

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 | I _{FSM} | | | | 400 | | | | A |
| Maximum instantaneous forward voltage drop per element at specified current | V _F | GBPC40 20 A GBPC50 25 A (Note 1) | | | 1.1 | | | | V |
| Maximum reverse current @ Rated VR @ T _J =25°C | I _R | | | | 10 | | | | μA |
| Typical thermal resistance | R _{θJC} | | | | 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

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

FIG. 1- MAXIMUM FORWARD CURRENT DERATING CURVE

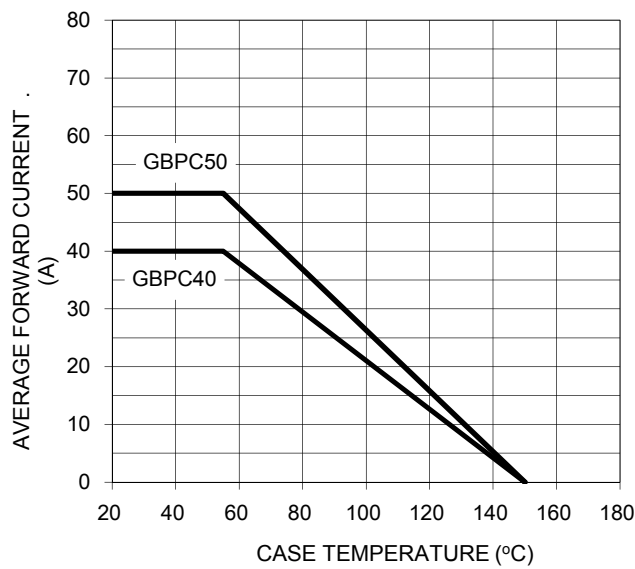


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

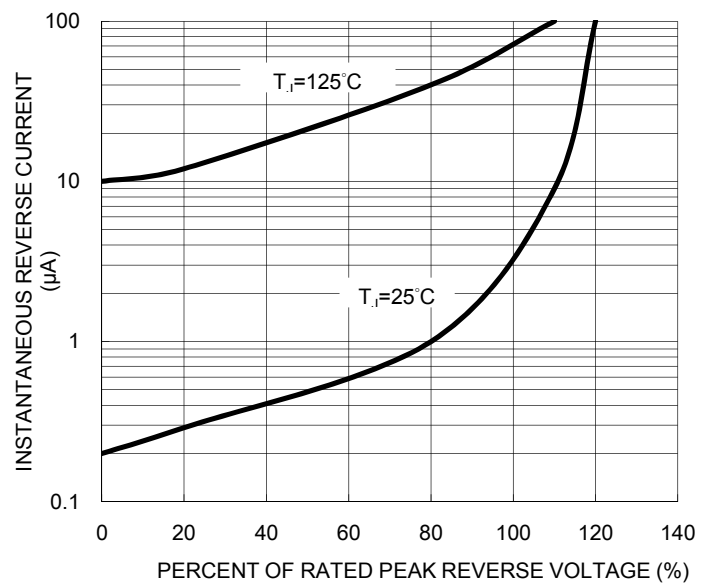


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

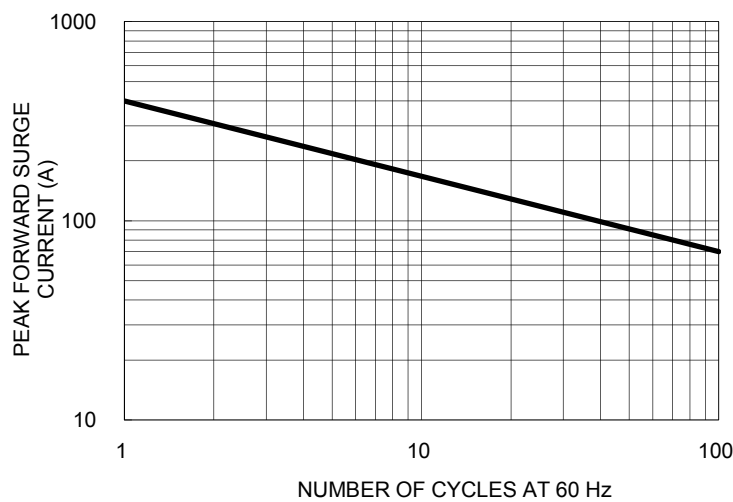


FIG. 4- TYPICAL FORWARD CHARACTERISTICS

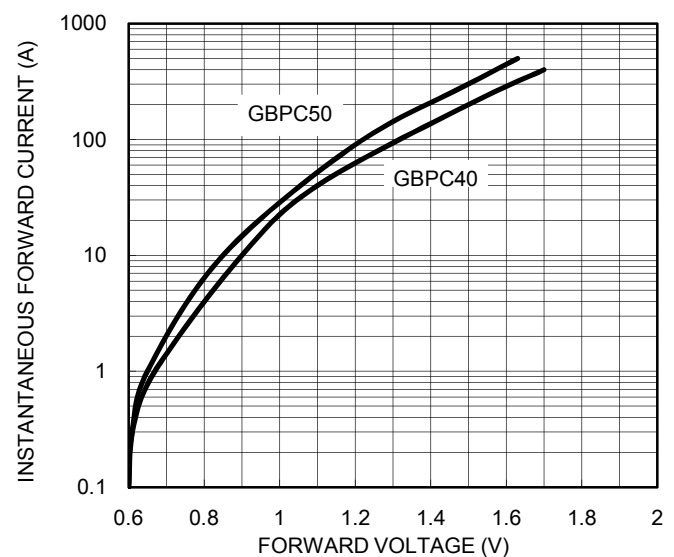
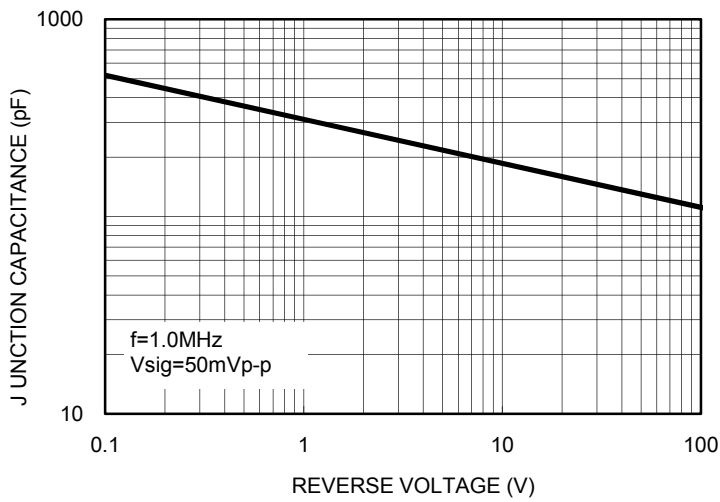
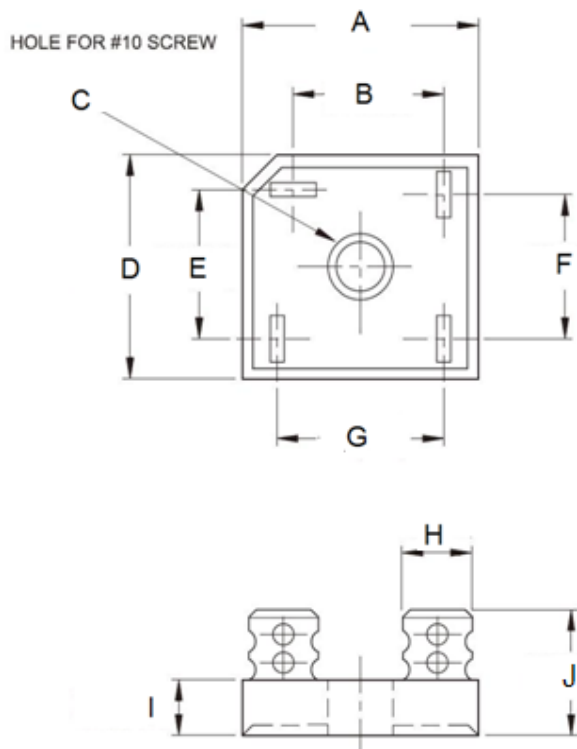


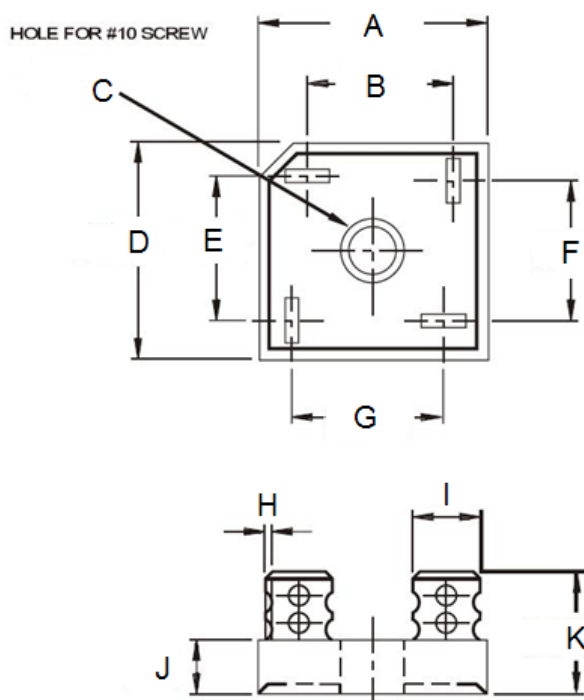
FIG. 5 TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS



| 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 |



| 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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