

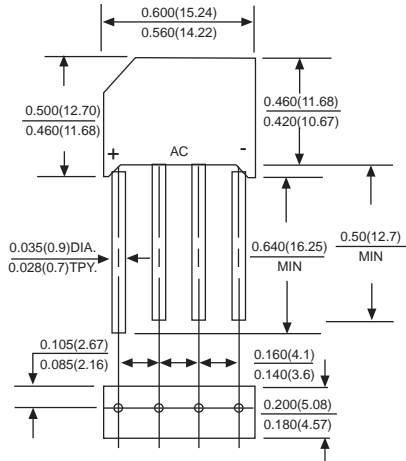


# KBP005 THRU KBP10

## SILICON BRIDGE RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 2.0 Amperes

### KBP



Dimensions in inches and (millimeters)

### 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, 0.375" (9.5mm) lead length, 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** Molded plastic body

**Terminals:** Plated leads solderable per MIL-STD-750, Method 2026

**Polarity:** Polarity symbols marked on case

**Mounting Position:** Any

**Weight:** 0.069 ounce, 1.95 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%.

TWGMC Catalog Number	SYMBOLS	KBP005	KBP01	KBP02	KBP04	KBP06	KBP08	KBP10	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	VOLTS
Maximum average forward output rectified current at $T_A=50^\circ\text{C}$ (Note 2)	$I_{AV}$	2.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	50.0							Amps
Rating for Fusing ( $t < 8.3\text{ms}$ )	$I^2t$	10							$\text{A}^2\text{s}$
Maximum instantaneous forward voltage drop per bridge element at 1.0A	$V_F$	1.0							Volts
Maximum DC reverse current at rated DC blocking voltage $T_A=25^\circ\text{C}$ $T_A=100^\circ\text{C}$	$I_R$	10							$\mu\text{A}$
		0.5							$\text{mA}$
Typical Junction Capacitance (Note 1)	$C_J$	20							$\text{pF}$
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	28							$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-60 to +150							$^\circ\text{C}$
storage temperature range	$T_{STG}$	-60 to +150							$^\circ\text{C}$

#### NOTES:

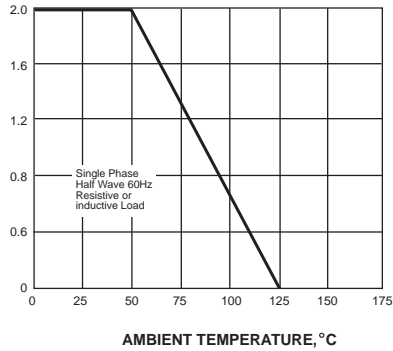
1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.

2. Unit mounted on P.C. board with 0.47" x 0.47" (12x12mm) copper pads, 0.375" (9.5mm) lead length.

# RATINGS AND CHARACTERISTIC CURVES KBP005 THRU KBP10

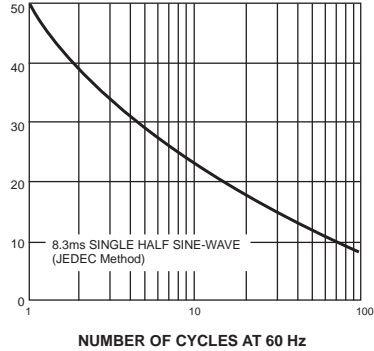
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



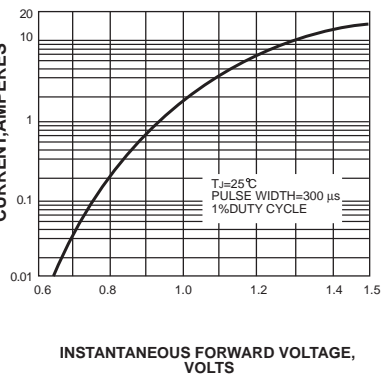
PEAK FORWARD SURGE CURRENT, AMPERES

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



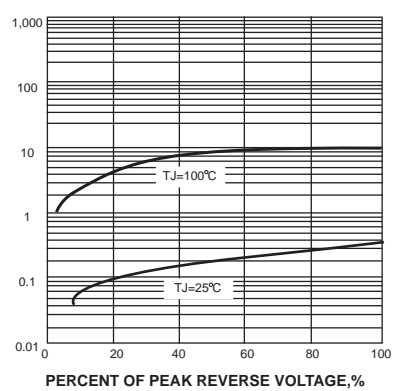
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



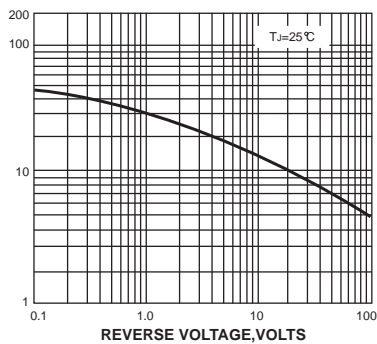
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

