# Glass Passivated Bridge Rectifiers

## FEATURES

- Glass passivated junction

- Integrally molded heatsink provide very low
  thermal resistance for maximum heat dissipation

- Universal 4-way terminals: snap-on,
  wrap-around, solder or P.C. board mounting

- High surge current capability

- UL Recognized File # E-326243

- Compliant to RoHS Directive 2011/65/EU and
  in accordance to WEEE 2002/96/EC

**GBPC40**     **GBPC40-M**

## MECHANICAL DATA

**Case:** GBPC40

Molding compound, UL flammability classification rating 94V-0

**Terminal:** Matte tin plated leads, solderable per JESD22-B102
Meet JESD 201 class 1A whisker test

**Polarity:** Polarity as marked on the body

**Mounting torque:** 20 in-lbs maximum

**Weight:** 17.3 g (approximately)

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS ($T_A$=25°C unless otherwise noted)

| PARAMETER | SYMBOL | 005 | 01 | 02 | 04 | 06 | 08 | 10 | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum average forward rectified current GBPC40 GBPC50 | $I_{F(AV)}$ | 40 50 | | | | | | | A |
| Peak forward surge current,8.3 ms single half sine-wave superimposed on rated load GBPC40 GBPC50 | $I_{FSM}$ | 400 | | | | | | | A |
| Maximum instantaneous forward voltage drop per element at specified current GBPC40  20 A GBPC50  25 A (Note 1) | $V_F$ | 1.1 | | | | | | | V |
| Maximum reverse current @ Rated VR  @ $T_J$=25°C | $I_R$ | 10 | | | | | | | µA |
| Typical thermal resistance | $R_{\theta JC}$ | 1.5 | | | | | | | °C/W |
| Operating junction temperature range | $T_J$ | - 55 to +150 | | | | | | | °C |
| Storage temperature range | $T_{STG}$ | - 55 to +150 | | | | | | | °C |

Note 1: Pulse test with PW=300µs, 1% duty cycle

Note 2: Suffix "M" - Terminal Location Face to Face

## ORDERING INFORMATION

| PART NO. | PACKING CODE | PACKAGE | PACKING |
|---|---|---|---|
| GBPC**xx (Note 1) | T0 | GBPC | Tray |

Note 1: "**" defines current from 40A (GBPC40xx) to 50A (GBPC50xx),
    "xx" defines voltage from 50V (GBPC**005) to 1000V (GBPC**10)

## EXAMPLE

| PREFERRED P/N | PART NO. | PACKING CODE | DESCRIPTION |
|---|---|---|---|
| GBPC4010 T0 | GBPC4010 | T0 | |

### RATINGS AND CHARACTERISTICS CURVES

($T_A$=25°C unless otherwise noted)

FIG.1- MAXIMUM FORWARD CURRENT DERATING CURVE
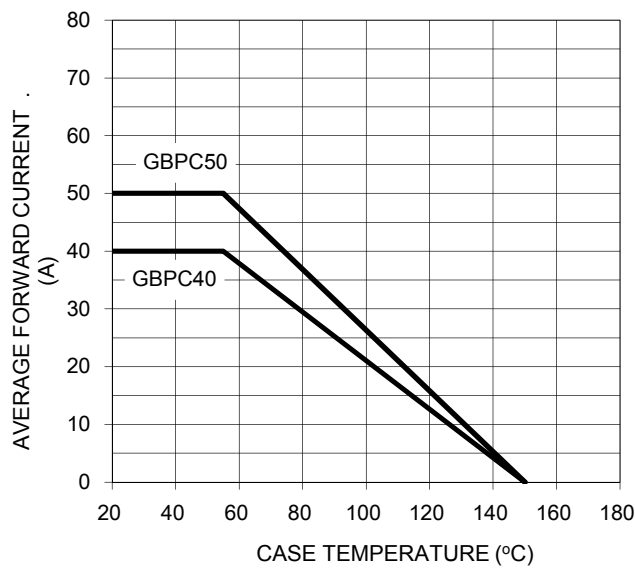


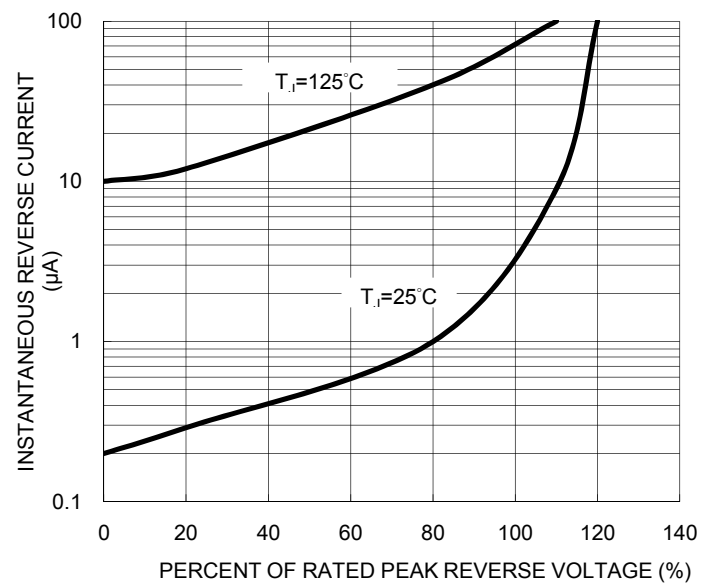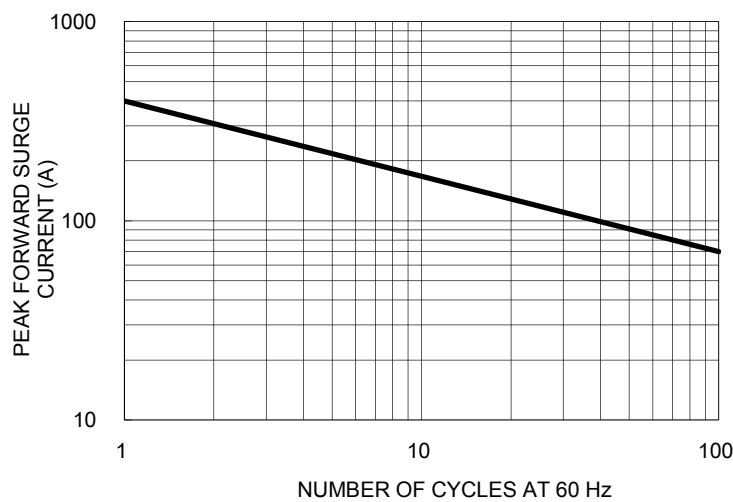FIG. 2- TYPICAL REVERSE CHARACTERISTICS



