# 10A, 50V - 1000V Standard Bridge Rectifier

## FEATURES

- Glass passivated chip junction
- Ideal for printed circuit board
- High case dielectric strength
- Typical $I_R$ less than 0.1μA
- High surge current capability
- UL Recognized File # E-326243
- RoHS Compliant

## APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- Lighting application

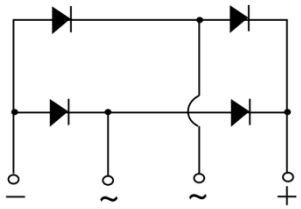
## MECHANICAL DATA

- Case: KBU
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Mounting torque: 0.56 N·m maximum
- Polarity: As marked
- Weight: 7.20g (approximately)

| KEY PARAMETERS | | |
|---|---|---|
| **PARAMETER** | **VALUE** | **UNIT** |
| $I_F$ | 10 | A |
| $V_{RRM}$ | 50 - 1000 | V |
| $I_{FSM}$ | 200 | A |
| $T_{J\ MAX}$ | 150 | °C |
| Package | KBU | |
| Configuration | Quad | |

Pb-Free RoHS COMPLIANT

KBU



| ABSOLUTE MAXIMUM RATINGS ($T_A$ = 25°C unless otherwise noted) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **PARAMETER** | **SYMBOL** | **KBU 1001G** | **KBU 1002G** | **KBU 1003G** | **KBU 1004G** | **KBU 1005G** | **KBU 1006G** | **KBU 1007G** | **UNIT** |
| Marking code on the device | | KBU 1001G | KBU 1002G | KBU 1003G | KBU 1004G | KBU 1005G | KBU 1006G | KBU 1007G | |
| Repetitive peak reverse voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Reverse voltage, total rms value | $V_{R(RMS)}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Forward current | $I_F$ | 10 | | | | | | | A |
| Surge peak forward current, 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 200 | | | | | | | A |
| Rating for fusing (t<8.3ms) | $I^2t$ | 166 | | | | | | | $A^2s$ |
| Junction temperature | $T_J$ | - 55 to +150 | | | | | | | °C |
| Storage temperature | $T_{STG}$ | - 55 to +150 | | | | | | | °C |

| THERMAL PERFORMANCE | | | |
|---|---|---|---|
| **PARAMETER** | **SYMBOL** | **TYP** | **UNIT** |
| Junction-to-ambient thermal resistance | $R_{\Theta JA}$ | 25 | °C/W |
| Junction-to-case thermal resistance | $R_{\Theta JC}$ | 2.2 | °C/W |

| ELECTRICAL SPECIFICATIONS ($T_A$ = 25°C unless otherwise noted) | | | | | |
|---|---|---|---|---|---|
| **PARAMETER** | **CONDITIONS** | **SYMBOL** | **TYP** | **MAX** | **UNIT** |
| Forward voltage per diode[1] | $I_F$ = 5A, $T_J$ = 25°C | $V_F$ | - | 1.0 | V |
| | $I_F$ = 10A, $T_J$ = 25°C | | - | 1.1 | V |
| Reverse current @ rated $V_R$ per diode[2] | $T_J$ = 25°C | $I_R$ | - | 5 | μA |
| | $T_J$ = 125°C | | - | 500 | μA |
| Junction capacitance per diode | 1MHz, $V_R$ = 4.0V | $C_J$ | 400 | - | pF |

**Notes:**

1. Pulse test with PW = 0.3ms
2. Pulse test with PW = 30ms

| ORDERING INFORMATION | | |
|---|---|---|
| **ORDERING CODE[1]** | **PACKAGE** | **PACKING** |
| KBU10xG | KBU | 100 / Tray |

**Notes:**

1. “x” defines voltage from 50V(KBU1001G) to 1000V(KBU1007G)

## CHARACTERISTICS CURVES

($T_A$ = 25°C unless otherwise noted)

