

2A, 1000V Standard Bridge Rectifier

FEATURES

- AEC-Q101 qualified available
- Glass passivated chip junction
- Ideal for automated placement
- Reliable low cost construction utilizing molded plastic technique
- High surge current capability
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

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

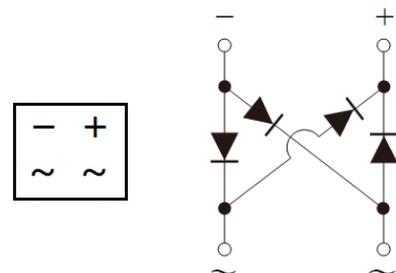
MECHANICAL DATA

- Case: ABS
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: As marked
- Weight: 0.096g (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	ABS20M	UNIT
Marking code on the device		ABS20M	
Repetitive peak reverse voltage	V_{RRM}	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	700	V
Forward current	On glass-epoxy	1.6	A
	On aluminum substrate	2.0	A
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	50	A
Peak forward surge current, 1.0ms single half sine-wave superimposed on rated load	$T_J = 25^\circ\text{C}$	110	A
	$T_J = 125^\circ\text{C}$	90	A
Rating for fusing ($t < 8.3\text{ms}$)	I^2t	10.37	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	$R_{\theta JL}$	30	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	85	°C/W

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage per diode ⁽¹⁾	$I_F = 1\text{A}, T_J = 25^\circ\text{C}$	V_F	0.92	1.02	V
	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$		-	1.10	V
	$I_F = 1\text{A}, T_J = 125^\circ\text{C}$		0.80	-	V
	$I_F = 2\text{A}, T_J = 125^\circ\text{C}$		0.94	-	V
Reverse current @ rated V_R per diode ⁽²⁾	$T_J = 25^\circ\text{C}$	I_R	-	5	μA
	$T_J = 125^\circ\text{C}$		-	150	μA

Notes:

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

ORDERING INFORMATION

ORDERING CODE ⁽¹⁾	PACKAGE	PACKING
ABS20M	ABS	5,000 / Tape & Reel
ABS20MH	ABS	5,000 / Tape & Reel

Notes:

