



Micro Commercial Components
 20736 Marilla Street Chatsworth
 CA 91311
 Phone: (818) 701-4933
 Fax: (818) 701-4939

MF200K04F3

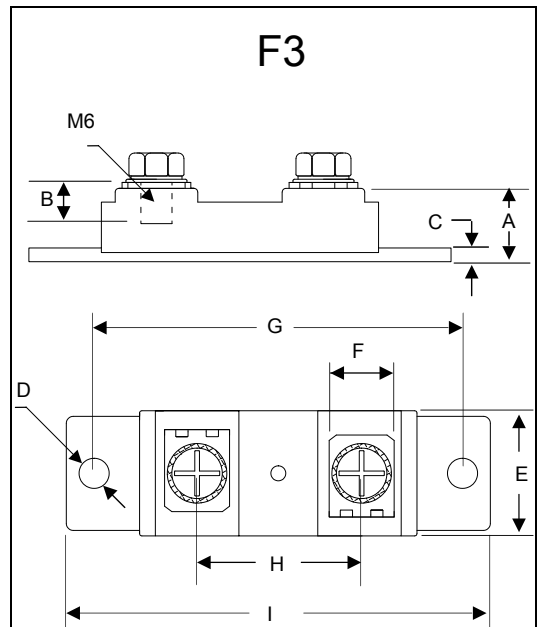
**200 Amp
 FRED Modules
 400 Volts**

Features

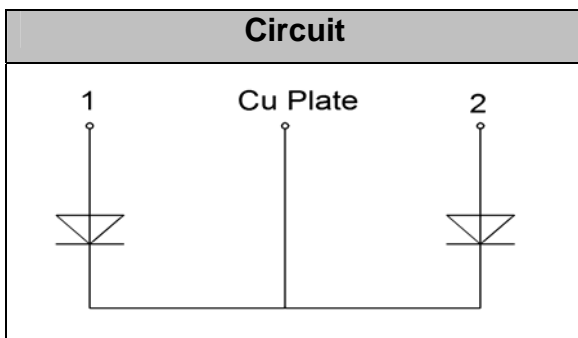
- Lead Free Finish/RoHS Compliant (NOTE 1) ("P" Suffix designates RoHS Compliant. See ordering information)
- Soft Reverse Recovery Characteristics
- Ultrafast Reverse Recovery Time
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Inductance Package

Applications

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



| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|-------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | .618 | .642 | 15.70 | 16.30 | |
| B | .343 | .366 | 8.70 | 9.30 | |
| C | .118 | .130 | 3.00 | 3.30 | |
| D | .256 | | 6.50 | | ∅ |
| E | 1.051 | 1.075 | 26.70 | 27.30 | |
| F | .539 | .563 | 13.70 | 14.30 | |
| G | 3.138 | 3.161 | 79.70 | 80.30 | |
| H | 1.366 | 1.390 | 34.70 | 35.30 | |
| I | 3.610 | 3.634 | 91.70 | 92.30 | |



Maximum Ratings

| Symbol | Conditions | Values | Units |
|--------------|--|-------------|----------------------|
| V_R | | 400 | V |
| V_{RRM} | | 400 | V |
| $I_{F(AV)}$ | $T_C=125^\circ\text{C}$, Per Diode | 100 | A |
| | $T_C=125^\circ\text{C}$, Per Moudle | 200 | A |
| | $T_C=125^\circ\text{C}$, 20KHz, Per Moudle | 150 | A |
| $I_{F(RMS)}$ | $T_C=125^\circ\text{C}$, Per Diode | 150 | A |
| I_{FSM} | 1/2 Cycle , 50Hz, Sine | 1500 | A |
| | 1/2 Cycle , 60Hz, Sine | 1800 | A |
| I^2t | $T_J=45^\circ\text{C}$, t=10ms, 50Hz, Sine | 11250 | A^2s |
| | $T_J=45^\circ\text{C}$, t=8.3ms, 60Hz, Sine | 16200 | A^2s |
| P_D | | 833 | W |
| T_J | | -40 to +150 | $^\circ\text{C}$ |
| T_{STG} | | -40 to +125 | $^\circ\text{C}$ |
| Torque | Recommended (M6) | 3~4.7 | N·m |
| Torque | Recommended (M6) | 3~4.7 | N·m |
| Weight | | 92 | g |

Thermal Characteristics

| Symbol | Conditions | Values | Units |
|---------------|------------|--------|---------------------------|
| $R_{th(j-c)}$ | Per diode | 0.15 | $^\circ\text{C}/\text{W}$ |

Electrical Characteristics

| Symbol | Conditions | Values | | | Units |
|-----------|--|--------|------|------|-------|
| | | Min. | Typ. | Max. | |
| I_{RM} | $V_R=400\text{V}$ | -- | -- | 0.5 | mA |
| | $V_R=400\text{V}$, $T_J=125^\circ\text{C}$ | -- | -- | 1 | mA |
| V_F | $I_F=100\text{A}$ | -- | 1.1 | 1.35 | V |
| | $I_F=100\text{A}$, $T_J=125^\circ\text{C}$ | -- | 1.0 | 1.25 | V |
| trr | $I_F=1\text{A}$, $V_R=30\text{V}$, $di_F/dt=-200\text{A}/\mu\text{s}$ | -- | 38 | -- | ns |
| trr | $V_R=200\text{V}$, $I_F=100\text{A}$, $di_F/dt=-200\text{A}/\mu\text{s}$, $T_J=25^\circ\text{C}$ | -- | 95 | -- | ns |
| I_{RRM} | | -- | 8.5 | -- | A |
| trr | $V_R=200\text{V}$, $I_F=100\text{A}$, $di_F/dt=-200\text{A}/\mu\text{s}$, $T_J=125^\circ\text{C}$ | -- | 150 | -- | ns |
| I_{RRM} | | -- | 14 | -- | A |

