# 2A, 1000V Glass Passivated Bridge Rectifier

## FEATURES

- Glass passivated junction
- Ideal for automated placement
- Reliable low cost construction utilizing molded plastic technique
- High surge current capability
- UL Recognized File # E-326854
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

| KEY PARAMETERS | | |
|---|---|---|
| **PARAMETER** | **VALUE** | **UNIT** |
| $I_{F(AV)}$ | 2 | A |
| $V_{RRM}$ | 1000 | V |
| $I_{FSM}$ | 50 | A |
| $T_{J\ MAX}$ | 150 | °C |
| Package | ABS | |
| Configuration | Quad | |

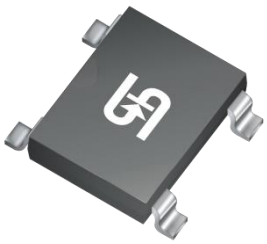
Pb-Free RoHS COMPLIANT HALOGEN FREE

## APPLICATIONS

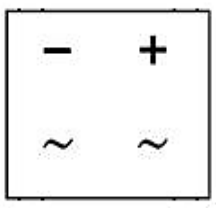
- Switching mode power supply (SMPS)
- Adapters
- Lighting application

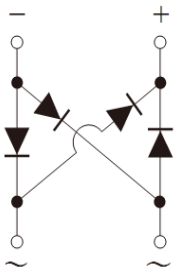
## MECHANICAL DATA

- Case: ABS
- Molding compound :meets UL 94V-0 flammability rating
- Packing code with suffix "G" means green compound (halogen-free)
- Moisture sensitivity level: level 1, per J-STD-020
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 0.093 g (approximately)



**ABS**




## ABSOLUTE MAXIMUM RATINGS ($T_A$ = 25°C unless otherwise noted)

| PARAMETER | SYMBOL | ABS20M-T | 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 |
| Maximum DC blocking voltage | $V_{DC}$ | 1000 | V |
| Forward current On glass-epoxy | $I_{F(AV)}$ | 1.6 | A |
| Forward current On aluminum substrate | | 2.0 | |
| Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 50 | A |
| $I^2t$ value (of a surge on-state current) | $I^2t$ | 10.375 | $A^2s$ |
| Junction temperature | $T_J$ | -55 to +150 | °C |
| Storage temperature | $T_{STG}$ | -55 to +150 | °C |

## THERMAL PERFORMANCE

| PARAMETER | SYMBOL | LIMIT | 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°C unless otherwise noted)

| PARAMETER | CONDITIONS | SYMBOL | TYP. | MAX. | UNIT |
|---|---|---|---|---|---|
| Forward voltage (1) | $I_F$ = 1A, $T_J$ = 25°C | $V_F$ | 0.92 | 1.02 | V |
| | $I_F$ = 2A, $T_J$ = 25°C | | - | 1.10 | V |
| | $I_F$ = 1A, $T_J$ =125°C | | 0.80 | - | V |
| | $I_F$ = 2A, $T_J$ = 125°C | | 0.94 | - | V |
| Reverse current @ rated $V_R$ (2) | $T_J$ = 25°C | $I_R$ | - | 5 | μA |
| | $T_J$ = 125°C | | - | 150 | μA |

**Notes:**
1. Pulse test with PW=0.3 ms
2. Pulse test with PW=30 ms.

## ORDERING INFORMATION

| PART NO. | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
|---|---|---|---|---|
| ABS20M-T (Note 1, 2) | RE | G | ABS | 1,000 / 7" Plastic reel |
| | RG | | ABS | 5,000 / 13" Paper reel |

**Note:**
1. Whole series with green compound (halogen-free)

## EXAMPLE P/N

| EXAMPLE P/N | PART NO. | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
|---|---|---|---|---|
| ABS20M-T REG | ABS20M-T | RE | G | Green compound |

## CHARACTERISTICS CURVES

($T_A$ = 25°C unless otherwise noted)

