



# DC COMPONENTS CO., LTD.

## RECTIFIER SPECIALISTS

**HBL4A  
THRU  
HBL4M**

### TECHNICAL SPECIFICATIONS OF SINGLE-PHASE SILICON BRIDGE RECTIFIER

VOLTAGE RANGE - 50 to 1000 Volts

CURRENT - 4.0 Amperes

#### FEATURES

- \* Ideal for printed circuit board
- \* Surge overload rating: 120 Amperes peak

#### MECHANICAL DATA

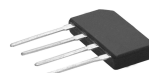
- \* Case: Molded plastic
- \* Epoxy: UL 94V-0 rate flame retardant
- \* Terminals: MIL-STD-202E, Method 208 guaranteed
- \* Polarity: Symbols molded or marked on body
- \* Mounting position: Any

#### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

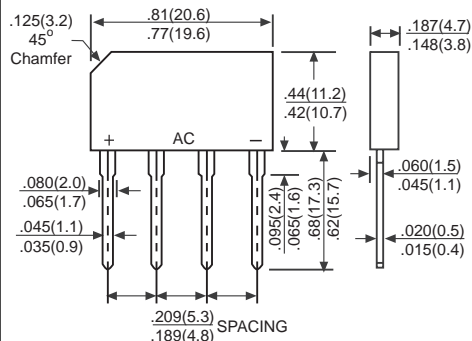
Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.



**HBL**



Dimensions in inches and (millimeters)

		SYMBOL	HBL4A	HBL4B	HBL4D	HBL4G	HBL4J	HBL4K	HBL4M	UNITS
Maximum Recurrent Peak Reverse Voltage		V <sub>RRM</sub>	50	100	200	400	600	800	1000	Volts
Maximum RMS Bridge Input Voltage		V <sub>RMS</sub>	35	70	140	280	420	560	700	Volts
Maximum DC Blocking Voltage		V <sub>DC</sub>	50	100	200	400	600	800	1000	Volts
Maximum Average Forward Output Current at T <sub>A</sub> = 50°C		I <sub>O</sub>	4.0							Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC Method)		I <sub>FSM</sub>	120							Amps
Maximum Forward Voltage Drop per element at 3.0A DC		V <sub>F</sub>	1.0							Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage per element	@ T <sub>A</sub> = 25°C	I <sub>R</sub>	10							μAmps
	@ T <sub>A</sub> = 100°C		500							
I <sup>2</sup> t Rating for Fusing (t*8.3ms)		I <sup>2</sup> t	93							A <sup>2</sup> Sec
Typical Junction Capacitance ( Note1)		C <sub>J</sub>	40							pF
Typical Thermal Resistance (Note 2)		R <sub>θJA</sub>	19							°C/W
Operating Temperature Range		T <sub>J</sub>	-55 to +150							°C
Storage Temperature Range		T <sub>STG</sub>	-55 to +150							°C

NOTES : 1. Measured at 1 MHz and applied reverse voltage of 4.0 volts

2. Thermal Resistance from Junction to Case per element Unit mounted on 300x300x1.6mm Aluminum plate heat-sink.

# RATING AND CHARACTERISTIC CURVES (HBL4A THRU HBL4M)

FIG. 1 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

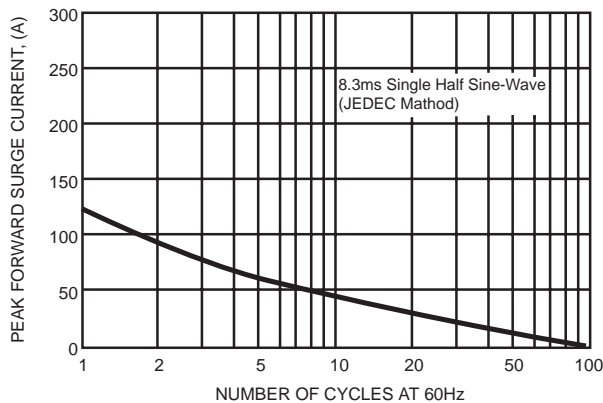


FIG. 2 - TYPICAL FORWARD CURRENT DERATING CURVE

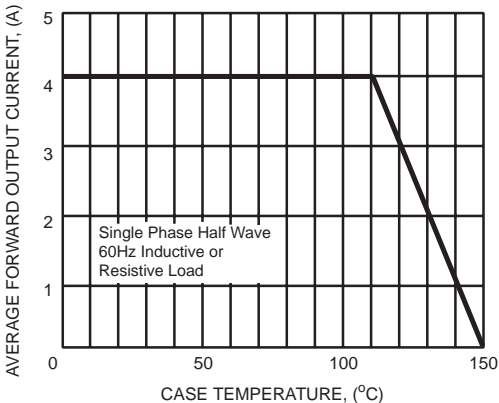


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

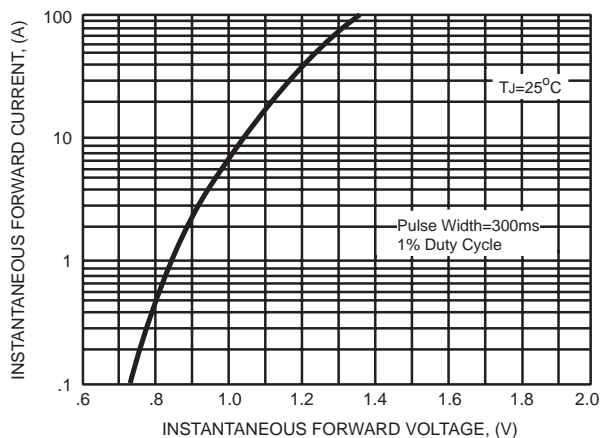


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

