# KBPC25005W-KBPC2510W

## SINGLE-PHASE SILICON BRIDGE RECTIFIER

**VOLTAGE RANGE: 50 - 1000V**
**CURRENT: 25 A**

### Features

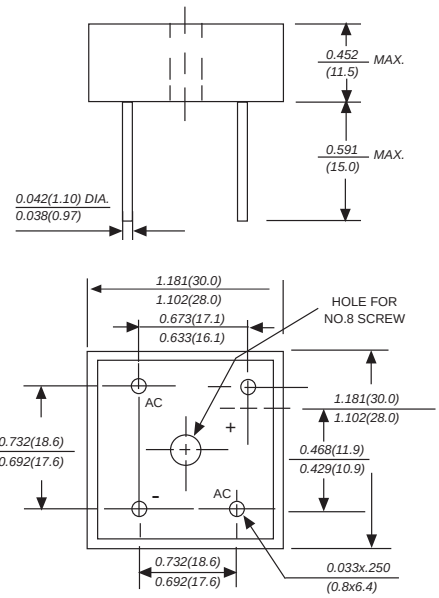
- Diffused Junction
- Low Reverse Leakage Current
- Low Power Loss, High Efficiency
- Surge Overload Rating to 400A Peak
- High Case Dielectric Strength of 1500VRMS

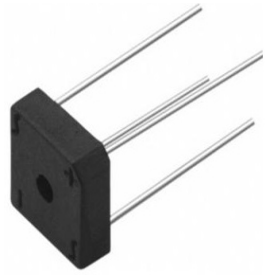
### Mechanical Data

- Case: High Conductivity Matal
- Terminals: Plated Leads Solderable per MIL-STD-202,Method 208
- Polarity: Symbols Marked on Case
- Mounting: Through Hole for #10 Screw
- MountingTorque: 8.0 Inch-pounds Maximum
- Mounting Position : Any
- Marking : Type Number

RoHS COMPLIANT

KBPC-25W



*Dimensions in inches and (millimeters)*

### Maximum Ratings and Electrical Characteristics

$T_A$ = 25°C unless otherwise specified

Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

| Characteristic | Symbol | KBPC 25005W | KBPC 2501W | KBPC 2502W | KBPC 2504W | KBPC 2506W | KBPC 2508W | KBPC 2510W | Unit |
|---|---|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS 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 output rectified current at Tc=50°C (Note 1,2) | $I_{(AV)}$ | 25 | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$ | 300.0 | | | | | | | A |
| Rating for Fusing(t<8.3ms) | $I^2t$ | 373 | | | | | | | $A^2s$ |
| Maximum instantaneous forward voltage dorp per bridge element at 12.5A | $V_F$ | 1.1 | | | | | | | V |
| Maximum DC reverse current $T_A$=25°C | $I_R$ | 10 | | | | | | | μA |
| at rated DC blocking voltage $T_A$=100°C | | 1.0 | | | | | | | mA |
| Isolation voltage from case to leads | $V_{ISO}$ | 2500 | | | | | | | $V_{AC}$ |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 2.0 | | | | | | | °C/W |
| Operating junction temperature range | $T_J$ | -65 to +150 | | | | | | | °C |
| storage temperature range | $T_{STG}$ | -65 to +150 | | | | | | | °C |

NOTES:
1.Unit mounted on 5 ” x6 ” x4.9 ” thick(12.8cmx15.2cmx12.4cm)Al.plate.
2.Bolt dowm on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency with #8 screw.

## RATINGS AND CHARACTERISTIC CURVES KBPC25005W THRU KBPC2510W

FIG. 1- FORWARD CURRENT DERATING CURVE

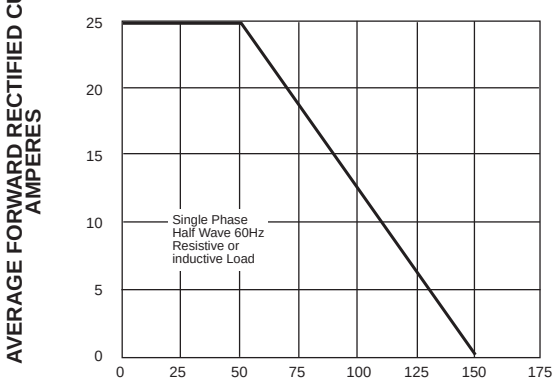



FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

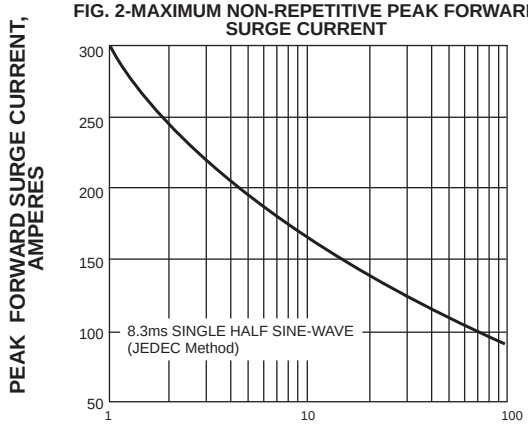



FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

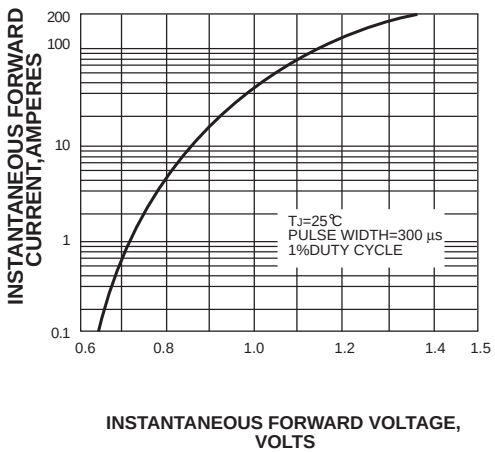



FIG. 4-TYPICAL REVERSE CHARACTERISTICS

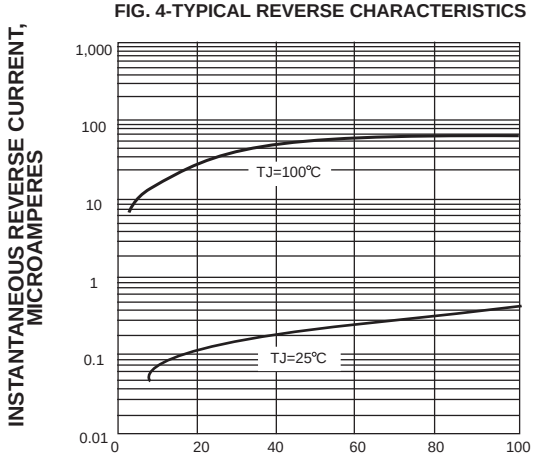



FIG. 5-TYPICAL JUNCTION CAPACITANCE

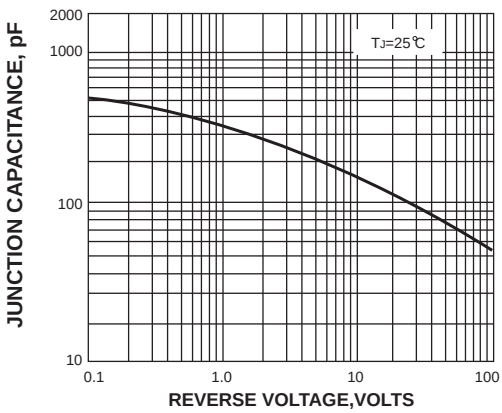



FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE