

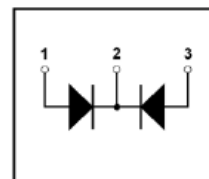
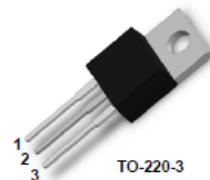
## FAST RECOVER DIODE

### Features

- 600V,16A
- Soft Recovery
- Operation Temperature <150°C
- Planar Construction

### Applications

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS



### Absolute Maximum Ratings

| Symbol      | Parameter                                                         | Value       | Units |
|-------------|-------------------------------------------------------------------|-------------|-------|
| $V_R$       | Maximum D.C. Reverse Voltage                                      | 600         | V     |
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage                                | 600         | V     |
| $I_{F(AV)}$ | Continuous Forward Current Per Diode ( $T_C=100^\circ\text{C}$ )  | 8           | A     |
|             | Continuous Forward Current Per Package( $T_C=100^\circ\text{C}$ ) | 16          | A     |
| $I_{FRMS}$  | RMS Forward Current ( $T_C=100^\circ\text{C}$ )                   | 12          | A     |
| $I_{FSM}$   | Non-Repetitive Surge Forward Current                              | 80          | A     |
| $P_D$       | Power Dissipation                                                 | 42          | W     |
| $T_J$       | Operating Junction Temperature Range                              | -55 to +175 | °C    |
| $T_{STG}$   | Storage Temperature Range                                         | -55 to +175 | °C    |
| $R_{thJC}$  | Thermal Resistance                                                | 3           | °C/W  |

## Electrical Characteristics ( $T_C=25^\circ\text{C}$ unless otherwise noted)

| Symbol    | Parameter                           | Test Conditions                        | Min. | Typ. | Max. | Units         |
|-----------|-------------------------------------|----------------------------------------|------|------|------|---------------|
| $V_F$     | Diode Forward Voltage               | $I_F=8\text{A } T_C=25^\circ\text{C}$  |      | 1.3  | 1.7  | V             |
|           | Diode Forward Voltage               | $I_F=8\text{A } T_C=125^\circ\text{C}$ |      | 1.0  | 1.5  | V             |
| $I_R$     | Instantaneous reverse current       | $V_R=600\text{V}$                      |      |      | 10   | $\mu\text{A}$ |
| $I_{RRM}$ | Diode peak Reverse Recovery Current | $I_F=1\text{A}$                        |      | 1.2  |      | A             |
| $t_{rr}$  | Diode Reverse Recovery Time         | $dI_F/dt=200\text{A}/\mu\text{s}$      |      | 30   |      | ns            |
| $Q_{RR}$  | Diode Reverse Recovery Charge       | $V_R=30\text{V}$                       |      | 20   |      | nC            |
| $I_{RRM}$ | Diode peak Reverse Recovery Current | $I_F=8\text{A},$                       |      | 5.2  |      | A             |
| $t_{rr}$  | Diode Reverse Recovery Time         | $dI_F/dt=200\text{A}/\mu\text{s}$      |      | 55   |      | ns            |
| $Q_{RR}$  | Diode Reverse Recovery Charge       | $V_R=300\text{V}$                      |      | 170  |      | nC            |

Fig.1 Forward Current vs Forward Voltage

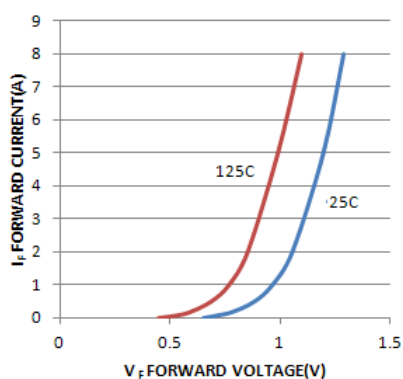


Fig.2 Reverse Current vs Reverse Voltage

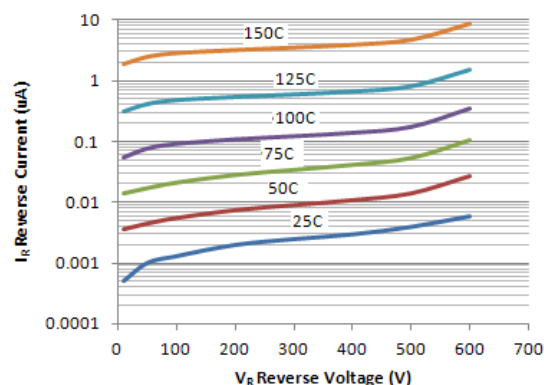


Fig.3  $t_{rr}$  Test Circuit

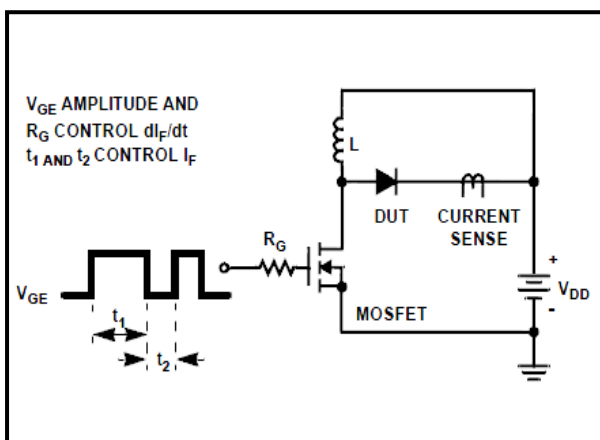


Fig.4  $t_{rr}$  Waveforms and Definitions

