



E502650

## Features

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Glass Passivated Chip Junction
- High Surge Forward Current Capability
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 1)("P" Suffix Designates RoHS Compliant. See Ordering Information)

# 10 Amp Bridge Rectifier 1000 Volts

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

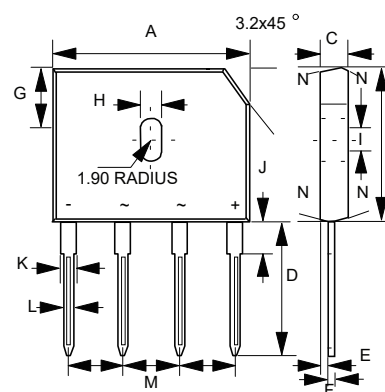
| Parameter                                                        | Symbol      | Value                                                                                             | Unit                 |
|------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------|----------------------|
|                                                                  |             | GBU10MS                                                                                           |                      |
| Peak Repetitive Reverse Voltage                                  | $V_{RRM}$   | 1000                                                                                              | V                    |
| Working Peak Reverse Voltage                                     | $V_{RWM}$   |                                                                                                   |                      |
| DC Blocking Voltage                                              | $V_R$       |                                                                                                   |                      |
| RMS Reverse Voltage                                              | $V_{RMS}$   | 700                                                                                               | V                    |
| Average Rectified Forward Current                                | $I_{F(AV)}$ | 10 ( $T_C=110^\circ\text{C}$ , With Heatsink)<br>3.2 ( $T_A=25^\circ\text{C}$ , Without Heatsink) | A                    |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave         | $I_{FSM}$   | 175                                                                                               | A                    |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave              |             | 350                                                                                               |                      |
| $I^2t$ Rating for Fusing @ $1\text{ms} \leq t \leq 8.3\text{ms}$ | $I^2t$      | 127                                                                                               | $\text{A}^2\text{s}$ |
| Dielectric strength @ Terminals to Case, AC 1 Minute             | $V_{dis}$   | 2.5                                                                                               | KV                   |

## Internal Structure

| Simplified Outline | Graphic Symbol |
|--------------------|----------------|
|                    |                |

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

## GBU



| DIMENSIONS |              |       |       |       |      |
|------------|--------------|-------|-------|-------|------|
| DIM        | INCHES       |       | MM    |       | NOTE |
|            | MIN          | MAX   | MIN   | MAX   |      |
| A          | 0.860        | 0.880 | 21.80 | 22.30 |      |
| B          | 0.720        | 0.740 | 18.30 | 18.80 |      |
| C          | 0.130        | 0.142 | 3.30  | 3.60  |      |
| D          | 0.690        | 0.717 | 17.50 | 18.20 |      |
| E          | 0.030        | 0.039 | 0.76  | 1.00  |      |
| F          | 0.018        | 0.024 | 0.46  | 0.60  |      |
| G          | 0.290        | 0.310 | 7.40  | 7.90  |      |
| H          | 0.140        | 0.160 | 3.50  | 4.10  |      |
| I          | 0.065        | 0.085 | 1.65  | 2.16  |      |
| J          | 0.060        | 0.096 | 1.52  | 2.45  |      |
| K          | 0.077        | 0.098 | 1.95  | 2.50  |      |
| L          | 0.040        | 0.050 | 1.02  | 1.27  |      |
| M          | 0.190        | 0.210 | 4.83  | 5.33  |      |
| N          | 7.0° TYPICAL |       |       |       |      |

## Thermal characteristics

| Symbol        | Parameter                                   | Conditions       | Min | Typ | Max | Unit |
|---------------|---------------------------------------------|------------------|-----|-----|-----|------|
| $T_J$         | Operating Junction Temperature Range        |                  | -55 |     | 150 | °C   |
| $T_{stg}$     | Storage Temperature Range                   |                  | -55 |     | 150 | °C   |
| $R_{th(J-C)}$ | Thermal Resistance from Junction to Case    | Note 1           |     | 2   |     | °C/W |
| $R_{th(J-A)}$ | Thermal Resistance from Junction to Ambient | Without Heatsink |     | 25  |     | °C/W |

Note:

1.Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

## Mechanical Data

Recommended Mounting Torque: 5in·lbs

## Electrical Characteristics @ 25°C Unless Otherwise Specified(Per Diode)

| Parameter            | Symbol | Test Conditions                                                     | Min | Typ | Max      | Unit |
|----------------------|--------|---------------------------------------------------------------------|-----|-----|----------|------|
| Forward Voltage      | $V_F$  | $I_F=5A; T_J=25^{\circ}C$                                           |     |     | 1.0      | V    |
| Reverse Current      | $I_R$  | at Rated $V_R; T_J=25^{\circ}C$<br>at Rated $V_R; T_J=125^{\circ}C$ |     |     | 5<br>100 | uA   |
| Junction Capacitance | $C_J$  | $V_R=4V; f=1MHz; T_J=25^{\circ}C$                                   |     | 50  |          | pF   |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

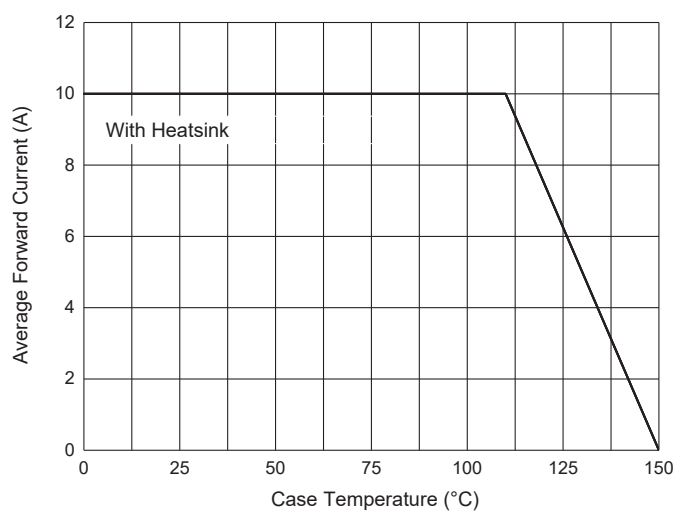


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

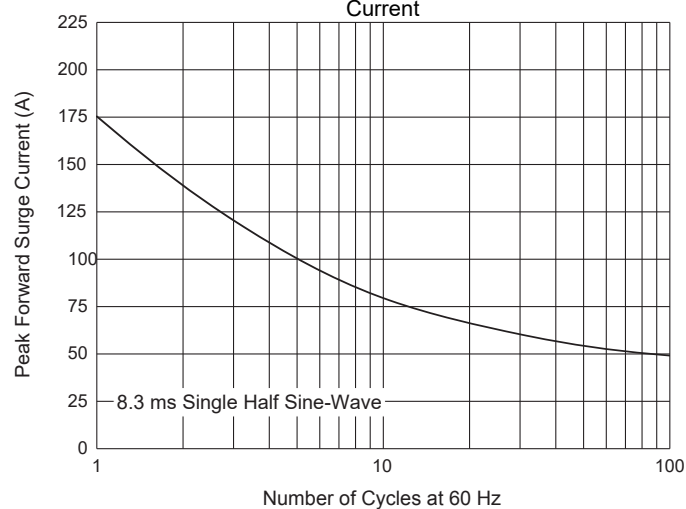


Fig. 3 - Typical Forward Characteristics

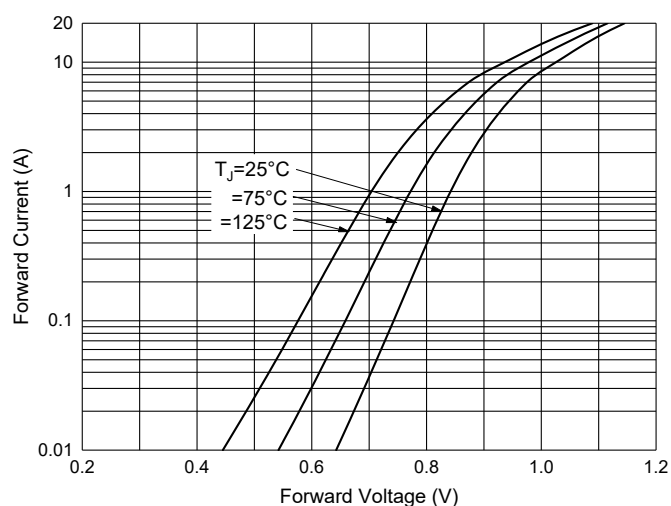


Fig. 4 - Typical Reverse Leakage Characteristics

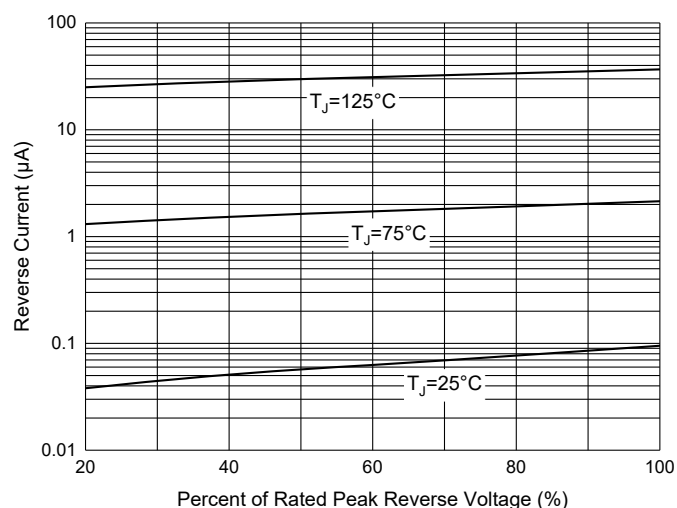
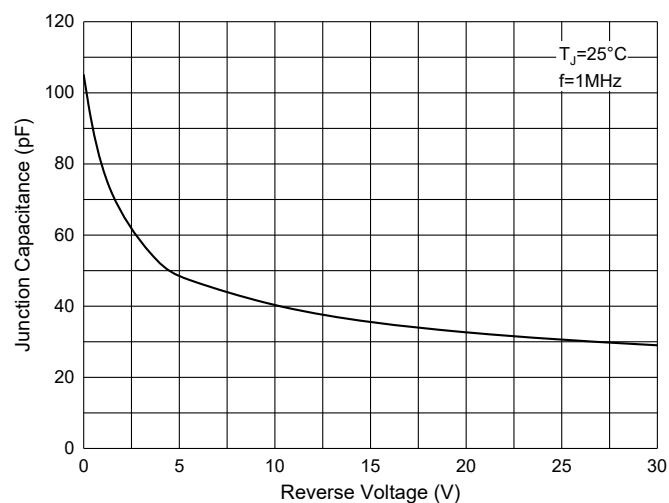


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

| Device     | Packing                                |
|------------|----------------------------------------|
| GBU10MS-BP | Bulk:20pcs/Tube,1Kpcs/Box,2Kpcs/Carton |

Note : Adding "-HF" Suffix For Halogen Free, eg. GBU10MS-BP-HF

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