

**DIOTEC ELECTRONICS CORP.**  
 18020 Hobart Blvd., Unit B  
 Gardena, CA 90248 U.S.A  
 Tel.: (310) 767-1052 Fax: (310) 767-7958

Data Sheet No. FRDB-3500P-1B

## 35 AMP FAST RECOVERY BRIDGE RECTIFIERS

### FEATURES

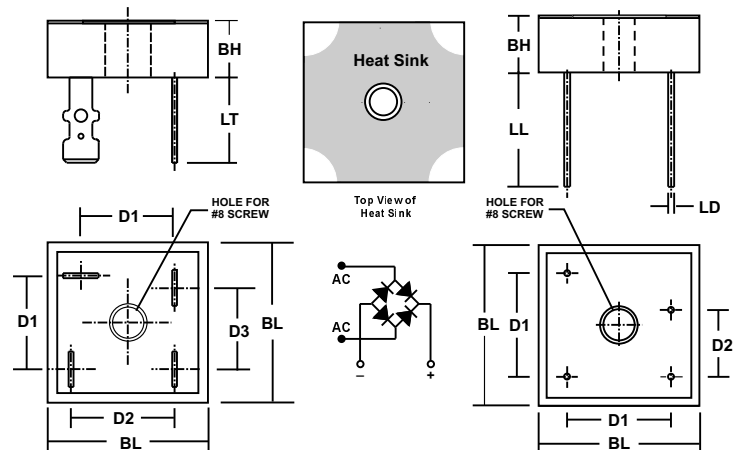
- PRV Ratings from 50 to 1000 Volts
- Surge overload rating to 400 Amps peak
- Reliable low cost molded plastic construction
- Ideal for printed circuit board applications
- Fast switching for high efficiency
- **UL RECOGNIZED - FILE #E141956**
- **RoHS COMPLIANT**

### MECHANICAL DATA

- 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 FDB3500P - FDB3510P



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
BL	28.4	28.7	1.12	1.13
BH	9.6	9.8	0.38	0.39
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

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	MIN	MAX	MIN	MAX
BL	28.4	28.7	1.12	1.13
BH	9.6	9.8	0.38	0.39
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
		FDB 3500P	FDB 3501P	FDB 3502P	FDB 3504P	FDB 3506P	FDB 3508P	FDB 3510P	
Series Number									
Maximum DC Blocking Voltage	V <sub>RM</sub>	50	100	200	400	600	800	1000	VOLTS
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	
Maximum Peak Recurrent Reverse Voltage	V <sub>R</sub> RM	50	100	200	400	600	800	1000	
Average Forward Rectified Current @ T <sub>c</sub> = 55 °C	I <sub>O</sub>	35							AMPS
Peak Forward Surge Current (8.3mS single half sine wave superimposed on rated load)	I <sub>FSM</sub>	400							
Maximum Forward Voltage, Per Diode, at 17.5 Amps DC	V <sub>FM</sub>	1.3							VOLTS
Maximum Average DC Reverse Current at Rated DC Blocking Voltage Per Diode (Note 2)	I <sub>RM</sub>	10 1							A mA
Maximum Reverse Recovery Time (Note 1)	T <sub>RR</sub>	200		300		500		nS	
Thermal Energy (Rating for Fusing, t < 8.3 ms)	I <sup>2</sup> t	664							AMPS <sup>2</sup> SEC
Typical Thermal Resistance, Junction to Case (Note 2)	R <sub>θJC</sub>	1.2							°C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150							°C

NOTES: (1) T<sub>J</sub>=25°C, I<sub>F</sub>=0.5A, I<sub>R</sub>=1A, I<sub>RR</sub>=0.25A  
 (2) Bridge mounted on an 9" x 3" x 4.6" thick (22.9cm x 7.6cm x 11.7cm) finned aluminum plate

3.013510P