

## 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

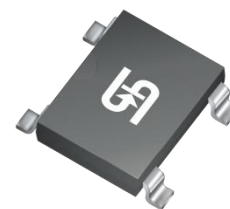
### APPLICATIONS

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

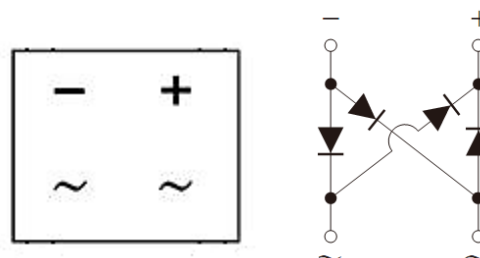
### MECHANICAL DATA

- 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	$\text{A}^2\text{s}$	
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-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)

<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>	$I_F = 1.0\text{A}, T_J = 25^\circ\text{C}$	$V_F$	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 <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	5	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	90	$\mu\text{A}$
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:**

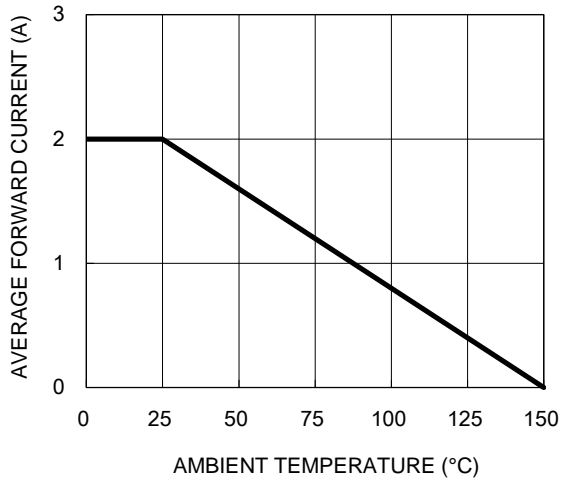
- (1) Pulse test with PW=0.3 ms
- (2) Pulse test with PW=30 ms

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

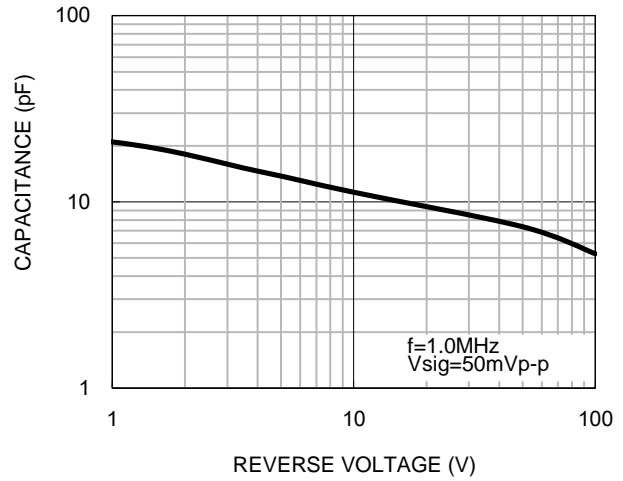
**CHARACTERISTICS CURVES**

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

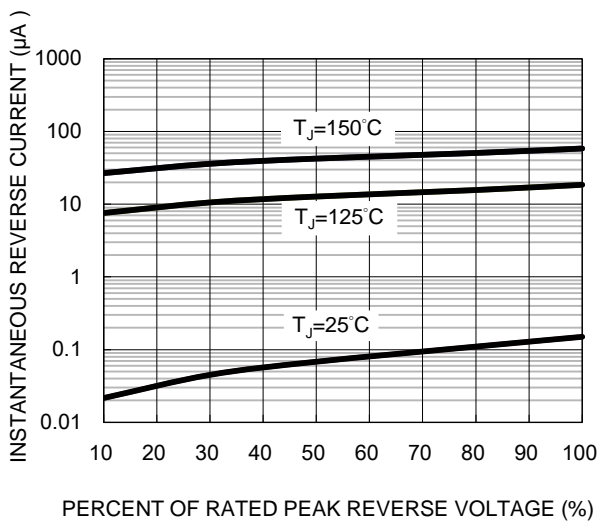
**Fig.1 Forward Current Derating Curve**



