# 0.8A, 600V - 1000V Glass Passivated Bridge Rectifier

## FEATURES

- 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

## APPLICATIONS

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

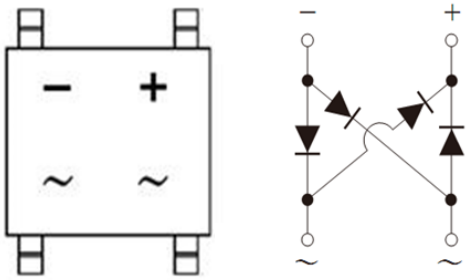
## MECHANICAL DATA

- Case: MBS
- 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: 0.12 g (approximately)

| KEY PARAMETERS | | |
|---|---|---|
| **PARAMETER** | **VALUE** | **UNIT** |
| $I_{F(AV)}$ | 0.8 | A |
| $V_{RRM}$ | 600 - 1000 | V |
| $I_{FSM}$ | 35 | A |
| $T_{J\ MAX}$ | 150 | °C |
| Package | MBS | |
| Configuration | Quad | |

Pb-Free RoHS COMPLIANT HALOGEN FREE

MBS




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

| PARAMETER | SYMBOL | MBS6-K | MBS8-K | MBS10-K | UNIT |
|---|---|---|---|---|---|
| Marking code on the device | | MBS6 | MBS8 | MBS10 | |
| Repetitive peak reverse voltage | $V_{RRM}$ | 600 | 800 | 1000 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 600 | 800 | 1000 | V |
| Forward current On glass-epoxy | $I_{F(AV)}$ | 0.5 | | | A |
| Forward current On aluminum substrate | | 0.8 | | | |
| Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 35 | | | A |
| $I^2t$ value (of a surge on-state current) | $I^2t$ | 5.08 | | | $A^2s$ |
| 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 | $R_{\Theta JL}$ | 20 | °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) | $I_F$ = 0.4A, $T_J$ = 25°C | $V_F$ | - | 1.0 | V |
| Reverse current @ rated $V_R$ (2) | $T_J$ = 25°C | $I_R$ | - | 5 | μA |
| | $T_J$ = 125°C | | - | 100 | 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 |
|---|---|---|---|---|
| MBS6-K (Note 1) | RC | G | MBS | 3,000 / 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 |
|---|---|---|---|---|
| MBS6-K RCG | MBS6-K | RC | G | Green compound |

## CHARACTERISTICS CURVES

($T_A$ = 25°C unless otherwise noted)

