# MF200K06F4N

RoHS COMPLIANT



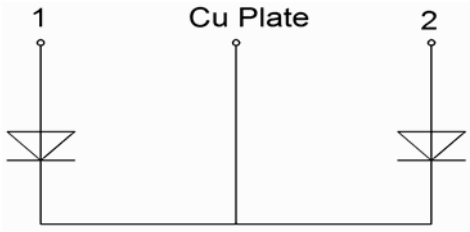
## FRED Modules

**$V_{RRM}$** 600V
**$I_{FAV}$** 200 A

### Applications

Inversion Welder
Uninterruptible Power Supply (UPS)
Plating Power Supply
Ultrasonic Cleaner and Welder
Power Factor Correction (PFC) Circuit
Converter & Chopper

### Circuit




### Features

Soft Reverse Recovery Characteristics
Ultrafast Reverse Recovery Time
Low Reverse Recovery Loss
Low Forward Voltage
High Surge Current Capability
Low Inductance Package

### Maximum Ratings

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $V_R$ | | 600 | V |
| $V_{RRM}$ | | 600 | V |
| $I_{F(AV)}$ | $T_C$=125°C, Per Diode | 100 | A |
| | $T_C$=125°C, Per Module | 200 | A |
| $I_{F(RMS)}$ | $T_C$=125°C, Per Diode | 141 | A |
| $I_{FSM}$ | 1/2 Cycle , 50Hz, Sine | 2100 | A |
| | 1/2 Cycle , 60Hz, Sine | 2350 | A |
| $I^2t$ | $T_J$=45°C, t=10ms, 50Hz, Sine | 22000 | $A^2s$ |
| | $T_J$=45°C, t=8.3ms, 60Hz, Sine | 27600 | $A^2s$ |
| $P_D$ | | 1400 | W |
| $T_J$ | | -40 to +150 | °C |
| $T_{STG}$ | | -40 to +125 | °C |
| Torque | Recommended M6 | 3 4.7 | N·m |
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| Weight | | 70 | g |

### Thermal Characteristics

| Symbol | Conditions | Values | Units |
|---|---|---|---|
| $R_{th(j-c)}$ | Per diode | 0.2 | ℃/W |
| $R_{th(j-c)}$ | Per module | 0.1 | ℃/W |

## Electrical Characteristics

| Symbol | Conditions | Values | | | Units |
|---|---|---|---|---|---|
| | | Min. | Typ. | Max. | |
| $I_{RM}$ | $V_R$=600V | -- | -- | 0.5 | mA |
| | $V_R$=600V, $T_J$=125°C | -- | -- | 1 | mA |
| $V_F$ | $I_F$=100A | -- | 1.15 | | V |
| | $I_F$=100A, $T_J$=125°C | -- | 1.0 | | V |
| trr | $I_F$=1A, $V_R$=30V, $di_F/dt$=-200A/ s | -- | 48 | -- | ns |
| trr | $V_R$=300V, $I_F$=100A, $di_F/dt$=-200A/ s, $T_J$=25°C | -- | 105 | -- | ns |
| $I_{RRM}$ | | -- | 10 | -- | A |
| trr | $V_R$=300V, $I_F$=100A, $di_F/dt$=-200A/ s, $T_J$=125°C | -- | 200 | -- | ns |
| $I_{RRM}$ | | -- | 18 | -- | A |

