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

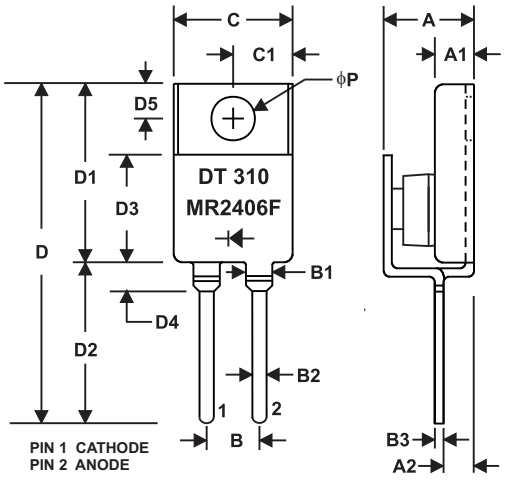
Data Sheet No. DISRT-2400-1A

# 25 AMP SOFT RECOVERY FAST SWITCHING TAB MOUNTED DIODES

## FEATURES

- VOID FREE Vacuum Die Soldering For Maximum Mechanical Strength And Heat Dissipation (Solder Voids: Typical < 2%, Max. < 10% of Die Area)
- 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

## MECHANICAL SPECIFICATION




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*

RoHS COMPLIANT

## MECHANICAL DATA

- Structure: Epoxy encapsulated diode body with metal tabs
- Finish: All external surfaces are corrosion resistant and readily solderable
- Maximum Soldering Temperature: 250 °C 3/8“ from case for 10 seconds
- Mounting: Lead or chassis mounted, same configuration as TO-220AB
- Mounting Torque: 8 in-lbs Max.
- Polarity: Cathode to Tab With Hole; Reverse polarity available by adding the suffix "R" to the P/N (e.g., MR2400FR )
- Weight: 1.2 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 |
|---|---|---|---|---|---|---|---|
| Series Number | | MR 2400F | MR 2401F | MR 2402F | MR 2404F | MR 2406F | |
| Maximum DC Blocking Voltage | $V_{RM}$ | 50 | 100 | 200 | 400 | 600 | VOLTS |
| Maximum RMS Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | VOLTS |
| Maximum Peak Recurrent Reverse Voltage | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | VOLTS |
| Average Forward Rectified Current | $I_O$ | 25 | | | | | AMPS |
| Peak Forward Surge Current (8.3mS single half sine wave superimposed on rated load) | $I_{FSM}$ | 400 | | | | | AMPS |
| Maximum Forward Voltage at 25 Amps DC | $V_{FM}$ | 1.2 (Typical 1.1) | | | | | VOLTS |
| Maximum Average DC Reverse Current @ $T_C$ = 25 °C<br>At Rated DC Blocking Voltage @ $T_C$ = 125 °C | $I_{RM}$ | 1.0<br>50 | | | | | µA |
| Typical Thermal Resistance, Junction to Case | $R_{\theta JC}$ | 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 +150 | | | | | °C |