**Fig.1 Forward Current Derating Curve**

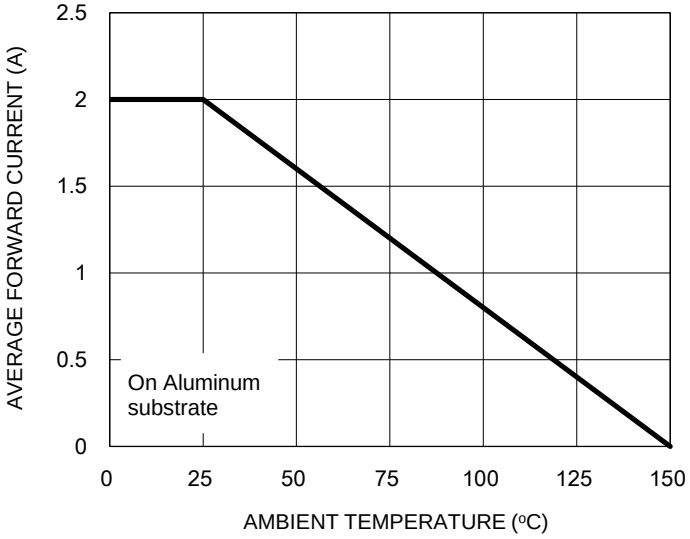



**Fig.2 Typical Junction Capacitance**

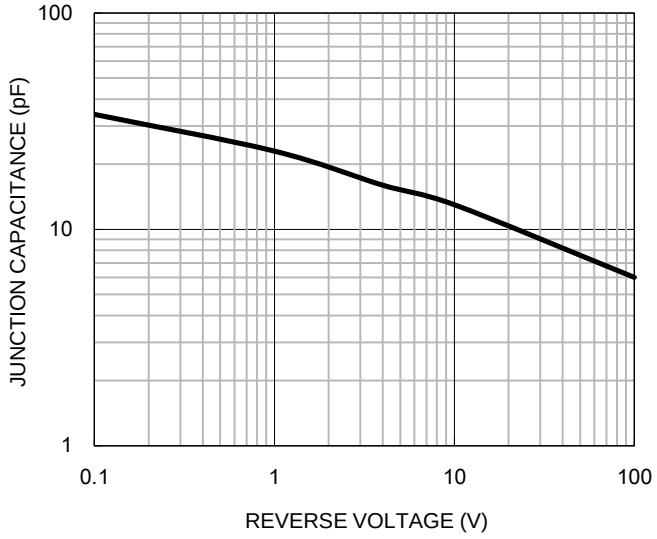



**Fig.3 Typical Reverse Characteristics**

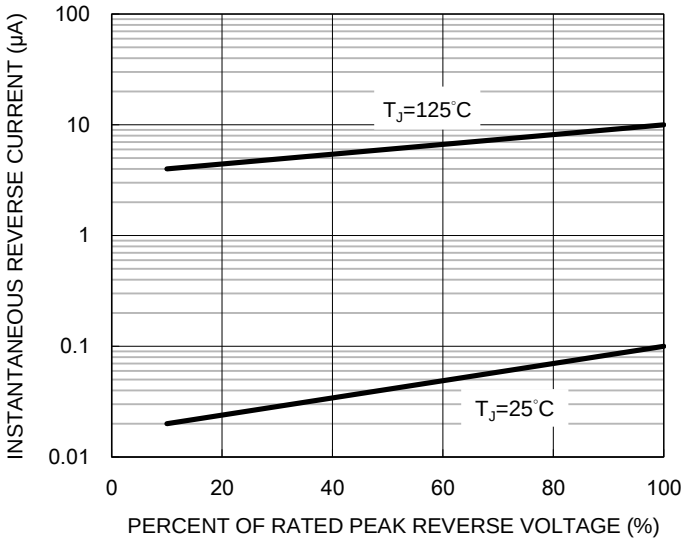
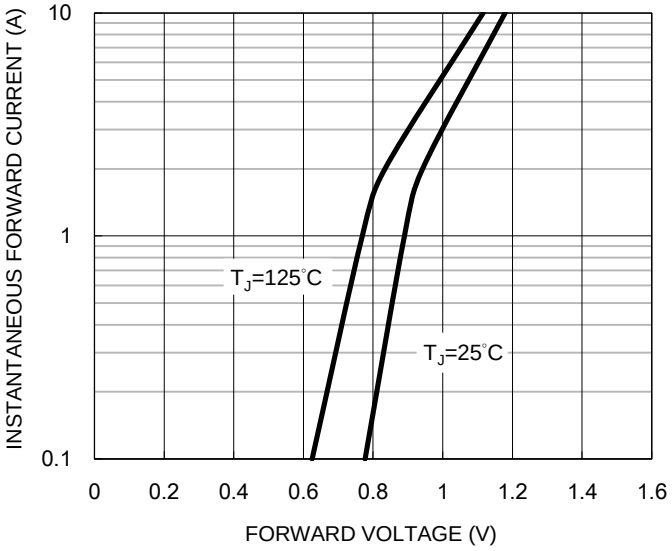