## Performance Curves

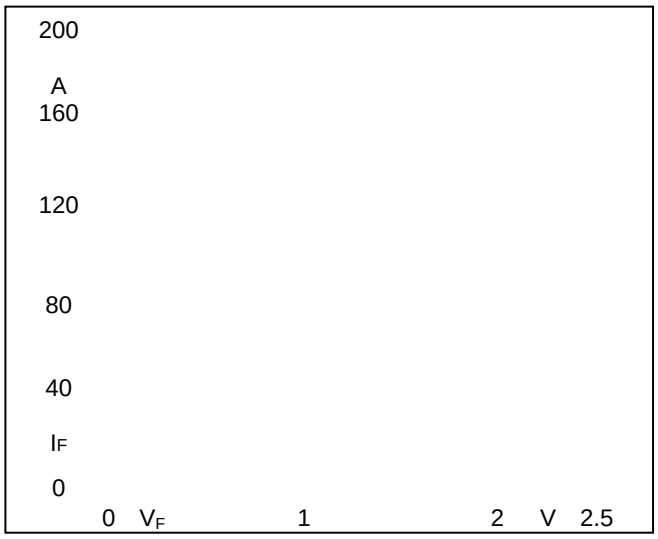



Fig1. Forward Voltage Drop vs Forward Current

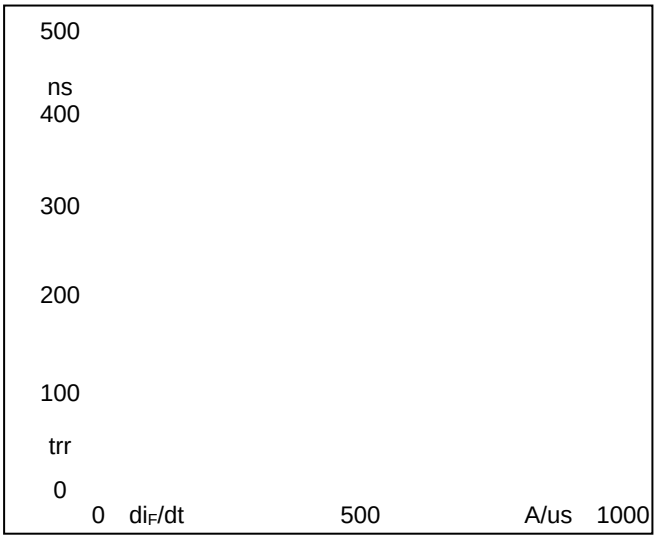



Fig2. Reverse Recovery Time vs $di_F/dt$

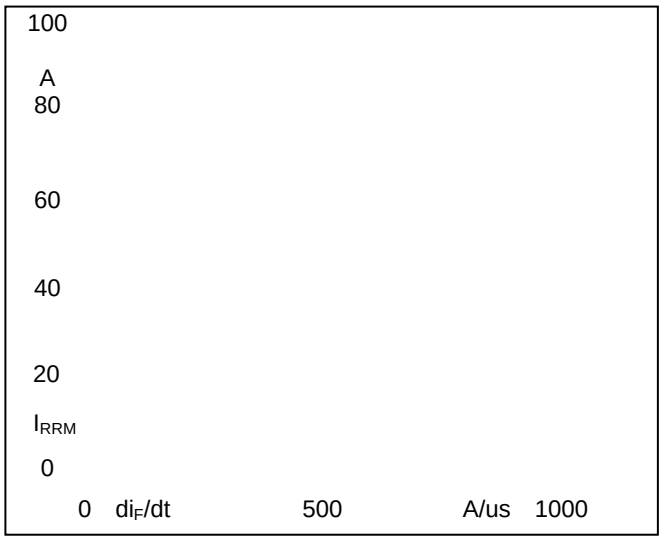



