

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

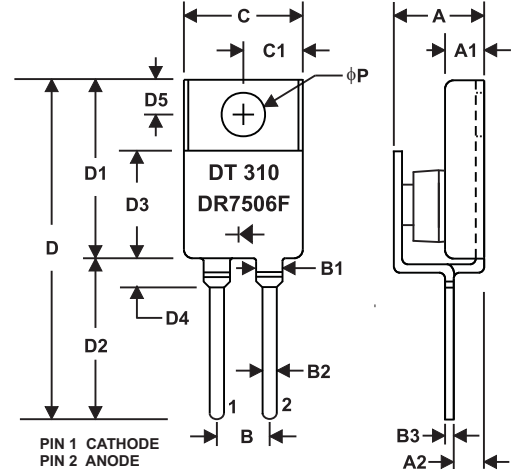
Data Sheet No. DISRT-7500-1A

75 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 SPECIFICATION



REVERSE POLARITY AVAILABLE
 BY ADDING AN "R" SUFFIX TO
 THE PART NUMBER (e.g., DR7506FR)

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 |
| phi P | 0.139 | 0.149 |

DIE SIZE: 0.250" DIAMETER
 ROUND DIE

RoHS COMPLIANT

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

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 7500F | DR 7501F | DR 7502F | DR 7504F | DR 7506F | |
| Series Number | | | | | | | |
| Maximum DC Blocking Voltage | V _{RM} | 50 | 100 | 200 | 400 | 600 | VOLTS |
| Maximum RMS Voltage | V _{RMS} | 35 | 70 | 140 | 280 | 420 | |
| Maximum Peak Recurrent Reverse Voltage | V _R RM | 50 | 100 | 200 | 400 | 600 | |
| Average Forward Rectified Current | I _O | 75 | | | | | AMPS |
| Peak Forward Surge Current (8.3mS single half sine wave superimposed on rated load) | I _F SM | 800 | | | | | |
| Maximum Forward Voltage at 75 Amps DC | V _{FM} | 1.40 (Typical 1.35) | | | | | VOLTS |
| Maximum Average DC Reverse Current At Rated DC Blocking Voltage | I _{RM} | 1.0 50 | | | | | μA |
| Typical Thermal Resistance, Junction to Case | R _θ JC | 0.8 | | | | | °C/W |
| Maximum Reverse Recovery Time - Soft Recovery | T _{RR} | 150 (Typ. 100) | | | | | nSec |
| Junction Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +175 | | | | | °C |