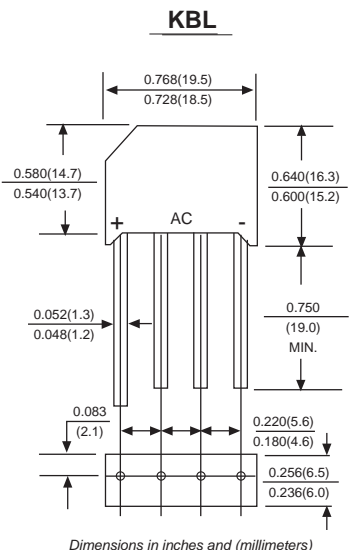




# KBL6005 THRU KBL610

## SILICON BRIDGE RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 6.0 Amperes



### 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:** 0.22 ounce, 6.21 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%.

MDD Catalog Number	SYMBOLS	KBL 6005	KBL 601	KBL 602	KBL 604	KBL 606	KBL 608	KBL 610	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 2) $T_A=50^\circ\text{C}$ (Note 3)	$I_{AV}$	6.0 3.8							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	125							Amps
Maximum instantaneous forward voltage drop per bridge element at 6.0A	$V_F$	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							mA
Typical Junction Capacitance (Note 1)	$C_J$	105							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	20							$^\circ\text{C/W}$
Operating junction temperature range	$T_J$	-55 to +150							$^\circ\text{C}$
storage temperature range	$T_{STG}$	-55 to +150							$^\circ\text{C}$

#### NOTES:

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

2. Unit mounted on 3.0" x 3.0" x 0.11" thick (7.5x7.5x0.3cm) Al. plate.

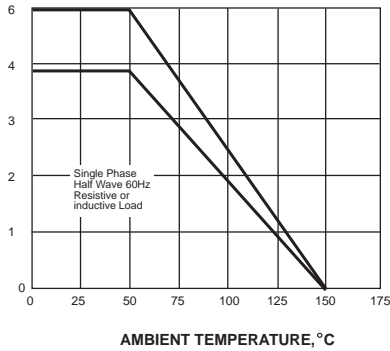
3. P.C. Board mounted with 0.5" x 0.5" (12x12mm) copper pads, 0.375" (9.5mm) lead length.



# RATINGS AND CHARACTERISTIC CURVES KBL6005 THRU KBL610

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

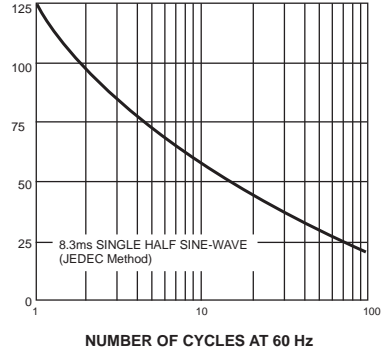


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

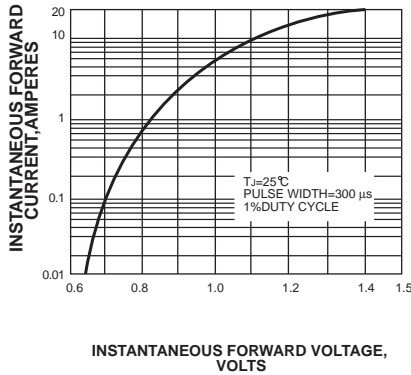


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

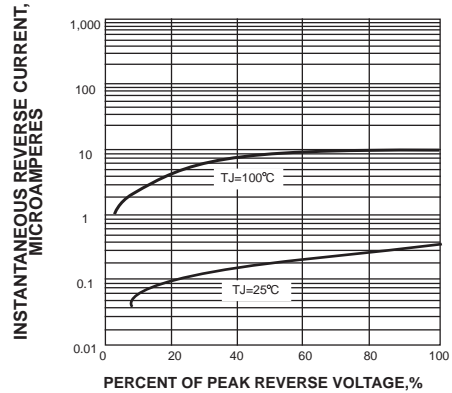
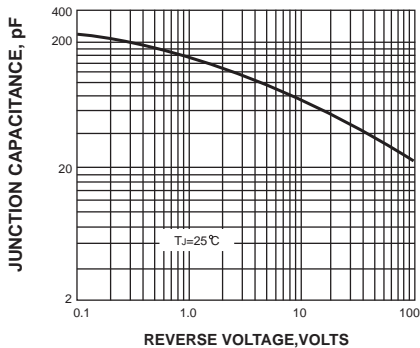
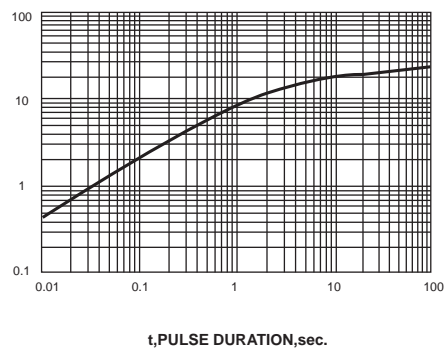


FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The cruve graph is for reference only, can't be the basis for judgment( )!

