

**DIOTEC ELECTRONICS CORP**  
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Looking For: Electric Vehicle Fast Switching  
 Motor Control Diodes?

Data Sheet No. DISRT-3500-1A

## 35 AMP SOFT RECOVERY FAST SWITCHING TAB MOUNTED DIODES

### FEATURES

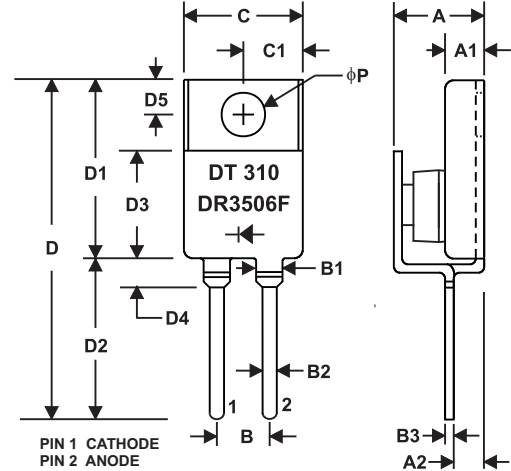
- Ideally Suited For Electric Vehicle Motor Speed Control Applications
- True Soft Recovery Characteristic With No Ringing, Spikes, or Overshoot
- HIGH Frequency: 250 kHz  
FAST Recovery: 100nS - 150nS
- Unmatched Performance - Minimal RFI/EMI, Reduced Power Losses, Extremely Cool Operation Increased Power Supply Efficiency
- VOID FREE Vacuum Die Soldering For Maximum Mechanical Strength And Heat Dissipation (Solder Voids: Typical < 2%, Max. < 10% of Die Area)

### MECHANICAL DATA

- Structure: Epoxy encapsulated diode body with metal tabs
- Finish: All external surfaces are corrosion resistant and readily solderable
- Soldering Temperature: 220 °C maximum, 3/8" from case for 10 seconds
- Mounting: Lead or chassis mounted, same configuration as TO-220AB
- Mounting Torque: 8 in-lbs Max.
- Weight: 0.13 Ounces (3.6 Grams), approximately

**RoHS COMPLIANT**

### MECHANICAL SPECIFICATION



REVERSE POLARITY AVAILABLE  
 BY ADDING AN "R" SUFFIX TO  
 THE PART NUMBER (e.g., DR3506FR)

ALL DIMENSIONS IN INCHES

Sym	Min	Max
A	0.284	0.310
A1	0.120	0.135
A2	0.095	0.105
B	0.170	0.210
B1	0.080	0.090
B2	0.035	0.045
B3	0.023	0.029
C	0.400	0.410
C1	0.200	0.205
D		1.170
D1	0.600	0.615
D2	0.540	0.555
D3	0.355	0.370
D4		0.100
D5	0.100	0.120
φP	0.139	0.149

DIE SIZE: 0.180" x 0.180"  
 SQUARE GPP DIE

### 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
		DR 3500F	DR 3501F	DR 3502F	DR 3504F	DR 3506F	
Series Number							
Maximum DC Blocking Voltage	V <sub>RM</sub>	50	100	200	400	600	VOLTS
Maximum RMS Voltage	V <sub>RMS</sub>	35	70	140	280	420	
Maximum Peak Recurrent Reverse Voltage	V <sub>R</sub> RM	50	100	200	400	600	
Average Forward Rectified Current	I <sub>O</sub>	35					AMPS
Peak Forward Surge Current (8.3mS single half sine wave superimposed on rated load)	I <sub>FSM</sub>	500					
Maximum Forward Voltage at 35 Amps DC	V <sub>FM</sub>	1.35 (Typical 1.25)					VOLTS
Maximum Average DC Reverse Current At Rated DC Blocking Voltage	I <sub>RM</sub>	1.0 50					μA
Typical Thermal Resistance, Junction to Case	R <sub>θJC</sub>	0.8					°C/W
Maximum Reverse Recovery Time - Soft Recovery	T <sub>RR</sub>	150 (Typ. 100)					nSec
Junction Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175					°C