

## 50 AMP SILICON BRIDGE RECTIFIERS

### FEATURES

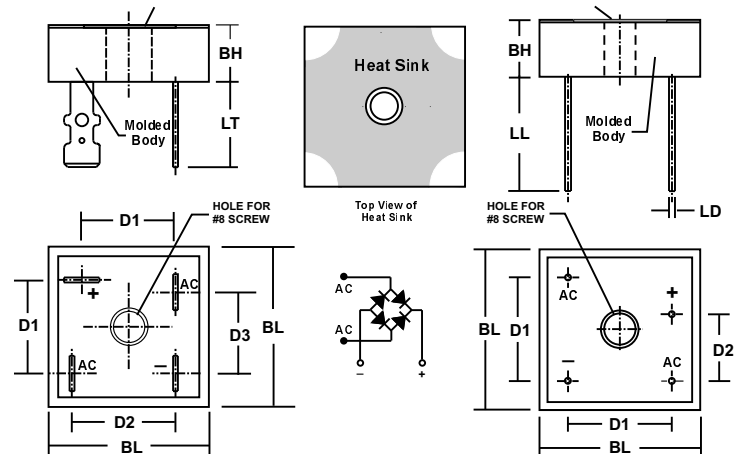
- **VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)**
- **BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE**
- **INTEGRALLY MOLDED HEAT SINK PROVIDES VERY LOW THERMAL RESISTANCE FOR MAXIMUM HEAT DISSIPATION**
- **UL RECOGNIZED - FILE #E141956**
- **RoHS COMPLIANT**

### MECHANICAL DATA

- **Case:** Case: Molded epoxy with integral heat sink  
Epoxy carries a U/L Flammability rating of 94V-0
- **Terminals:** Round silver plated copper pins or fast-on terminals
- **Soldering:** Per MIL-STD 202 Method 208 guaranteed
- **Polarity:** Marked on side of case
- **Mounting Position:** Any. Through hole for #8 screw.  
Max. mounting torque = 20 in-lb.
- **Weight:** Fast-on Terminals - 0.7 Ounces (20.0 Grams)  
Wire Leads - 0.55 Ounces (16.0 Grams)

### MECHANICAL SPECIFICATION

**SERIES: DB5000P - DB5010P and ADB5004P - ADB5008P**



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
BL	28.4	28.7	1.12	1.13
BH	9.6	10.2	0.38	0.40
D1	15.7	16.7	0.62	0.66
D2	17.5	18.5	0.69	0.73
D3	13.5	14.5	0.53	0.57
LT	n/a	15.2	n/a	0.6

SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
BL	28.4	28.7	1.12	1.13
BH	9.6	10.2	0.38	0.40
D1	17.5	18.5	0.69	0.73
D2	10.9	11.9	0.43	0.47
LL	20.6	n/a	0.81	n/a
LD	1.0	1.1	0.039	0.042

Suffix "T" indicates FAST-ON TERMINALS

Suffix "W" indicates WIRE LEADS

### 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		ADB 5004P	ADB 5006P	ADB 5008P	DB 5000P	DB 5001P	DB 5002P	DB 5004P	DB 5006P	DB 5008P	DB 5010P	
Maximum DC Blocking Voltage	V <sub>RM</sub>											VOLTS
Working Peak Reverse Voltage	V <sub>RWM</sub>	400	600	800	50	100	200	400	600	800	1000	
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	
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							
Forward Voltage Drop (Per Diode) at 25 Amps DC Max. Typ.	V <sub>FM</sub>						1.10					
Rating for Fusing (Non-repetitive; 1ms < t < 8.3ms)	I <sup>2</sup> t						1000				A <sup>2</sup> SEC	
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T <sub>J</sub> = 175° C	I <sub>FSM</sub>						600				AMPS	
Average Forward Rectified Current @ T <sub>c</sub> = 55° C	I <sub>o</sub>						50					
Junction Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>						-55 to +175				°C	
Maximum Reverse Current at Rated V <sub>RM</sub> @ T <sub>A</sub> = 25° C @ T <sub>A</sub> = 125° C	I <sub>RM</sub>						1				A	
Minimum Insulation Breakdown Voltage (Circuit to Case)	V <sub>ISO</sub>						2500				VOLTS	
Typical Thermal Resistance, Junction to Case	R <sub>θJC</sub>						1.10				°C/W	

Notes: (1) These Bridges Exhibit The Avalanche Characteristic at Breakdown. If Your Application Requires a Specific Breakdown Voltage Range, Please Contact Us.