**Fig.1 Forward Current Derating Curve**

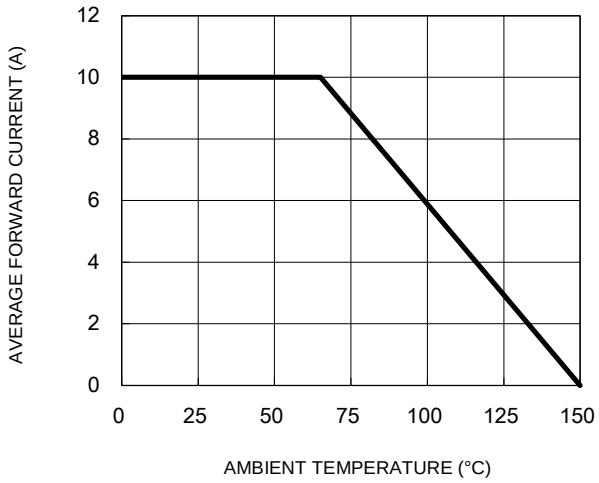



**Fig.2 Typical Junction Capacitance**

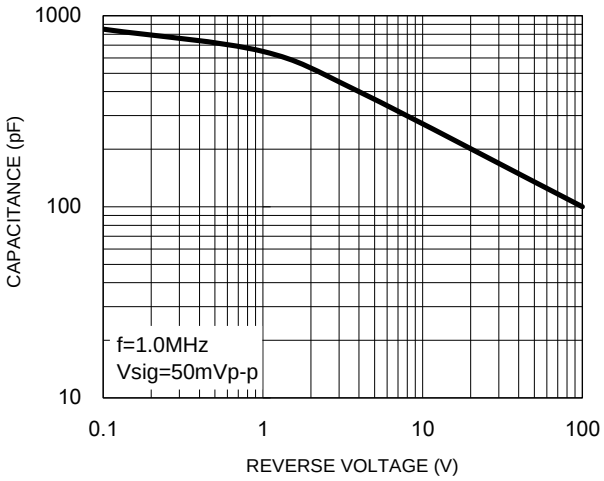



**Fig.3 Typical Reverse Characteristics**

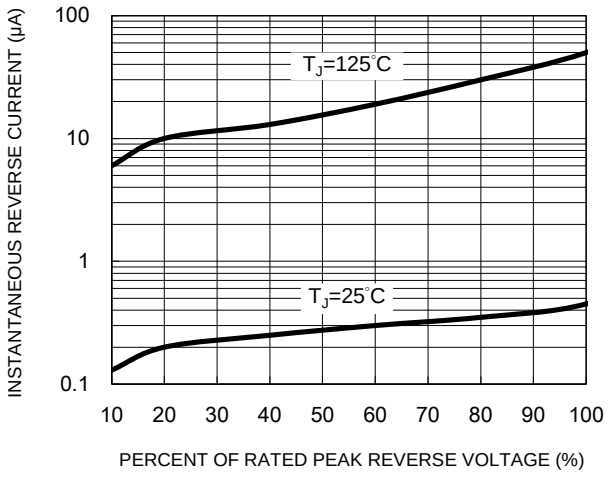



**Fig.4 Typical Forward Characteristics**

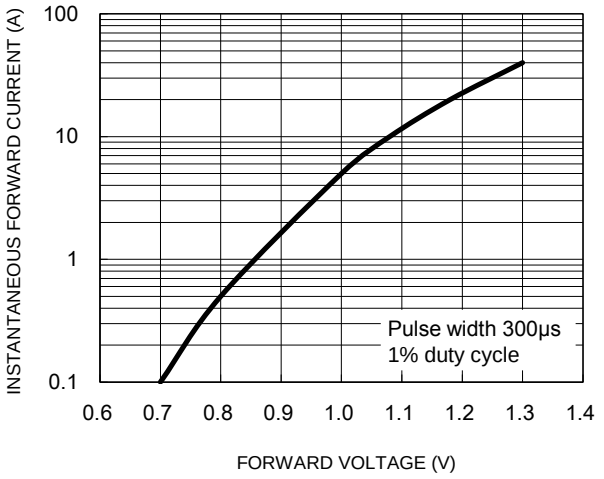
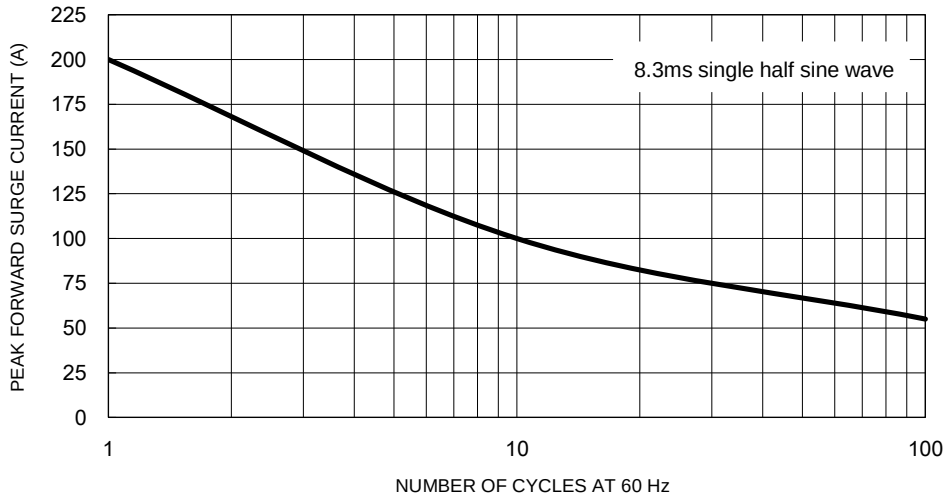
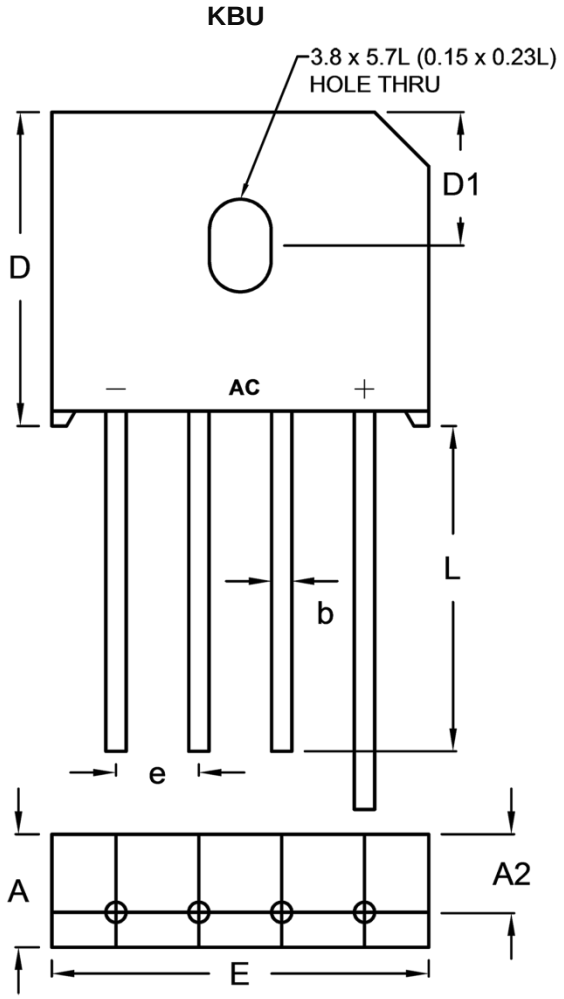



**Fig.5 Maximum Non-Repetitive Forward Surge Current**

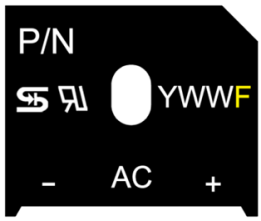


## PACKAGE OUTLINE DIMENSIONS




| DIM. | Unit (mm) | | Unit (inch) | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | 6.8 | 7.1 | 0.268 | 0.280 |
| A2 | 4.6 | 5.0 | 0.181 | 0.197 |
| b | 1.2 | 1.3 | 0.047 | 0.051 |
| D | 18.8 | 19.8 | 0.740 | 0.780 |
| D1 | 8.2 (TYP) | | 0.322 (TYP) | |
| E | 22.7 | 23.7 | 0.894 | 0.933 |
| e | 4.6 | 5.6 | 0.181 | 0.220 |
| L | 20.0 | - | 0.787 | - |

## MARKING DIAGRAM




P/N = Marking Code
YWW = Date Code
F = Factory Code

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