

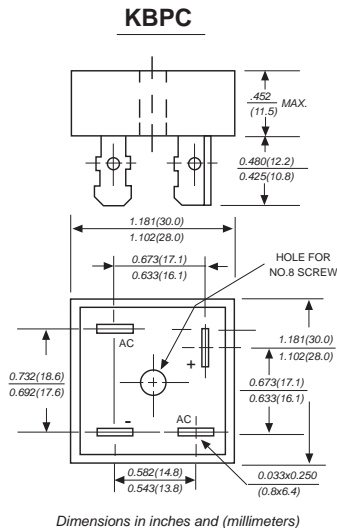
# KBPC50005 THRU KBPC5010

**RoHS**  
COMPLIANT



## SILICON BRIDGE RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 50 Ampere



### FEATURES

- ◆ This series is UL recognized component
- ◆ Ideal for printed circuit boards
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
260°C/10 seconds, at 5 lbs. (2.3kg) tension
- ◆ Available in both OJ open junction and GPP glass passivated chip junction

### MECHANICAL DATA

**Case:** Metal case

**Terminals:** Plated 0.25" (6.35mm) lug.

**Polarity:** Polarity symbols marked on case

**Mounting:** Thru hole for #8 screw, 20in.-lbs. torque max.

**Weight:** 1.02 ounce, 29 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 current capacitive load current derate by 20%.

	SYMBOLS	KBPC 50005	KBPC 5001	KBPC 5002	KBPC 5004	KBPC 5006	KBPC 5008	KBPC 5010	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 $T_c=50^\circ\text{C}$ (Note 1,2)	$I_{(AV)}$	50							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	600.0							Amps
Rating for Fusing ( $t < 8.3\text{ms}$ )	$I^2t$	800							$\text{A}^2\text{s}$
Maximum instantaneous forward voltage drop per bridge element at 17.5A	$V_F$	1.1							Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	10							$\mu\text{A}$
		1.0							$\text{mA}$
Isolation voltage from case to leads	$V_{ISO}$	2500							$\text{V}_{AC}$
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	1.5							$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-65 to +150							$^\circ\text{C}$
storage temperature range	$T_{STG}$	-65 to +150							$^\circ\text{C}$

**NOTES:**

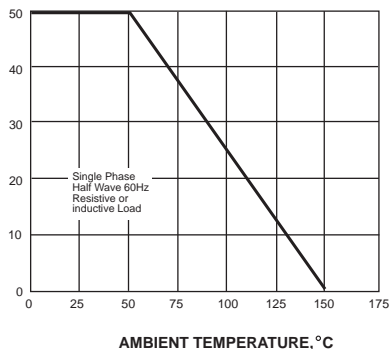
1. Unit mounted on 9" x 3.5" x 4.6" thick (23cm x 9cm x 11.8cm) Al. plate.

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 KBPC50005 THRU KBPC5010

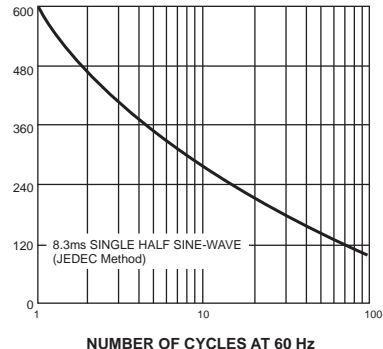
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

**FIG. 1- FORWARD CURRENT DERATING CURVE**



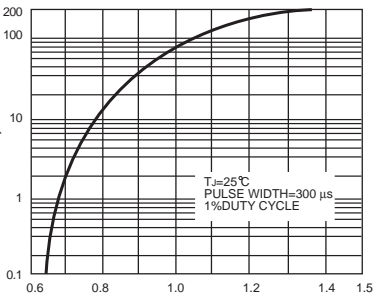
PEAK FORWARD SURGE CURRENT, AMPERES

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



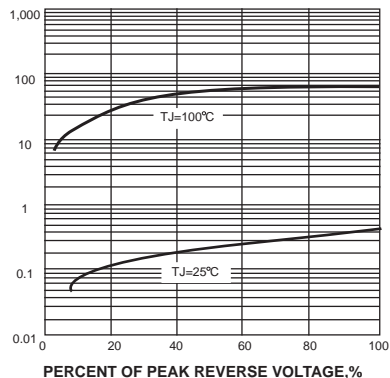
INSTANTANEOUS FORWARD CURRENT, AMPERES

**FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



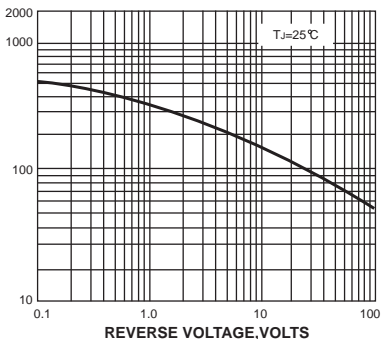
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

**FIG. 4-TYPICAL REVERSE CHARACTERISTICS**



JUNCTION CAPACITANCE, pF

**FIG. 5-TYPICAL JUNCTION CAPACITANCE**



TRANSIENT THERMAL IMPEDANCE, °C/W

**FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE**

