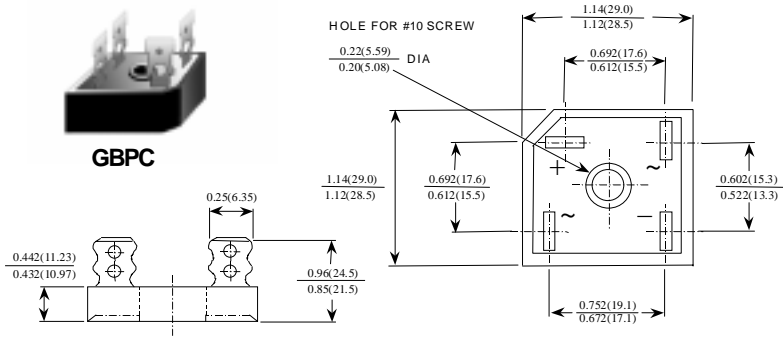


GBPC 12, 15, 25, 35 SERIES

Features

- Integrally molded heatsink provided very low thermal resistance for maximum heat dissipation.
- Surge overload ratings from 300 amperes to 400 amperes.
- Isolated voltage from case to lead over 2500 volts.

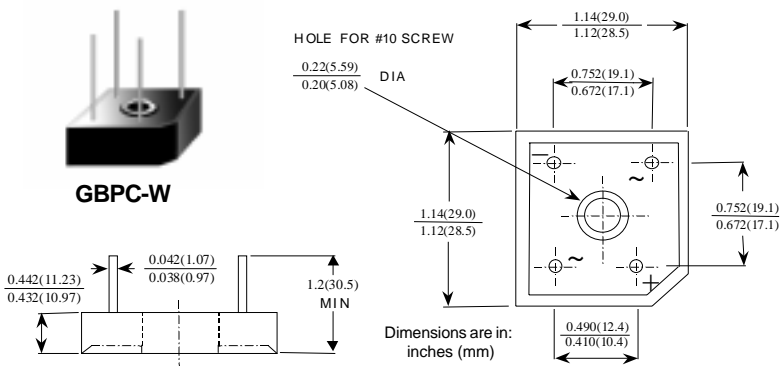


Suffix "W"

Wire Lead Structure

Suffix "M"

Terminal Location
Face to Face



12, 15, 25, 35 Ampere Glass Passivated Bridge Rectifiers

Absolute Maximum Ratings*

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

| Symbol | Parameter | Value | Units |
|-----------------------|---|--|------------|
| I_o | Average Rectified Current @ $T_A = 55^\circ\text{C}$ | GBPC12 12 GBPC15 15 GBPC25 25 GBPC35 35 | A |
| $i_{f(\text{surge})}$ | Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method) | GBPC12, 15, 25 300 GBPC35 400 | A |
| P_D | Total Device Dissipation Derate above 25°C | 83.3 666 | W mW/°C |
| $R_{\theta JL}$ | Thermal Resistance, Junction to Lead | 1.5 | °C/W |
| T_{stg} | Storage Temperature Range | -55 to +150 | °C |
| T_J | Operating Junction Temperature | -55 to +150 | °C |

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Glass Passivated Bridge Rectifiers

(continued)

GBPC 12, 15, 25, 35 SERIES

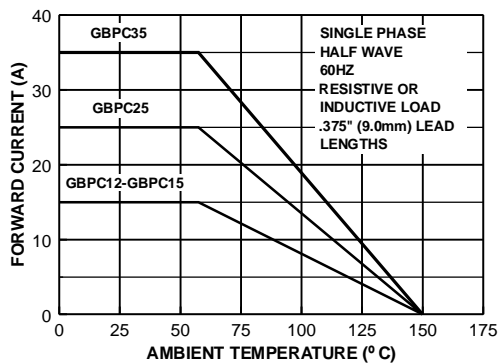
Electrical Characteristics

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

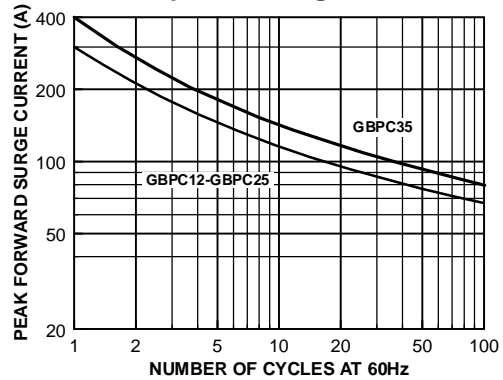
| Parameter | Device | | | | | | | Units |
|--|---|-----|-----|-----|-----|-----|------|--|
| | 005 | 01 | 02 | 04 | 06 | 08 | 10 | |
| Peak Repetitive Reverse Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Bridge Input Voltage | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| DC Reverse Voltage (Rated V_R) | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum Reverse Leakage, total bridge @ rated V_R $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$ | 5.0 500 | | | | | | | μA μA |
| Maximum Forward Voltage Drop, per bridge @ 6.0 A @ 7.5 A @ 12.5 A @ 17.5 A | GBPC12 GBPC15 GBPC25 GBPC35 1.1 | | | | | | | V |
| I^2t rating for fusing $t < 8.3$ ms | GBPC12,15,25 GBPC35 375 660 | | | | | | | A^2Sec A^2Sec |
| Typical Junction Capacitance, per leg $V_R = 4.0\text{V}$, $f = 1.0$ MHz | GBPC12,15,25 GBPC35 180 200 | | | | | | | pF pF |

Typical Characteristics

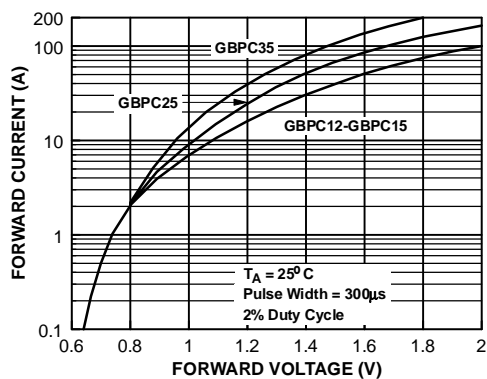
Forward Current Derating Curve



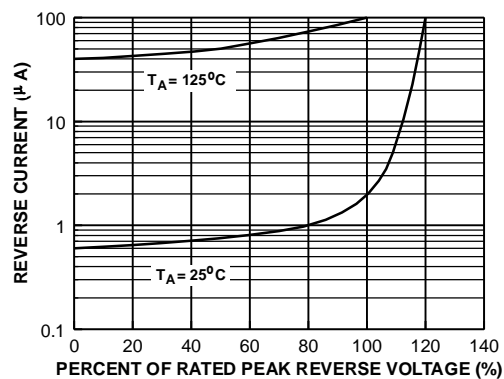
Non-Repetitive Surge Current



Forward Characteristics



Reverse Characteristics



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| | |
|----------------------|---------------|
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| E ² CMOS™ | PowerTrench™ |
| FACT™ | QS™ |
| FACT Quiet Series™ | Quiet Series™ |
| FAST® | SuperSOT™-3 |
| FASTr™ | SuperSOT™-6 |
| GTO™ | SuperSOT™-8 |
| HiSeC™ | TinyLogic™ |

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| Datasheet Identification | Product Status | Definition |
|--------------------------|------------------------|---|
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