Performance Curves

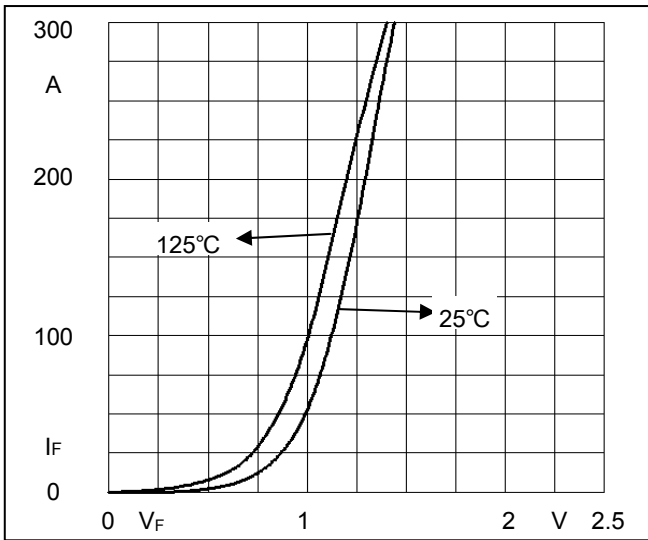


Fig1. Forward Voltage Drop vs Forward Current

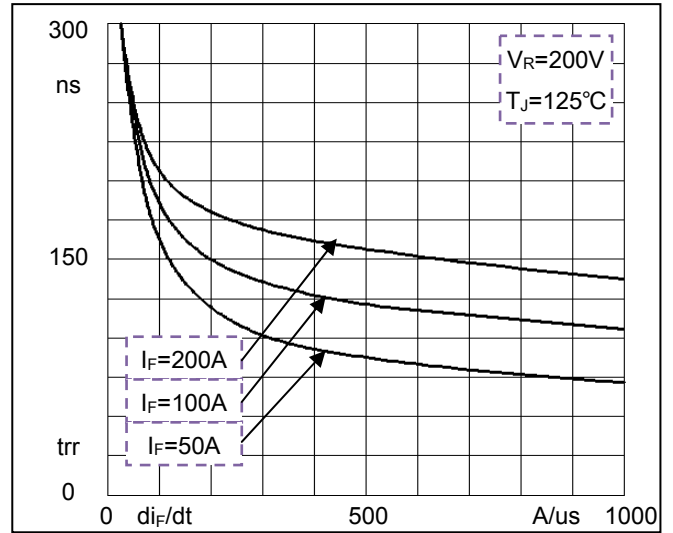


Fig2. Reverse Recovery Time vs di_F/dt

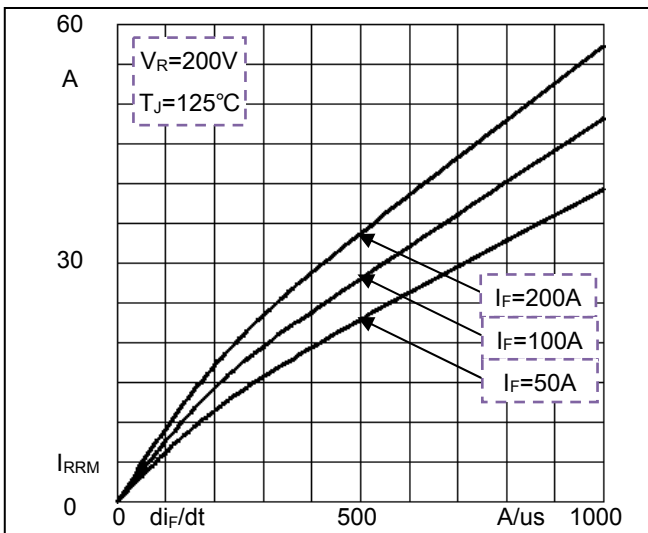


Fig3. Reverse Recovery Current vs di_F/dt

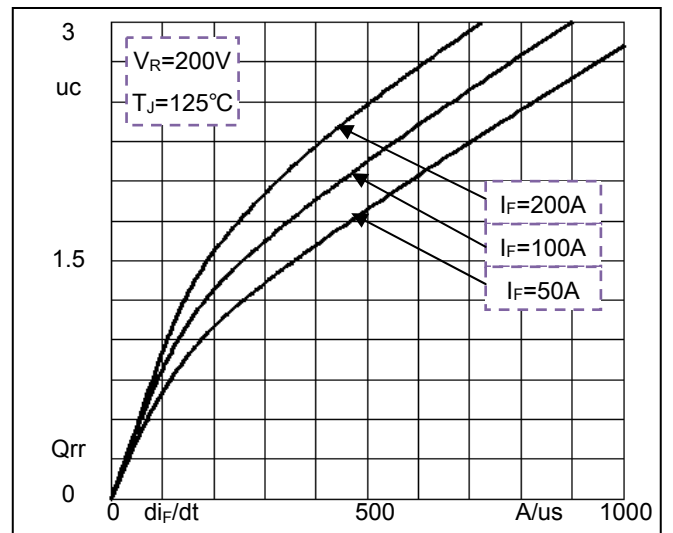


Fig4. Reverse Recovery Charge vs di_F/dt



Micro Commercial Components

Ordering Information :

| Device | Packing |
|----------------|-----------------------------|
| Part Number-BP | Bulk: 10PCS/BOX ;100PCS/CTN |

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