



GBPC 12, 15, 25, 35 SERIES

Bridge Rectifiers (Glass Passivated)

Features

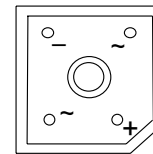
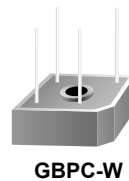
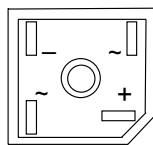
- Integrally molded heatsink provided very low thermal resistance for maximum heat dissipation.
- Surge Overload Ratings from 300 amperes to 400 amperes.
- Isolated voltage from case to lead over 2500 volts.
- UL certified, UL #E326243
- Terminals Finish Material - Silver (solderable per MIL-STD-202, Method 208 for the wire type GBPC-W package)
- Nickel for GBPC package.

Suffix "W"

Wire Lead Structure

Suffix "M"

Terminal Location Face to Face



Absolute Maximum Ratings * $T_A = 25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | | | | | | | Units | |
|-------------|--|----------------|-----|-----|-----|-----|-----|------|------------------|---|
| | | 005 | 01 | 02 | 04 | 06 | 08 | 10 | | |
| V_{RRM} | Maximum Repetitive Reverse Voltage | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V | |
| V_{RMS} | Maximum RMS Bridge Input Voltage | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V | |
| V_R | DC Reverse Voltage (Rated V_R) | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V | |
| $I_{F(AV)}$ | Average Rectified Forward Current @ $T_C = 55^\circ\text{C}$ | | | | | | | | A | |
| | | GBPC12 | | | | | | | 12 | A |
| | | GBPC15 | | | | | | | 15 | A |
| | | GBPC25 | | | | | | | 25 | A |
| I_{FSM} | Non-Repetitive Peak Forward Surge Current 8.3ms Single Half-Sine-Wave | GBPC35 | | | | | | | 35 | A |
| | | GBPC12, 25, 25 | | | | | | | 300 | A |
| | | GBPC35 | | | | | | | 400 | A |
| T_{STG} | Storage Temperature Range | -55 to +150 | | | | | | | $^\circ\text{C}$ | |
| T_J | Operating Junction Temperature | -55 to +150 | | | | | | | $^\circ\text{C}$ | |

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

Thermal Characteristics

| Symbol | Parameter | Value | Units |
|-----------------|--|-------|-------|
| P_D | Power Dissipation | 83.3 | W |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case * | 1.5 | °C/W |

* With Heatsink

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

| Symbol | Parameter | Value | Units |
|--------|--|--------------------------|--|
| V_F | Forward Voltage Drop, per bridge @6.0A GBPC12 @7.5A GBPC15 @12.5A GBPC25 @17.5A GBPC35 | 1.1 (Max.) | V |
| I_R | Reverse Current, per element @ Rated V_R $T_A = 25^\circ\text{C}$ $T_A = 125^\circ\text{C}$ | 5.0 (Max.) 500 (Max.) | μA μA |
| I^2t | Rating for Fusing $t < 8.35\text{ms}$ GBPC12, 15, 25 GBPC35 | 375 660 | A^2Sec A^2Sec |
| C_T | Total Capacitance, per leg $V_R = 4.0\text{V}$ $f = 1.0\text{MHz}$ GBPC12, 15, 25 GBPC35 | 180 200 | pF pF |

Typical Performance Characteristics

Figure 1. Forward Current Derating Curve

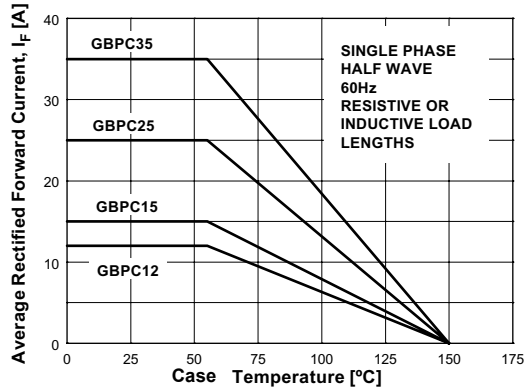


Figure 2. Non-Repetitive Surge Current

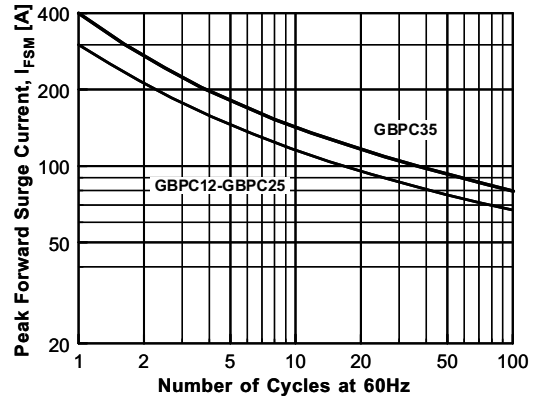


Figure 3. Forward Voltage Characteristics

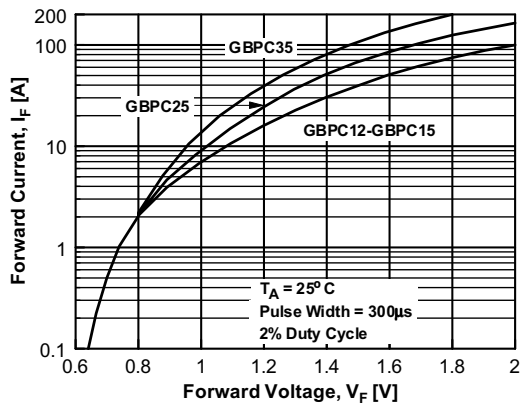
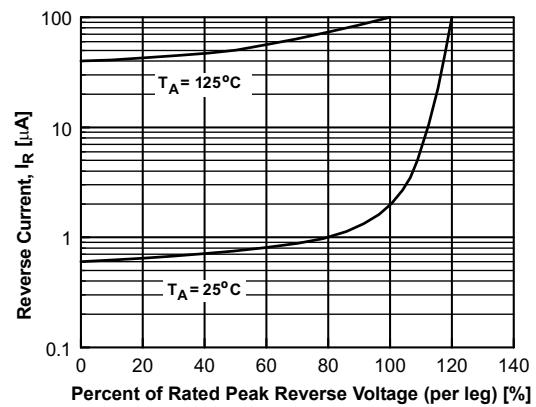







Figure 4. Reverse Current vs Reverse Voltage





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| CorePOWER™ | Green FPS™ e-Series™ | QFET® | |
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|--------------------------|-----------------------|---|
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