

## 6 AMP SILICON BRIDGE RECTIFIERS

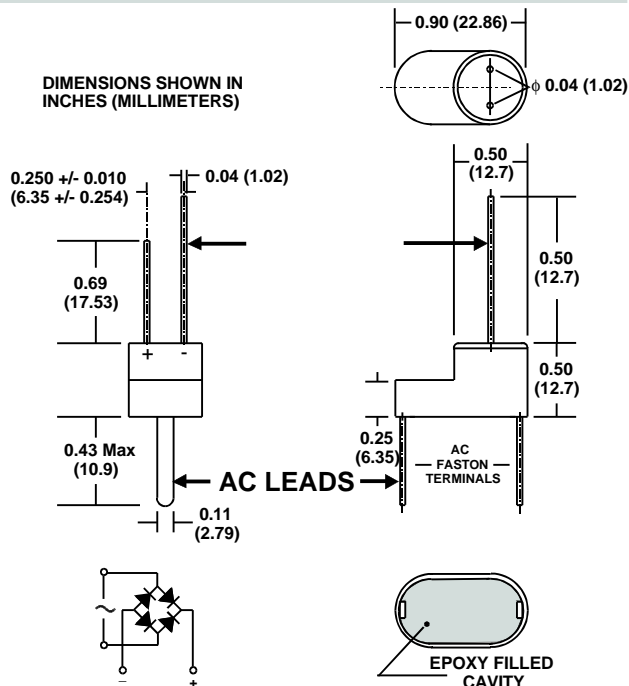
### FEATURES

- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION
- BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE
- - DC leads on one side, AC leads on
- Ideal for DC motor related applications
- **UL RECOGNIZED - FILE #E141956**

### MECHANICAL DATA

- Case: Molded plastic, U/L Flammability Rating 94V-0
- Terminals: Round silver plated copper pins/faston connectors
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on case
- Mounting Position: Any.
- Weight: 0.13 Ounces (3.6 Grams)

### MECHANICAL SPECIFICATION



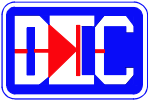
### MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60Hz, resistive or inductive load.  
For capacitive loads, derate current by 20%.

PARAMETER (TEST CONDITIONS)	SYMBOL	RATINGS										UNITS
		CONTROLLED AVALANCHE			NON-CONTROLLED AVALANCHE							
Series Number		AHBU 604	AHBU 606	AHBU 608	HBU 600	HBU 601	HBU 602	HBU 604	HBU 606	HBU 608	HBU 610	
Maximum DC Blocking Voltage	V <sub>RM</sub>	400	600	800	50	100	200	400	600	800	1000	VOLTS
Working Peak Reverse Voltage	V <sub>RWM</sub>											
Maximum Peak Recurrent Reverse Voltage	V <sub>RRM</sub>											
RMS Reverse Voltage	V <sub>R</sub> (RMS)	280	420	560	35	70	140	280	420	560	700	
Power Dissipation in V <sub>(BR)</sub> Region for 100 μS Square Wave	P <sub>RM</sub>	400			n/a							WATTS
Continuous Power Dissipation in V <sub>(BR)</sub> Region @ T <sub>HS</sub> =80 °C (Heat Sink Temp)	P <sub>R</sub>	2			n/a							
Thermal Energy (Rating for Fusing)	I <sup>2</sup> t	127										AMPS <sup>2</sup> SEC
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T <sub>J</sub> = 150° C	I <sub>FSM</sub>	250										AMPS
Average Forward Rectified Current @ T <sub>C</sub> = 50° C @ T <sub>A</sub> = 40° C	I <sub>O</sub>	6 3										
Junction Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150										°C
Minimum Avalanche Voltage	V <sub>(BR)</sub> Min	See Note 1			n/a							VOLTS
Maximum Avalanche Voltage	V <sub>(BR)</sub> Max	See Note 1			n/a							
Maximum Forward Voltage (Per Diode) at 6 Amps DC	V <sub>FM</sub>	0.95 (Typical < 0.90)										
Maximum Reverse Current at Rated V <sub>RM</sub> @ T <sub>A</sub> = 25° C @ T <sub>A</sub> = 100° C	I <sub>RM</sub>	1 50										μA
Minimum Insulation Breakdown Voltage (Circuit to Case)	V <sub>ISO</sub>	2000										VOLTS
Typical Thermal Resistance (on Heat Sink) Junction to Ambient Junction to Case	R <sub>θJA</sub> R <sub>θJC</sub>	16.0 5.7										°C/W

NOTES: (1) These bridges exhibit the avalanche characteristic at breakdown. If your application requires a specific breakdown voltage range, please contact us.

