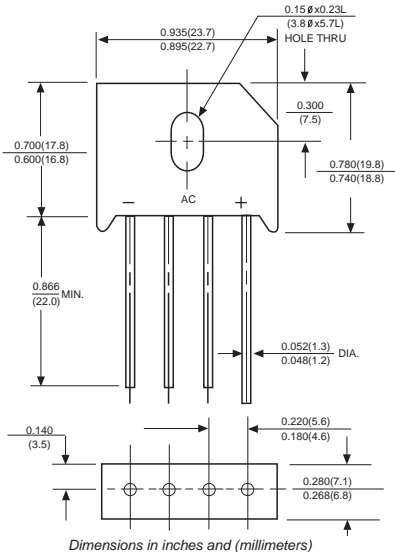


# KBU6005 THRU KBU610

## SILICON BRIDGE RECTIFIERS

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

### KBU



### 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:** Thru hole for #6 serew, 5in.-lbs. torque max.

**Weight:** 0.27 ounce, 7.59 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	KBU 6005	KBU 601	KBU 602	KBU 604	KBU 606	KBU 608	KBU 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 $T_A=100^\circ\text{C}$ (Note 2) $T_A=40^\circ\text{C}$ (Note 2)	$I_{(AV)}$	6.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	250.0							Amps
Rating for Fusing( $t < 8.3\text{ms}$ )	$I^2t$	260							$A^2s$
Maximum instantaneous forward voltage drop per bridge element at 6.0A	$V_F$	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							$\mu\text{A}$
Typical Junction Capacitance (Note 1)	$C_J$	200							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	4.7							$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-65 to +150							$^\circ\text{C}$
storage temperature range	$T_{STG}$	-65 to +150							$^\circ\text{C}$

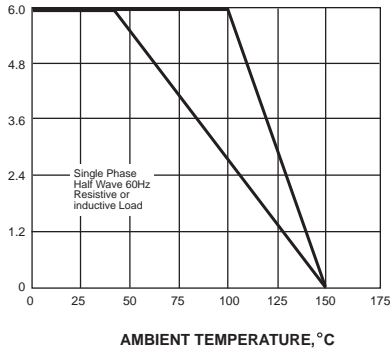
#### NOTES:

1. Measured at 1.0 MHz and applied reverse voltage of 4.0 Volts.
2. Unit mounted on 2.6" x 1.4" x 0.06" thick (6.3x3.5x0.15cm) Al. plate.
3. Unit mounted on P.C. board with 0.5" x 0.5" (12x12mm) copper pads.

# RATINGS AND CHARACTERISTIC CURVES KBU6005 THRU KBU610

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

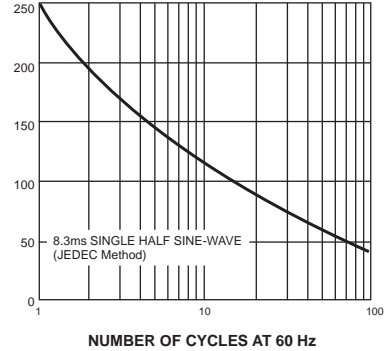


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

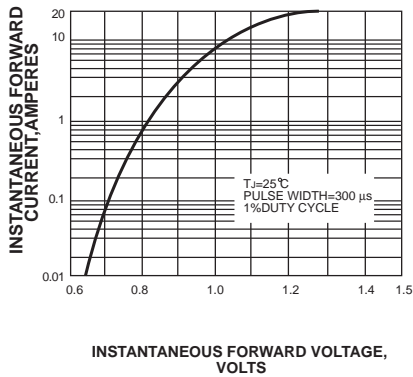
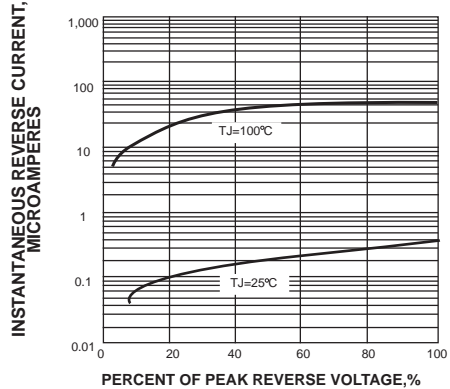


FIG. 4-TYPICAL REVERSE CHARACTERISTICS



INSTANTANEOUS FORWARD VOLTAGE,  
VOLTS

INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 5-TYPICAL JUNCTION CAPACITANCE

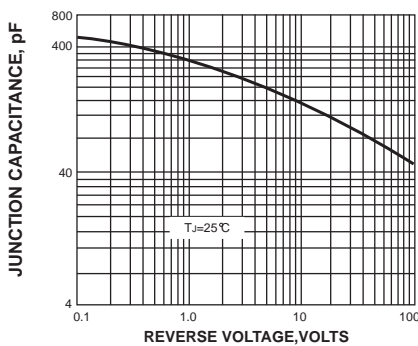
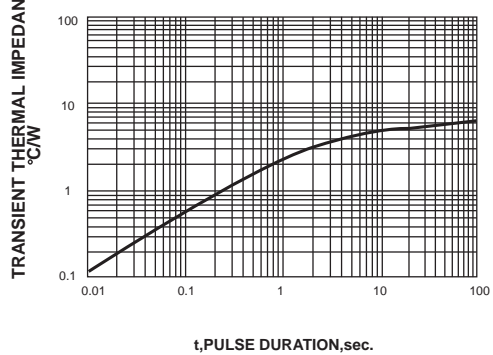


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



JUNCTION CAPACITANCE, pF

TRANSIENT THERMAL IMPEDANCE,  
 $^{\circ}\text{C}/\text{W}$

REVERSE VOLTAGE, VOLTS

t, PULSE DURATION, sec.