

SILICON BRIDGE RECTIFIERS

Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Ideal for printed circuit boards
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260°C/10 seconds, 5 lbs. (2.3kg) tension

Mechanical Data

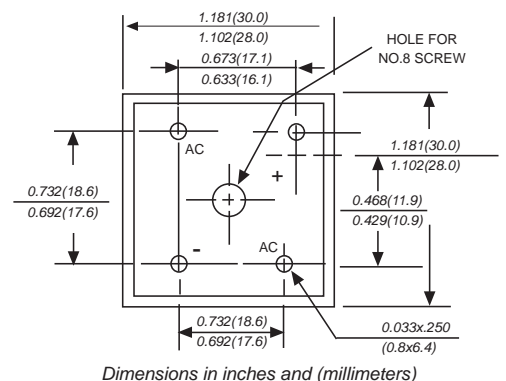
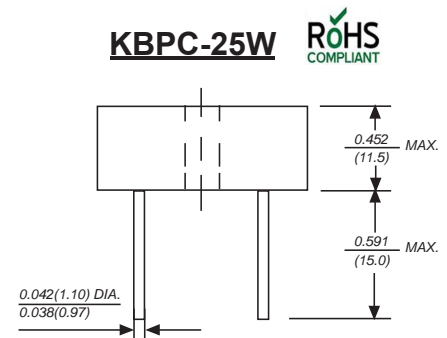
Case : JEDEC KBPC-25W Molded plastic body

Terminals : Solder plated, solderable per MIL-STD-750, Method 2026

Polarity : Polarity symbol marking on body

Mounting Position : Any

Weight : 0.93 ounce, 26.4 grams



Maximum Ratings And Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

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

| Parameter | SYMBOLS | KBPC 35005W | KBPC 3501W | KBPC 3502W | KBPC 3504W | KBPC 3506W | KBPC 3508W | KBPC 3510W | UNITS |
|--|-----------------|-------------------------|------------|------------|------------|------------|------------|------------|---------------------------|
| | | KBPC 35005W | KBPC 3501W | KBPC 3502W | KBPC 3504W | KBPC 3506W | KBPC 3508W | KBPC 3510W | |
| Maximum repetitive peak reverse voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | V_{RMS} | 30 | 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 $T_c=50^\circ\text{C}$ (Note 1, 2) | $I_{(AV)}$ | 35.0 | | | | | | | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I_{FSM} | 400 | | | | | | | A |
| Rating for Fusing ($t < 8.3\text{ms}$) | I^2t | 664 | | | | | | | A^2s |
| Maximum instantaneous forward voltage drop per bridge element at 17.5A | V_F | 1.0 | | | | | | | V |
| Maximum DC reverse current at rated DC blocking voltage | I_R | $T_A=25^\circ\text{C}$ | | | | | | | μA |
| | | $T_A=100^\circ\text{C}$ | | | | | | | mA |
| Isolation voltage from case to leads | V_{IOS} | 2500 | | | | | | | V_{AC} |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 2.0 | | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating junction temperature range | T_J | -65 to +125 | | | | | | | $^\circ\text{C}$ |
| storage temperature range | T_{STG} | -65 to +150 | | | | | | | $^\circ\text{C}$ |

NOTES:

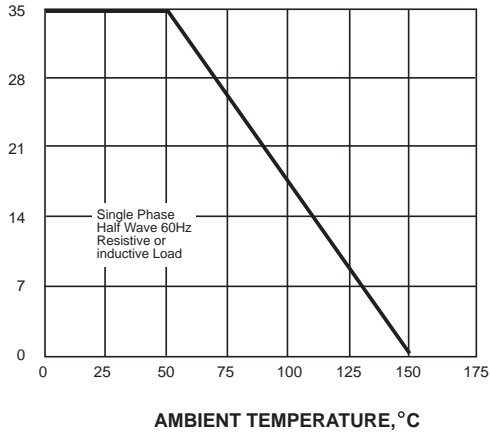
1. Unit mounted on 9" x 3.5" x 4.6" thick (23cm x 9cm x 11.8cm) Al. plate.

2. Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency with #8 screw.

Ratings And Characteristic Curves

AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



PEAK FORWARD SURGE CURRENT, AMPERES

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

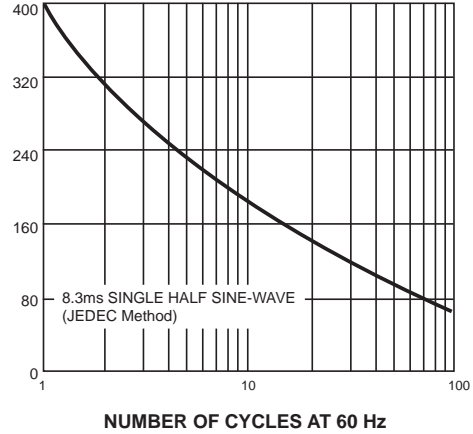
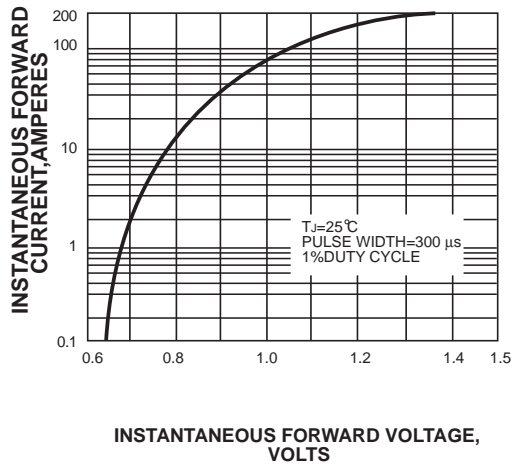


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS

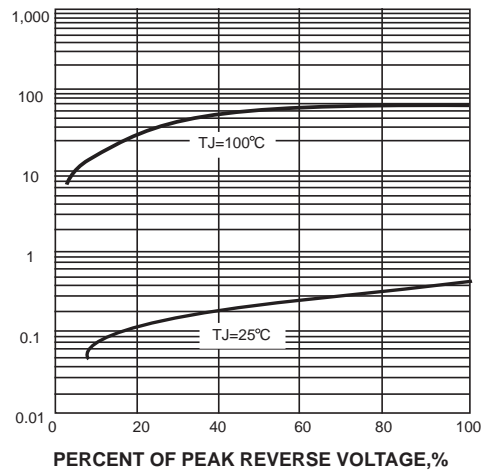
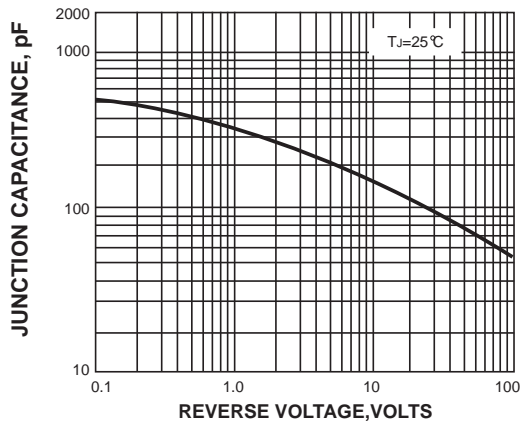
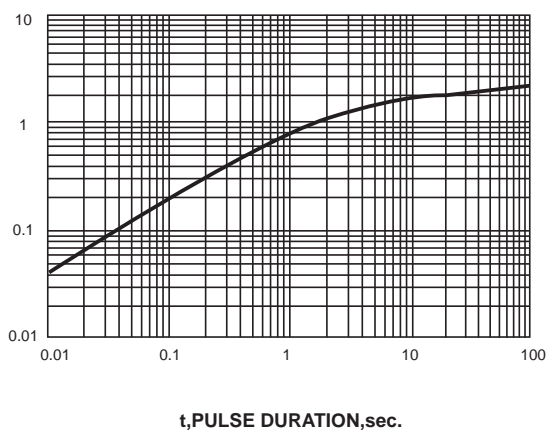


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.