FIG. 3- MAXIMUM  NON-REPETITIVE FORWARD SURGE CURRENT



FIG. 4- TYPICAL FORWARD CHARACTERISTICS

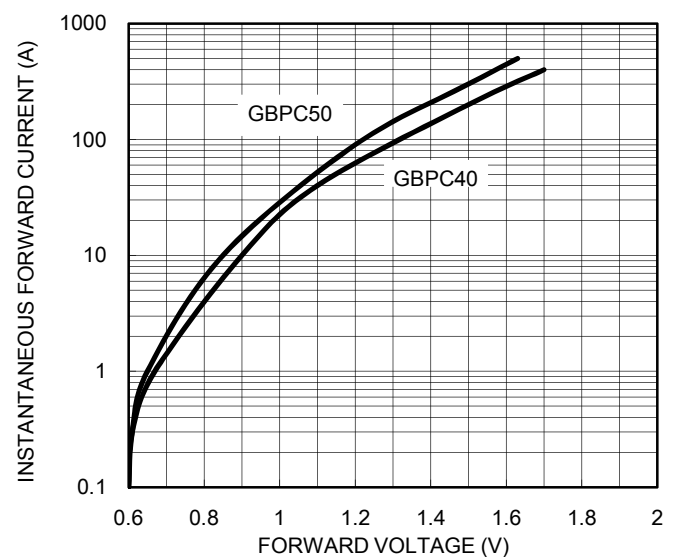FIG. 5 TYPICAL JUNCTION CAPACITANCE

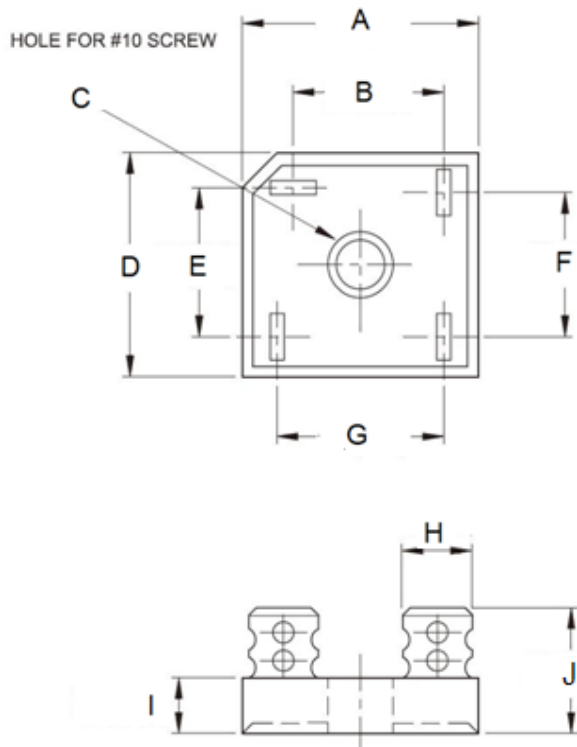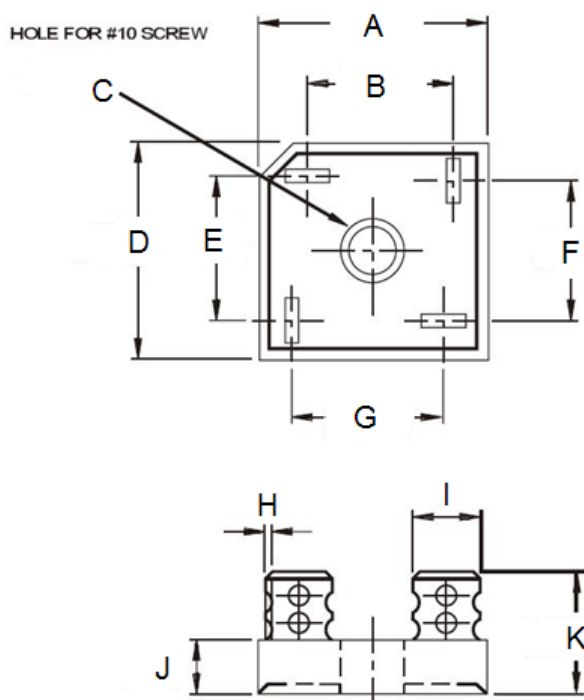

f=1.0MHz
Vsig=50mVp-p
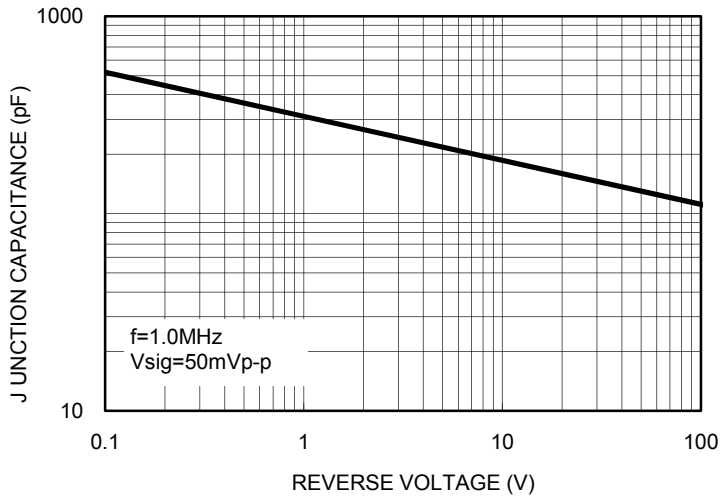
## PACKAGE OUTLINE DIMENSIONS

HOLE FOR #10 SCREW



| GBPC40 | | | | |
|---|---|---|---|---|
| **DIM.** | **Unit (mm)** | | **Unit (inch)** | |
| | **Min** | **Max** | **Min** | **Max** |
| A | 28.50 | 29.00 | 1.122 | 1.142 |
| B | 15.50 | 17.60 | 0.610 | 0.693 |
| C | 5.08 | 5.59 | 0.200 | 0.220 |
| D | 28.50 | 29.00 | 1.122 | 1.142 |
| E | 15.50 | 17.60 | 0.610 | 0.693 |
| F | 13.30 | 15.30 | 0.524 | 0.602 |
| G | 17.10 | 19.10 | 0.673 | 0.752 |
| H | 6.60 (TYP) | | 0.26 (TYP) | |
| I | 7.36 | 7.87 | 0.290 | 0.310 |
| J | 21.26 | 24.57 | 0.837 | 0.967 |

HOLE FOR #10 SCREW



| GBPC40-M | | | | |
|---|---|---|---|---|
| **DIM.** | **Unit (mm)** | | **Unit (inch)** | |
| | **Min** | **Max** | **Min** | **Max** |
| A | 28.50 | 29.00 | 1.122 | 1.142 |
| B | 15.50 | 17.60 | 0.610 | 0.693 |
| C | 5.08 | 5.59 | 0.200 | 0.220 |
| D | 28.50 | 29.00 | 1.122 | 1.142 |
| E | 15.50 | 17.60 | 0.610 | 0.693 |
| F | 15.50 | 17.60 | 0.610 | 0.693 |
| G | 15.50 | 17.60 | 0.610 | 0.693 |
| H | 0.76 | 0.86 | 0.030 | 0.034 |
| I | 6.60 (TYP) | | 0.26 (TYP) | |
| J | 7.36 | 7.87 | 0.290 | 0.310 |
| K | 21.26 | 24.57 | 0.837 | 0.967 |

**MARKING DIAGRAM**



| | |
|---|---|
| P/N | = Specific Device Code |
| YWW | = Date Code |
| F | = Factory Code |

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