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### RATING & CHARACTERISTIC CURVES FOR SERIES HBU600 - HBU610 and SERIES AHBU604 - AHBU608

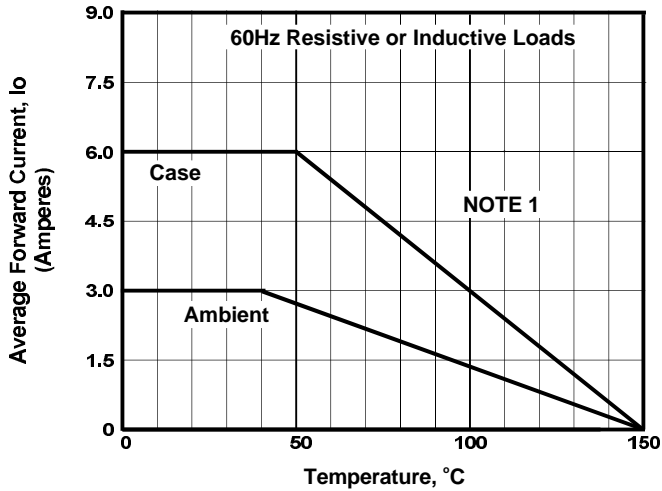


FIGURE 1. FORWARD CURRENT DERATING CURVE

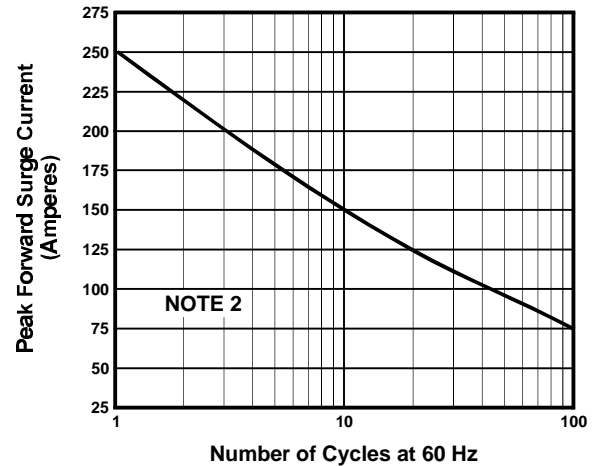


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

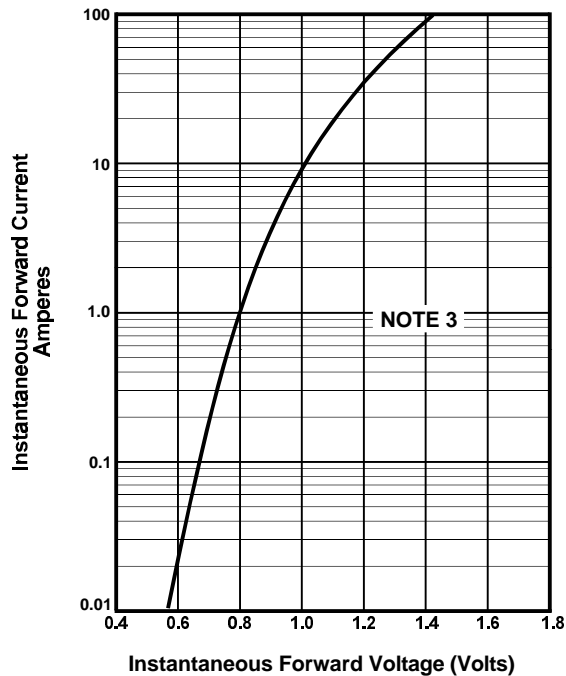


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

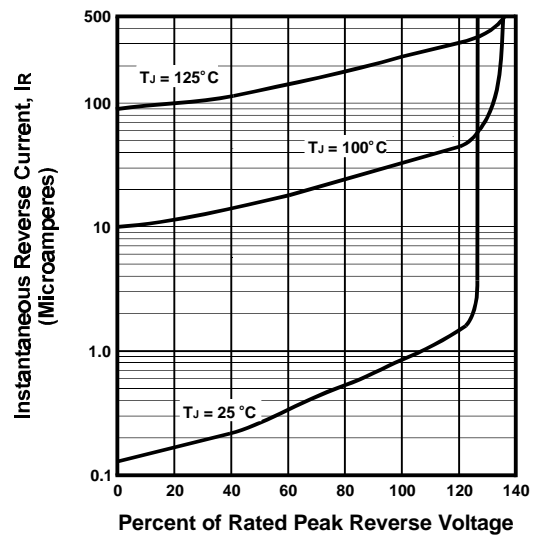


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS PER DIODE

#### NOTES

- (1) Ambient = Ambient temperature,  $T_A$ . P.C. Board mounting with 0.375" (9.5 mm) Lead lengths  
Case = Case Temperature,  $T_C$ . Mounted on aluminum plate 5.5" x 6.0" x 0.11" thick (14cm x 15cm x 0.3 cm)
- (2)  $T_J = 150^\circ\text{C}$
- (3)  $T_J = 25^\circ\text{C}$ ; Pulse Width = 300  $\mu\text{Sec}$ ; 1% Duty Cycle