1. "H" means AEC-Q101 qualified

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

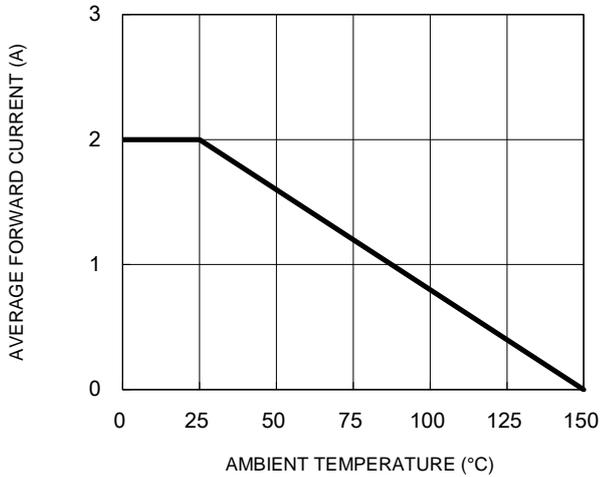


Fig.2 Typical Junction Capacitance

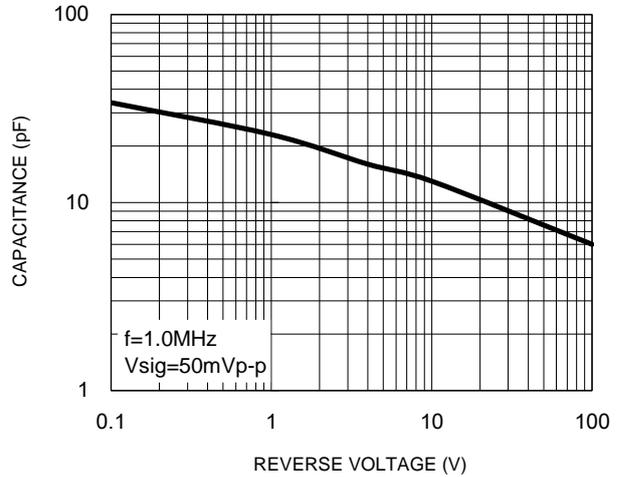


Fig.3 Typical Reverse Characteristics

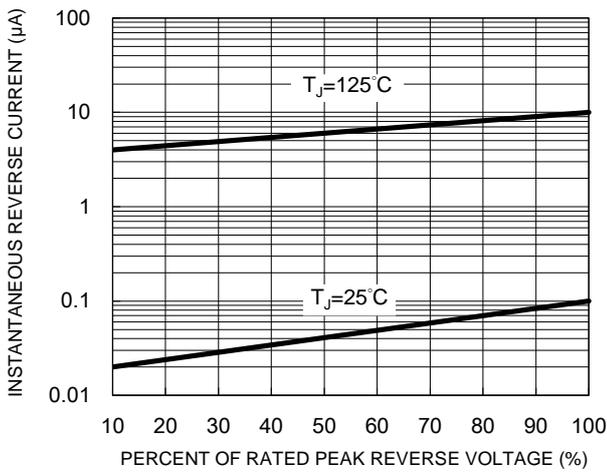


Fig.4 Typical Forward Characteristics

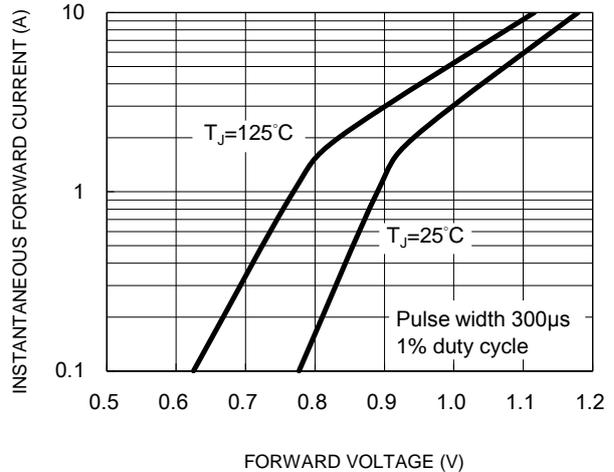
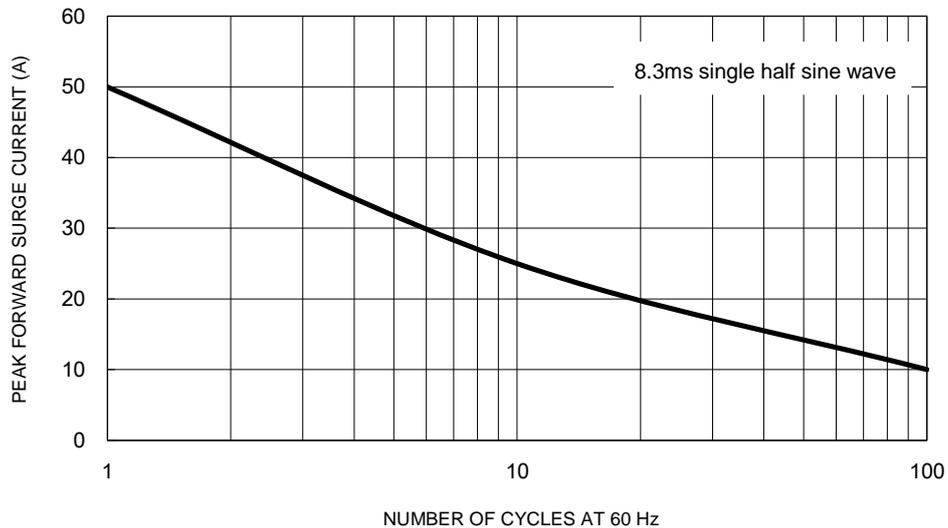
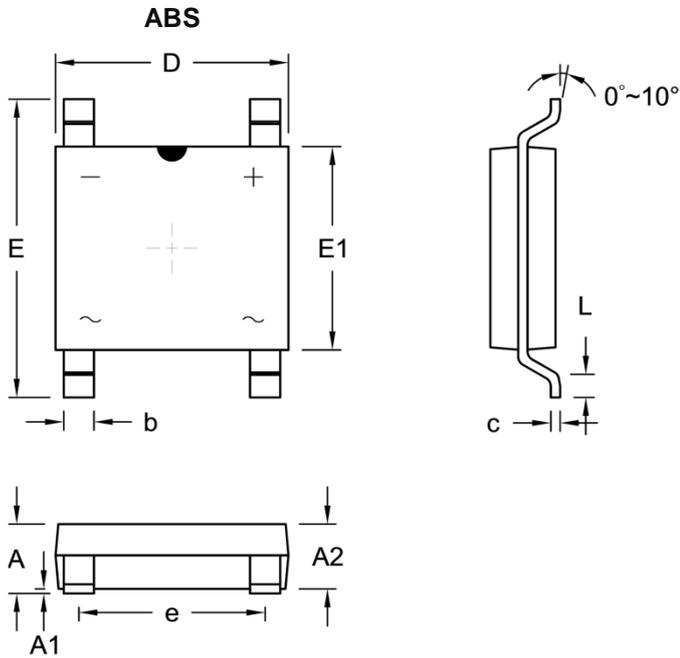


Fig.5 Maximum Non-Repetitive Forward Surge Current

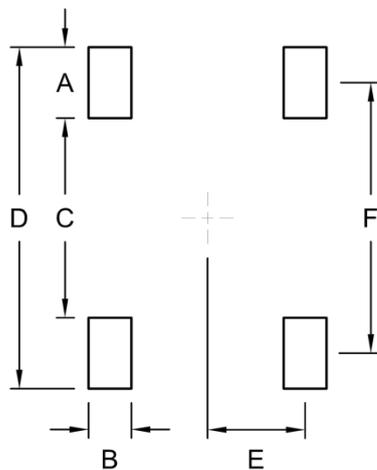


PACKAGE OUTLINE DIMENSIONS



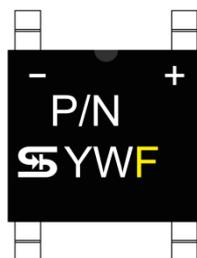
DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	1.40	1.60	0.055	0.063
A1	0.05	0.15	0.002	0.006
A2	1.35	1.45	0.053	0.057
b	0.60	0.70	0.024	0.028
c	0.15	0.25	0.006	0.010
D	4.90	5.10	0.193	0.201
E	6.25	6.65	0.246	0.262
E1	4.30	4.50	0.169	0.177
e	3.90	4.10	0.154	0.161
L	0.30	0.70	0.012	0.028

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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