# 4.0A Single-Phase Silicon Bridge Rectifier

## 1 General Description

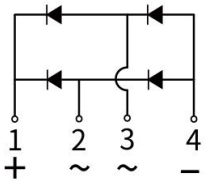
### 1.1 Features

- Ideal for printed circuit board mounting
- The plastic material used carries Underwriters Laboratory flammability recognition 94V-0
- Built-in printed circuit board stand-offs
- High case dielectric strength
- High temperature soldering guaranteed 260 ℃ /5 seconds at 5 lbs (2.3kg) tension

**REVERSE VOLTAGE**
50-1000V
**FORWARD CURRENT**
4Amperes

### 1.2 Typical Applications

- General-purpose through-hole bridge rectifiers Rectification for SMPS, PD fast chargers, small household appliance control boards, and other bridge rectification applications.




### 1.3 Mechanical Data

- Case: Reliable low cost construction utilizing molded plastic technique
- Terminals: Plated leads solderable per MIL-STD-202, Method 208
- Mounting Position: Any

## 2 Maximum Ratings( TA=25℃ Unless otherwise specified)

| PARAMETER | SYMBOL | KBJ4005 | KBJ401 | KBJ402 | KBJ404 | KBJ406 | KBJ408 | KBJ410 | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| Maximum Repetitive Peak Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS Bridge Input 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 Output Current at Tc=100℃ (with heatsink) | $I_{F(AV)}$ | 4.0 | | | | | | | A |
| Peak Forward Surge Current Single Sine-Wave Superimposed On Rated Load (JEDEC Method) | $I_{FSM}$ | 135 | | | | | | | A |
| Rating for fusing ( t<8.3ms) | $I^2t$ | 75 | | | | | | | $A^2sec$ |
| Operating Temperature Range | $T_J$ | -55 to +150 | | | | | | | ℃ |
| Storage Temperature Range | $T_{STG}$ | -55 to +150 | | | | | | | ℃ |

Notes:1.Device mounted on 300mm*300mm*1.6mm cu plate heatsink.

2.Resistive or Inductive load, 60 Hz.For Capacitive load derate by 20 %.

## 3 Electrical Characteristics(TA=25℃ Unless otherwise specified )

| PARAMETER | | SYMBOL | KBJ4005 | KBJ401 | KBJ402 | KBJ404 | KBJ406 | KBJ408 | KBJ410 | UNIT |
|---|---|---|---|---|---|---|---|---|---|---|
| Maximum instantaneous Forward Voltage drop per leg at 2.0A | | $V_F$ | 1.1 | | | | | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_A$=25℃ | $I_R$ | 10 | | | | | | | μA |
| | $T_A$=125℃ | | 500 | | | | | | | |

## 4 Characteristics Curves(TA=25℃ Unless otherwise specified)

FIG.1-FORWARD CURRENT DERATING CURVE

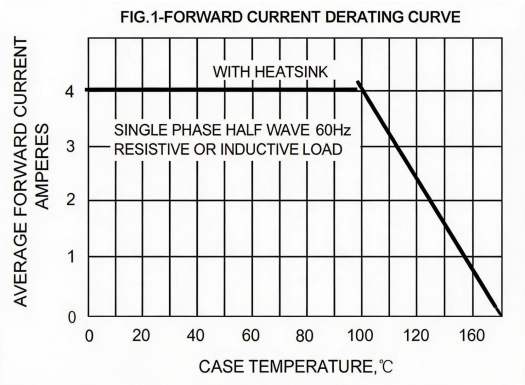



FIG.2-MAXMUN NON-REPETITIVE SURGE CURRENT

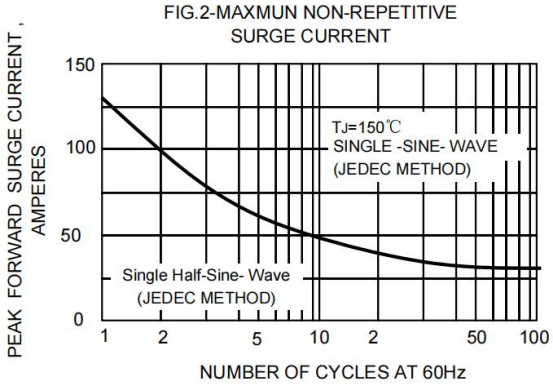



FIG.3-TYPICAL JUNCTION CAPACITANCE

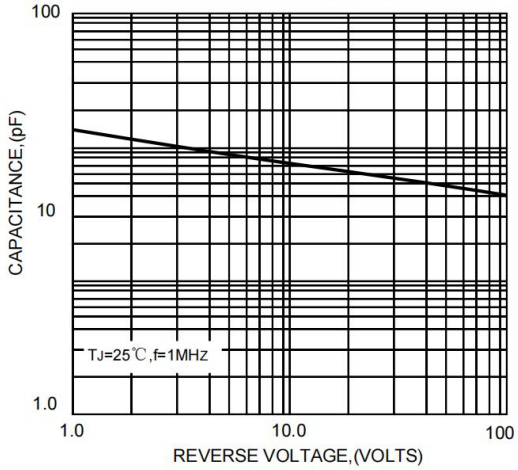



FIG.4-TYPICAL FORWARD CHARACTERISTICS

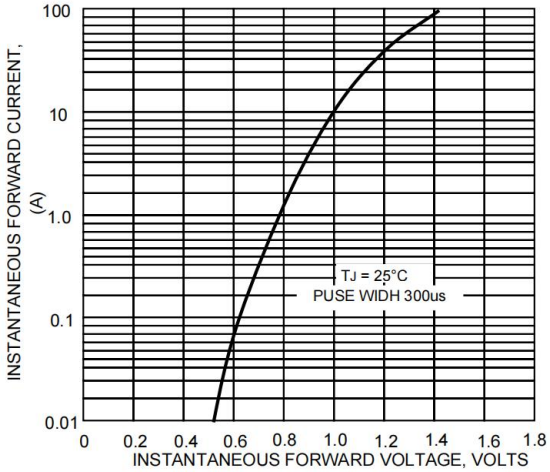
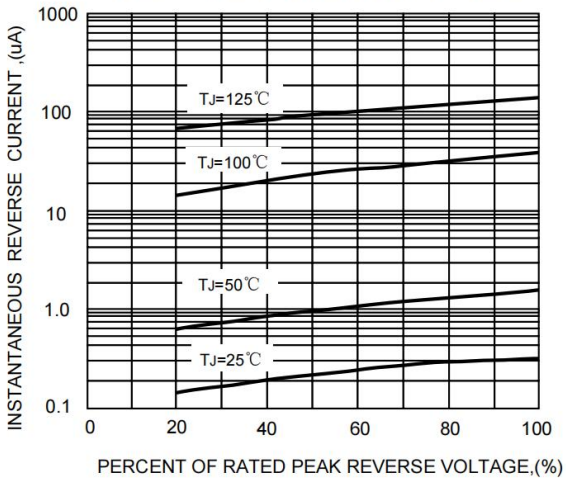
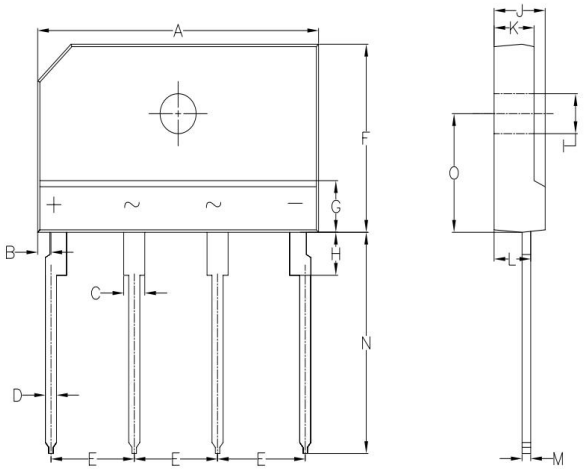



FIG.5-TYPICAL REVERSE CHARACTERISTICS



## 5 Package Outline Dimensions




Dimensions in millimeters

| Symbol | UNIT(mm) | |
|---|---|---|
| | Min | Max |
| A | 24.70 | 25.30 |
| B | 1.05 | 1.45 |
| C | 1.50 | 1.90 |
| D | 0.90 | 1.10 |
| E | 7.30 | 7.70 |
| F | 14.70 | 15.30 |
| G | 3.80 | 4.20 |
| H | 3.30 | 3.80 |
| I | 3.10 | 3.40 |
| J | 4.40 | 4.80 |
| K | 3.40 | 3.80 |
| L | 2.50 | 2.90 |
| M | 0.40 | 0.60 |
| N | 17.00 | 18.00 |
| O | 9.30 | 9.70 |

## 6 Ordering Information

| PACKAGE | UNIT WEIGHT (g) | BOX (pcs) | CARTON (pcs) |
|---|---|---|---|
| KBJ | Approximate 3.94 | 250 | 2500 |

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