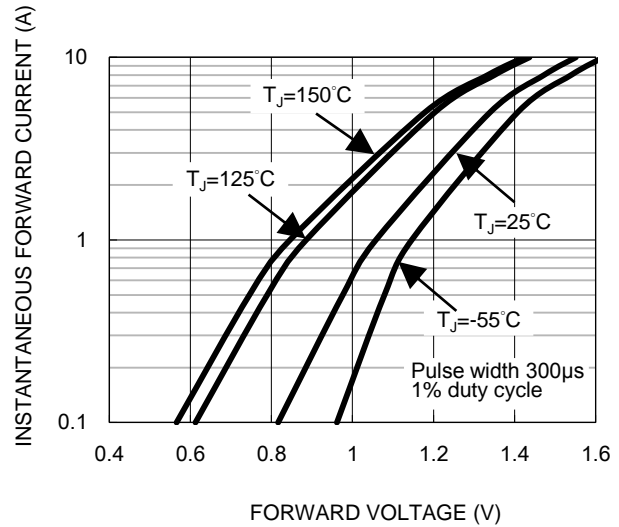
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Reverse Characteristics**

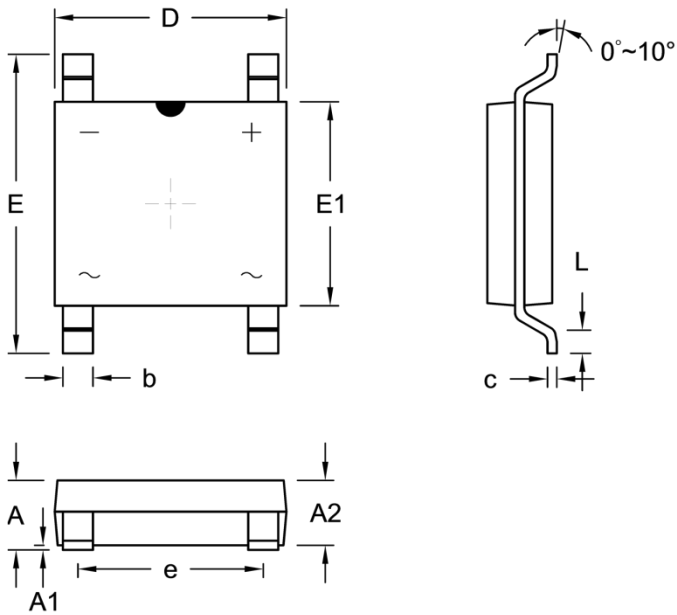


**Fig.4 Typical Forward Characteristics**



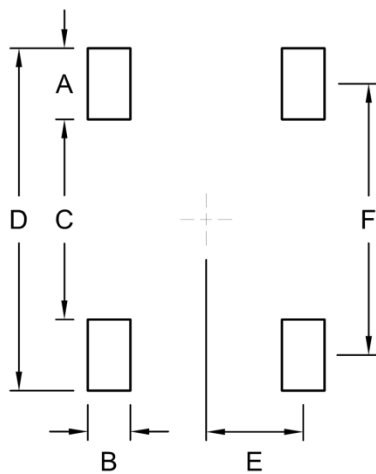
**PACKAGE OUTLINE DIMENSIONS**

ABS



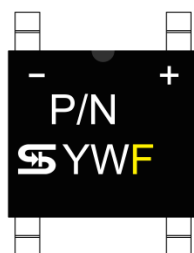
DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
A1	0.05	0.15	0.002	0.006
A2	1.35	1.45	0.053	0.057
b	0.60	0.70	0.024	0.028
c	0.15	0.25	0.006	0.010
D	4.90	5.10	0.193	0.201
E	6.25	6.65	0.246	0.262
E1	4.30	4.50	0.169	0.177
e	3.90	4.10	0.154	0.161
L	0.30	0.70	0.012	0.028

**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

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