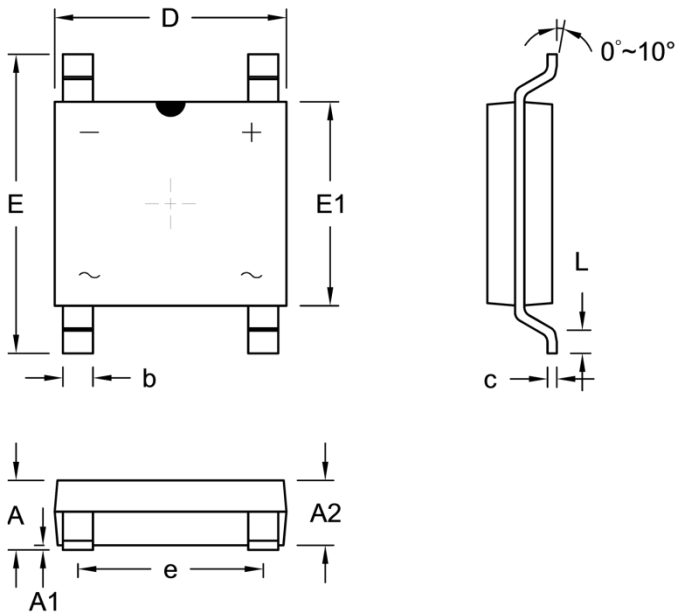


Fig.4 Typical Forward Characteristics



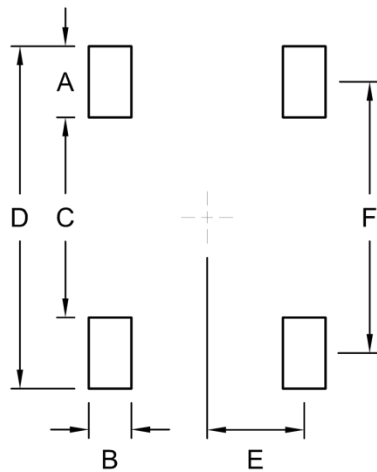
PACKAGE OUTLINE DIMENSIONS

ABS



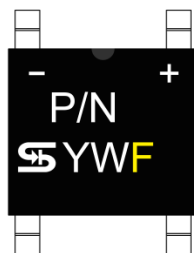
DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
A1	0.05	0.15	0.002	0.006
A2	1.35	1.45	0.053	0.057
b	0.60	0.70	0.024	0.028
c	0.15	0.25	0.006	0.010
D	4.90	5.10	0.193	0.201
E	6.25	6.65	0.246	0.262
E1	4.30	4.50	0.169	0.177
e	3.90	4.10	0.154	0.161
L	0.30	0.70	0.012	0.028

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.50	0.059
B	0.90	0.035
C	4.22	0.166
D	7.22	0.284
E	2.05	0.081
F	5.72	0.225

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.

Purchasers are solely responsible for the choice, selection, and use of TSC products and TSC assumes no liability for application assistance or the design of Purchasers' products.

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.