

3A, 400V - 1000V Glass Passivated Bridge Rectifier

FEATURES

- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique
- High surge current capability
- UL Recognized File # E-326243
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

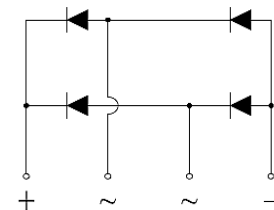
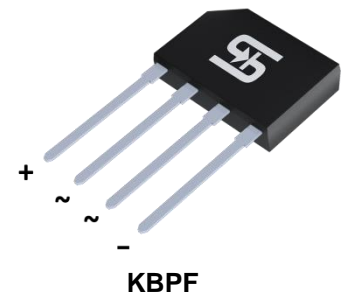
APPLICATIONS

- General purpose use in AC/DC bridge full wave rectification for SMPS, especially for the space constrained appliances applications

MECHANICAL DATA

- Case: KBPF
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: As marked
- Weight: 1.4 g (approximately)

| KEY PARAMETERS | | |
|----------------|------------|------|
| PARAMETER | VALUE | UNIT |
| I_F | 3 | A |
| V_{RRM} | 400 - 1000 | V |
| I_{FSM} | 80 | A |
| T_{JMAX} | 150 | °C |
| Package | KBPF | |
| Configuration | Quad | |



| ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | | |
|---|--------------|--------------|-----------|-----------|-----------|------------------|
| PARAMETER | SYMBOL | KBPF 304G | KBPF 305G | KBPF 306G | KBPF 307G | UNIT |
| Marking code on the device | | KBPF 304G | KBPF 305G | KBPF 306G | KBPF 307G | |
| Repetitive peak reverse voltage | V_{RRM} | 400 | 600 | 800 | 1000 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 280 | 420 | 560 | 700 | V |
| Forward current | I_F | 3 | | | | A |
| Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode | I_{FSM} | 80 | | | | A |
| Rating of fusing ($t < 8.3\text{ms}$) | I^2t | 26.5 | | | | A ² s |
| Junction temperature | T_J | - 55 to +150 | | | | °C |
| Storage temperature | T_{STG} | - 55 to +150 | | | | °C |

| THERMAL PERFORMANCE | | | |
|--|-----------------|-------------|-------------|
| PARAMETER | SYMBOL | TYP. | UNIT |
| Junction-to-lead thermal resistance | $R_{\theta JL}$ | 12 | °C/W |
| Junction-to-ambient thermal resistance | $R_{\theta JA}$ | 59 | °C/W |
| Junction-to-case thermal resistance | $R_{\theta JC}$ | 13 | °C/W |

Thermal Performance Note: Units mounted on PCB (10mm x 10mm Cu pad test board)

| ELECTRICAL SPECIFICATIONS ($T_A = 25^\circ\text{C}$ unless otherwise noted) | | | | | |
|---|--|---------------|-------------|-------------|---------------|
| PARAMETER | CONDITIONS | SYMBOL | TYP. | MAX. | UNIT |
| Forward voltage per diode ⁽¹⁾ | $I_F = 1.5\text{A}, T_J = 25^\circ\text{C}$ | V_F | - | 1.1 | V |
| | $I_F = 1.5\text{A}, T_J = 125^\circ\text{C}$ | | - | 1.0 | V |
| Reverse current @ rated V_R per diode ⁽²⁾ | $T_J = 25^\circ\text{C}$ | I_R | - | 5 | μA |
| | $T_J = 125^\circ\text{C}$ | | - | 50 | μA |
| Junction capacitance | 1 MHz, $V_R = 4.0\text{V}$ | C_J | 27 | - | pF |

Notes:

1. Pulse test with $PW = 0.3\text{ ms}$
2. Pulse test with $PW = 30\text{ ms}$

| ORDERING INFORMATION | | |
|-----------------------------|----------------|----------------|
| ORDERING CODE | PACKAGE | PACKING |
| KBPF304G C8G | KBPF | 35 / TUBE |
| KBPF305G C8G | KBPF | 35 / TUBE |
| KBPF306G C8G | KBPF | 35 / TUBE |
| KBPF307G C8G | KBPF | 35 / TUBE |

CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

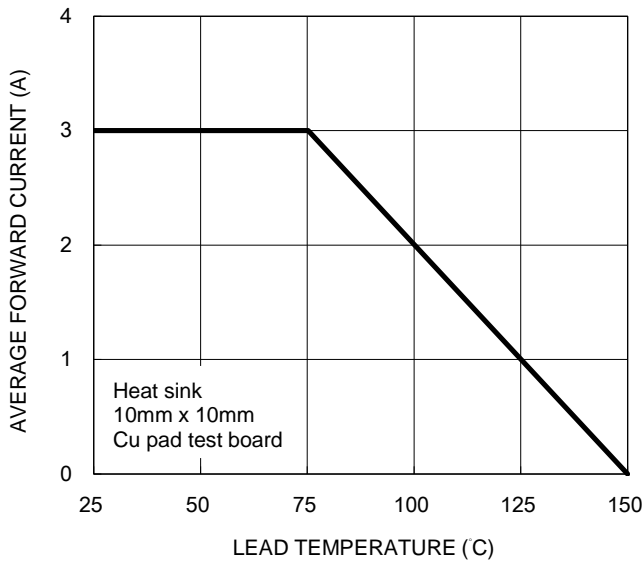


Fig.2 Typical Junction Capacitance

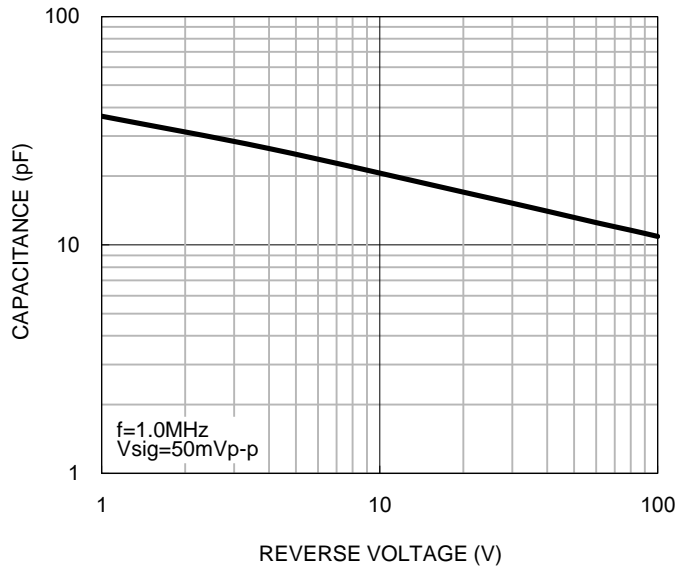


Fig.3 Typical Reverse Characteristics

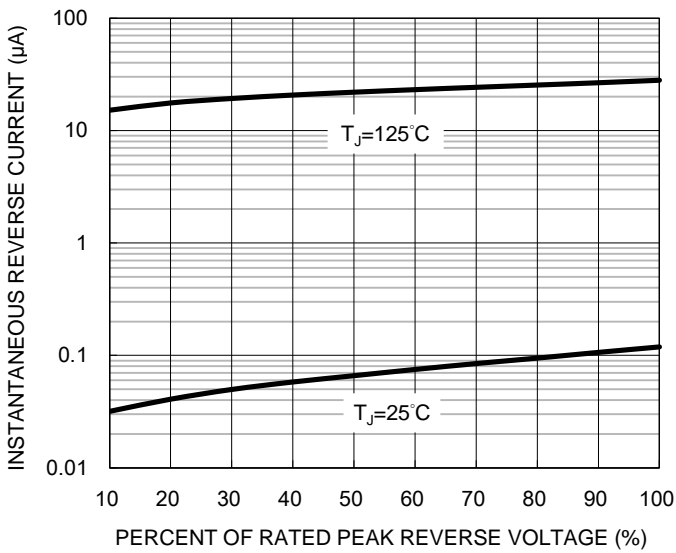
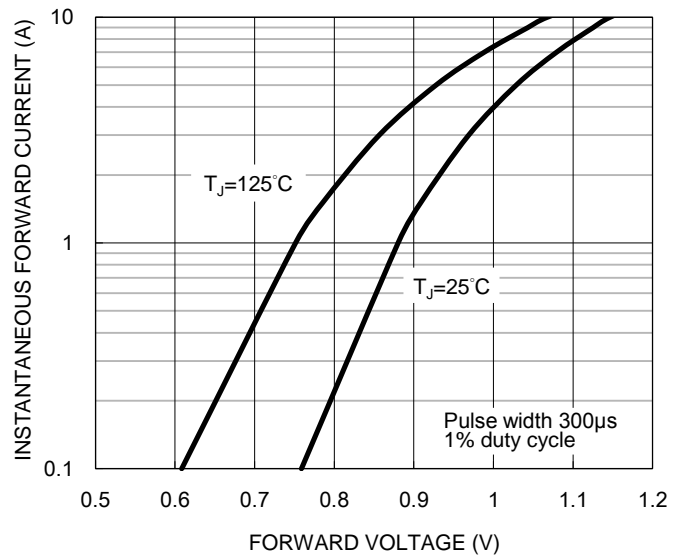
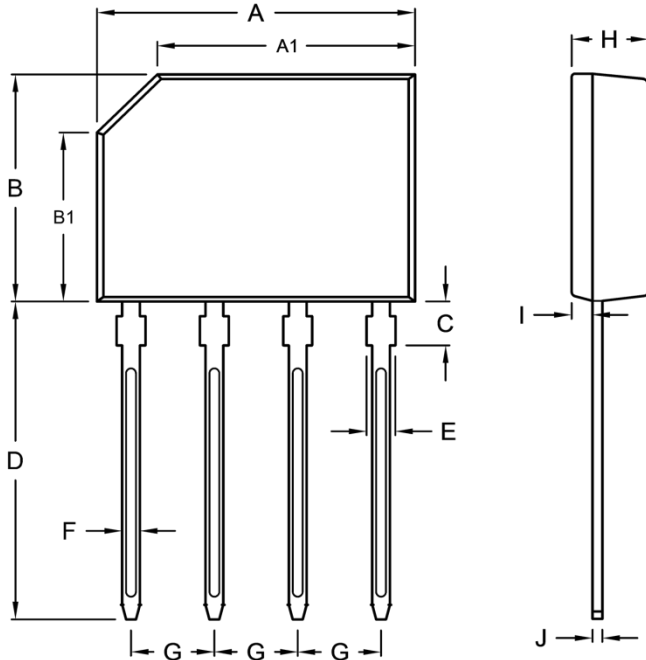


Fig.4 Typical Forward Characteristics



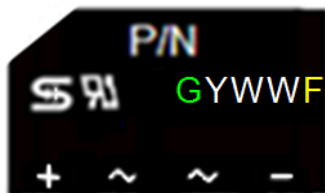
PACKAGE OUTLINE DIMENSIONS

KBPF



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|-------|-------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 14.25 | 14.75 | 0.561 | 0.581 |
| A1 | 11.45 | 12.05 | 0.451 | 0.474 |
| B | 10.10 | 10.60 | 0.398 | 0.417 |
| B1 | 7.40 | 8.00 | 0.291 | 0.315 |
| C | 1.80 | 2.20 | 0.071 | 0.087 |
| D | 14.25 | 14.73 | 0.561 | 0.580 |
| E | 1.22 | 1.42 | 0.048 | 0.056 |
| F | 0.76 | 0.86 | 0.030 | 0.034 |
| G | 3.70 | 3.90 | 0.146 | 0.154 |
| H | 3.35 | 3.65 | 0.132 | 0.144 |
| I | 0.80 | 1.10 | 0.031 | 0.043 |
| J | 0.35 | 0.55 | 0.014 | 0.022 |

MARKING DIAGRAM



- P/N = Marking Code
- G = Green Compound
- YWW = Date Code
- F = Factory Code

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