**Fig.1 Forward Current Derating Curve**

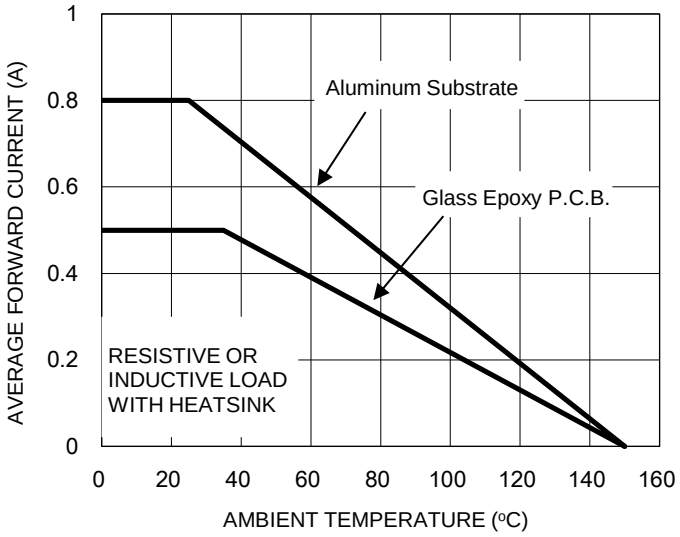



**Fig.2 Typical Junction Capacitance**

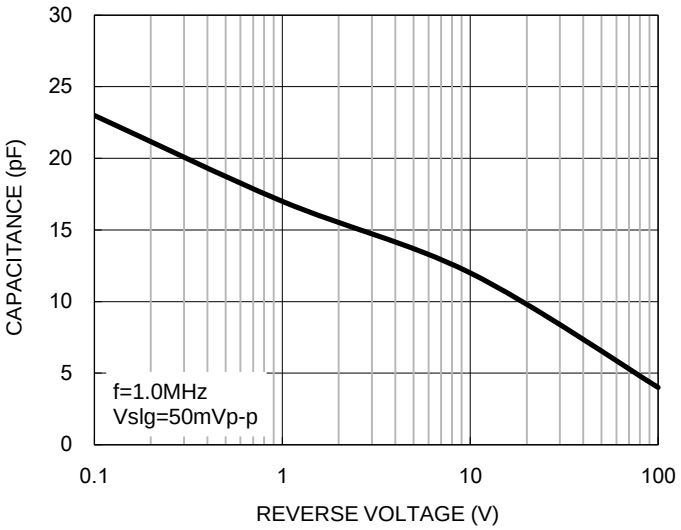



**Fig.3 Typical Reverse Characteristics**

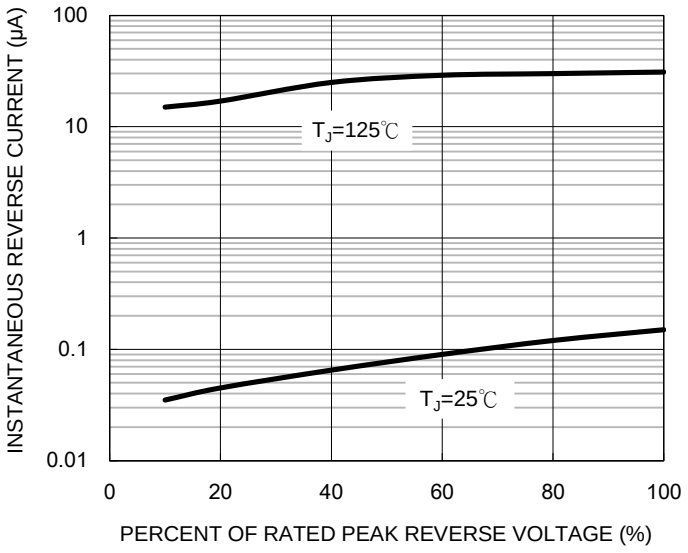
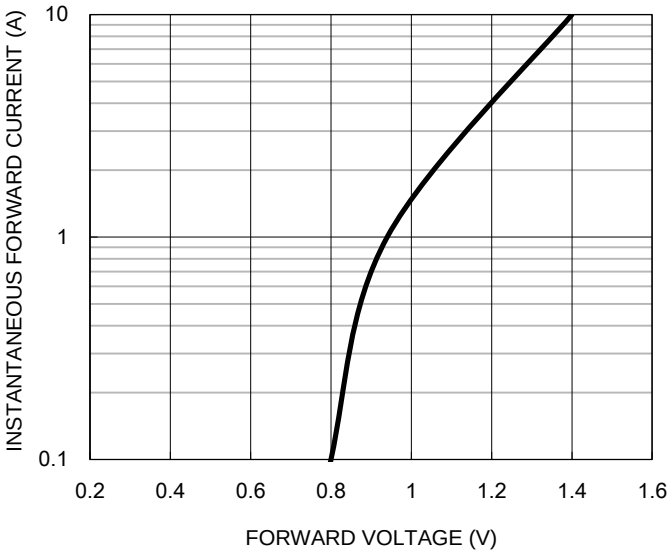


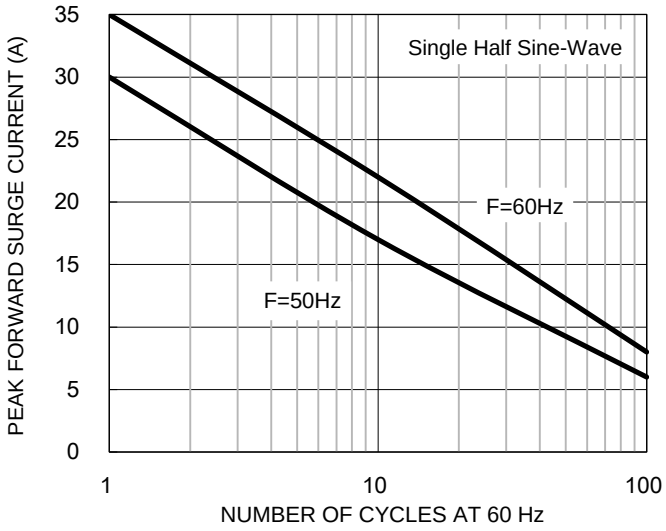

**Fig.4 Typical Forward Characteristics**



## CHARACTERISTICS CURVES

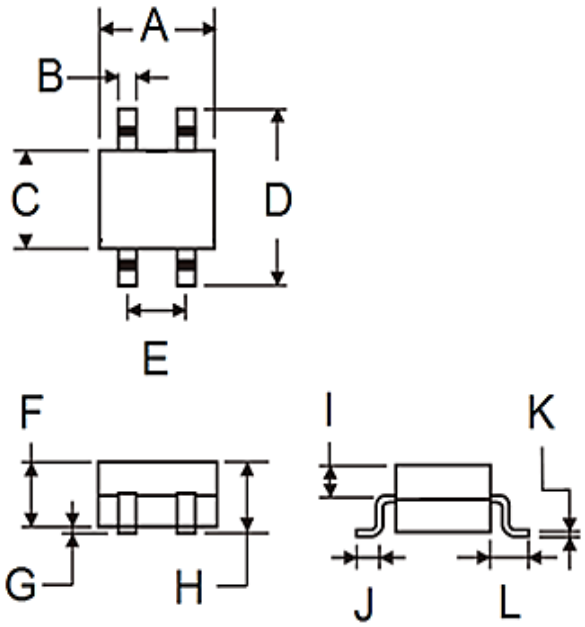
($T_A$ = 25°C unless otherwise noted)

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



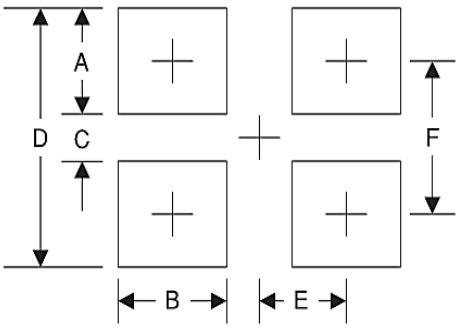
## PACKAGE OUTLINE DIMENSIONS

**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 | 1.7 | 0.067 |
| B | 0.9 | 0.035 |
| C | 4.4 | 0.173 |
| D | 8.1 | 0.319 |
| E | 1.3 | 0.051 |
| F | 6.3 | 0.248 |

## MARKING DIAGRAM


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

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