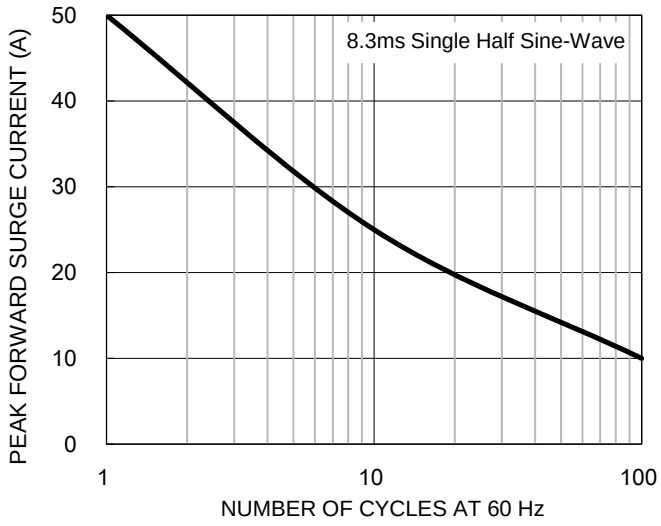

**Fig.4 Typical Forward Characteristics**



## CHARACTERISTICS CURVES

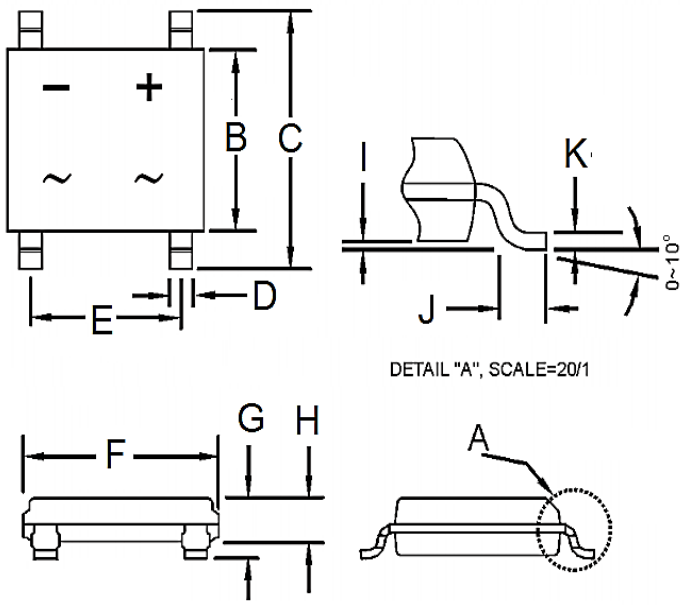
($T_A$ = 25°C unless otherwise noted)

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



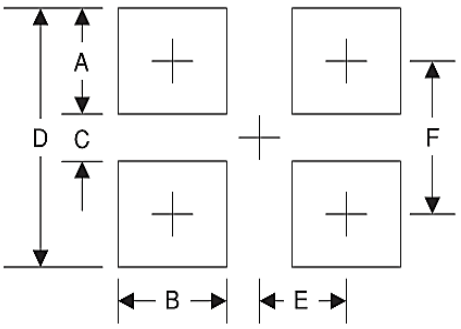
## PACKAGE OUTLINE DIMENSIONS

**ABS**




| DIM. | Unit (mm) | | Unit (inch) | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| B | 4.30 | 4.50 | 0.169 | 0.177 |
| C | 6.25 | 6.65 | 0.246 | 0.262 |
| D | 0.60 | 0.70 | 0.024 | 0.028 |
| E | 3.90 | 4.10 | 0.154 | 0.161 |
| F | 4.90 | 5.10 | 0.193 | 0.200 |
| G | 1.40 | 1.60 | 0.055 | 0.063 |
| H | 1.35 | 1.45 | 0.053 | 0.057 |
| I | 0.05 | 0.15 | 0.002 | 0.006 |
| J | 0.30 | 0.70 | 0.012 | 0.028 |
| K | 0.15 | 0.25 | 0.006 | 0.010 |

## SUGGESTED PAD LAYOUT




| Symbol | Unit (mm) | Unit (inch) |
|---|---|---|
| A | 1.5 | 0.059 |
| B | 0.9 | 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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