Fig3. Reverse Recovery Current vs $di_F/dt$

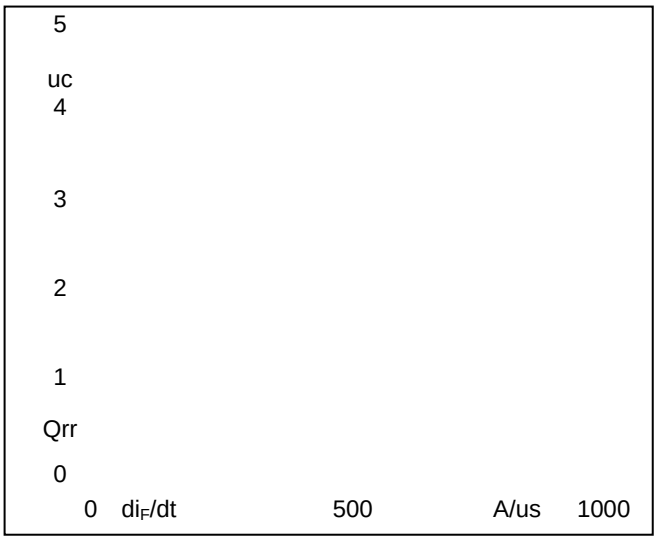
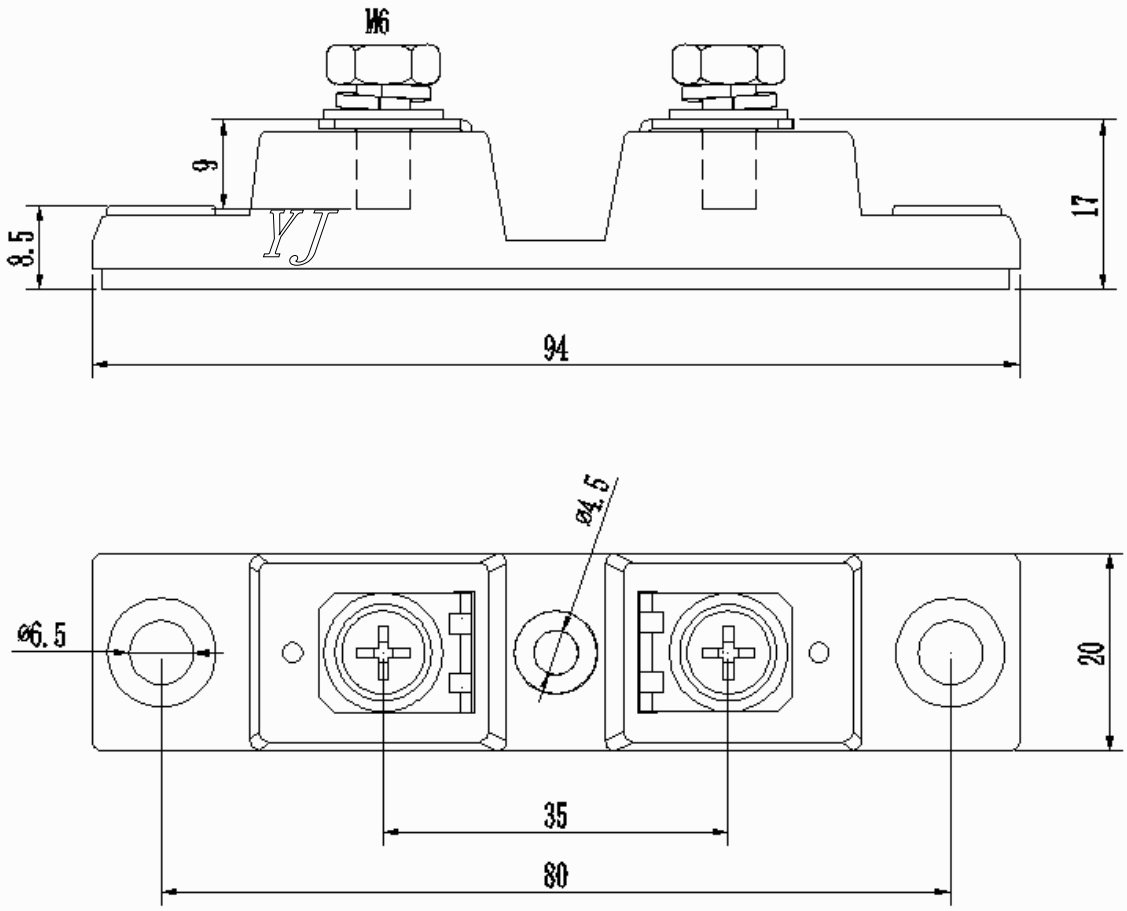



Fig4. Reverse Recovery Charge vs $di_F/dt$

## Package Outline Information

**CASE: F4N**




**Dimensions in mm**