3.01 5004P



## 50 AMP SILICON BRIDGE RECTIFIERS

### RATING & CHARACTERISTIC CURVES FOR SERIES DB5000P - DB5010P and SERIES ADB5004P - ADB5008P

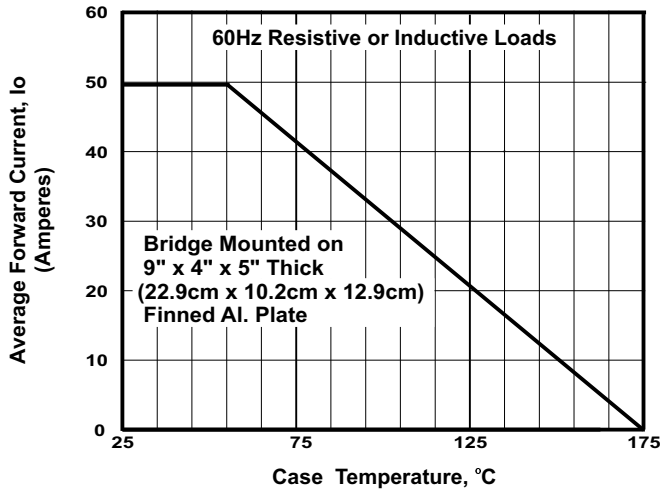


FIGURE 1. FORWARD CURRENT DERATING CURVE

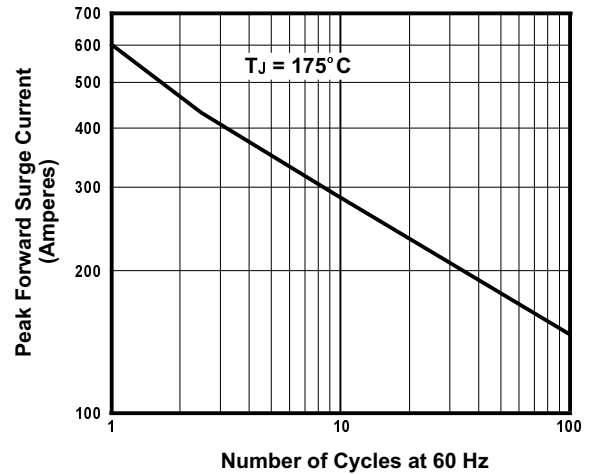


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

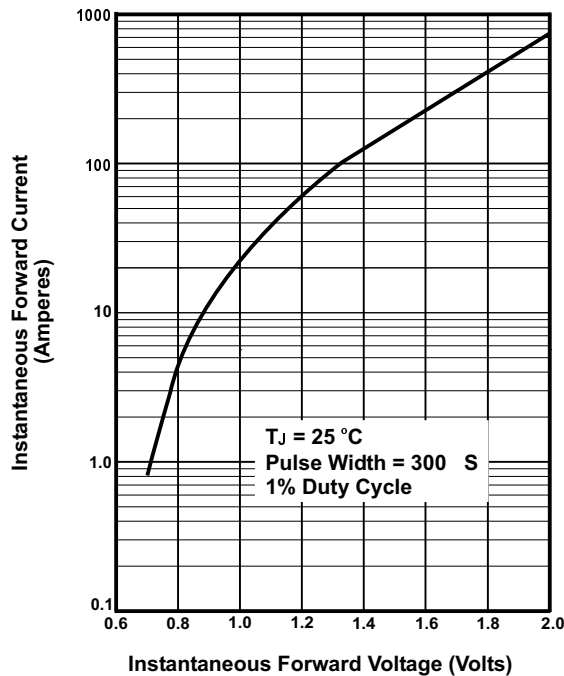


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

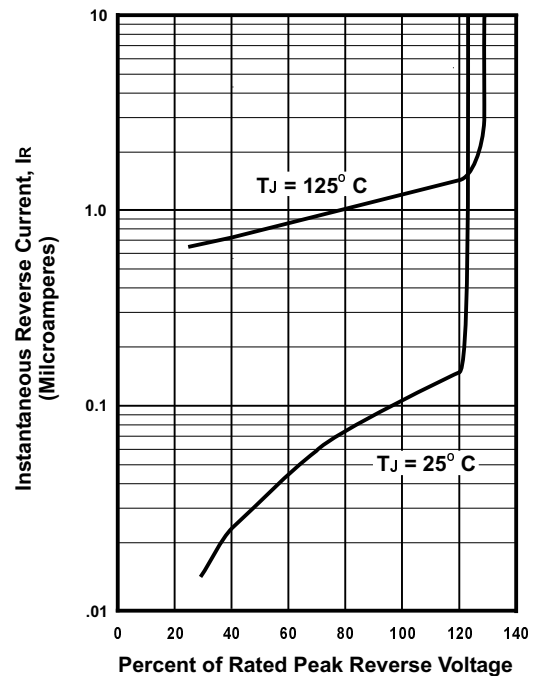


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS