

# KBL 6005 THRU KBL 610

## SINGLE-PHASE SILICON BRIDGE RECTIFIER

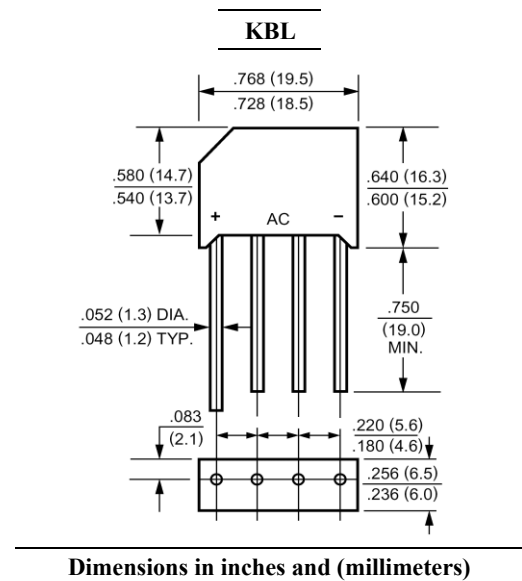
**REVERSE VOLTAGE:** 50 to 1000 VOLTS  
**FORWARD CURRENT:** 6.0 AMPERE

### FEATURES

- Reliable low cost construction utilizing molded plastic technique
- Ideal for printed circuit board
- Low forward voltage drop
- Low reverse leakage current
- High surge current capability

### MECHANICAL DATA

Case: Molded plastic, KBL  
 Epoxy: UL 94V-O rate flame retardant  
 Terminals: Leads solderable per MIL-STD-202, method 208 guaranteed  
 Mounting position: Any  
 Weight: 0.2ounce, 5.6gram



### 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, derate current by 20%.

	Symbols	KBL6005	KBL601	KBL602	KBL604	KBL606	KBL608	KBL610	Units
Maximum Recurrent 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 Rectified Current .375"(9.5mm) Lead Length at $T_A=50$	$I_{(AV)}$	6.0							Amp
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	250							Amp
Maximum Forward Voltage at 4.0A DC and 25	$V_F$	1.1							Volts
Maximum Reverse Current at $T_A=25$ at Rated DC Blocking Voltage $T_A=100$	$I_R$	10.0 500							uAmp
Typical Junction Capacitance (Note 1)	$C_J$	40							pF
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	19							/W
Typical Thermal Resistance (Note 3)	$R_{\theta JL}$	2.4							/W
Operating and Storage Temperature Range	$T_J, T_{stg}$	-55 to +125							

### NOTES:

- 1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.
- 2- Thermal resistance from junction to ambient with units mounted on 3.0 x 3.0 x 0.11" thick (7.5 x 7.5 x 0.3cm) Al. plate
- 3- Thermal resistance from junction to lead with units mounted on P.C.B. at 0.375" (9.5mm) lead length and 0.5 x 0.5" (12 x 12mm) copper pads

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### RATINGS AND CHARACTERISTIC CURVES

FIG.1- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER BRIDGE ELEMENT

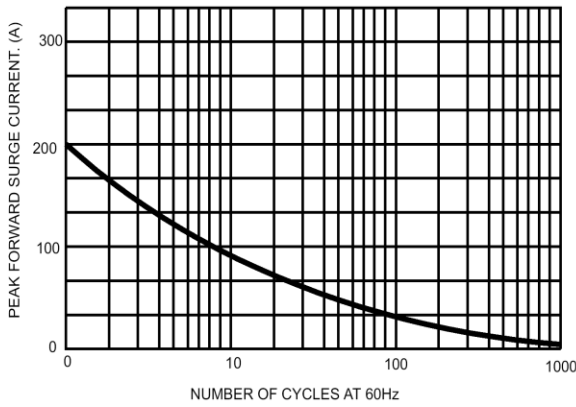


FIG.2- MAXIMUM FORWARD CURRENT DERATING CURVE

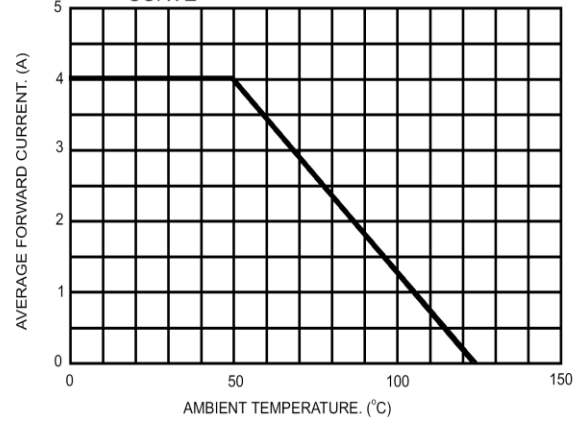


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER BRIDGE ELEMENT

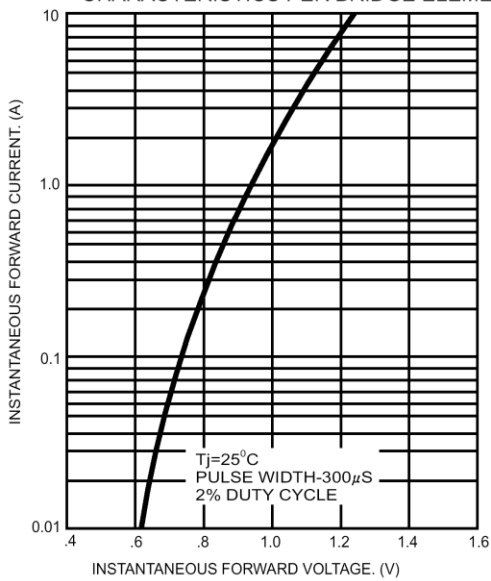


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT

