

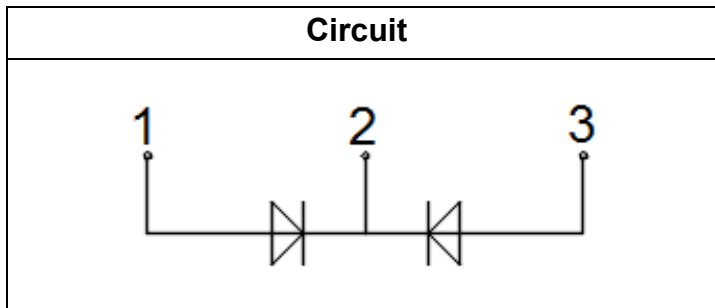
Features

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

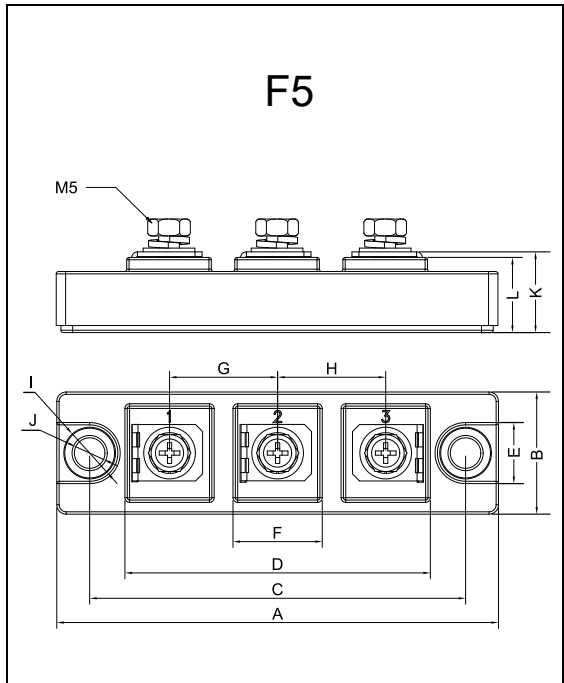
Applications

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

Part Number	$I_{F(AV)}$	V_{RRM}
MF200K12F5	200A	1200V



**200 Amp
FRED Modules
1200 Volts**



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	3.681	3.720	93.50	94.50	
B	1.004	1.043	25.50	26.50	
C	3.130	3.169	79.50	80.50	
D	2.500	2.539	63.50	64.50	
E	0.453	0.492	11.50	12.50	
F	0.689	0.728	17.50	18.50	
G	0.886	0.925	22.50	23.50	
H	0.886	0.925	22.50	23.50	
I	0.413	0.453	10.50	11.50	∅
J	0.236	0.276	6.00	7.00	∅
K	0.650	0.689	16.50	17.50	
L	0.610	0.650	15.50	16.50	

Maximum Ratings

Symbol	Conditions	Values	Units
V_R		1200	V
V_{RRM}		1200	V
$I_{F(AV)}$	$T_C=110^{\circ}\text{C}$, Per Diode	200	A
$I_{F(RMS)}$	$T_C=110^{\circ}\text{C}$, Per Diode	280	A
I_{FSM}	1/2 Cycle, 50Hz, Sine	1800	A
	1/2 Cycle, 60Hz, Sine	1950	A
I^2t	$T_J=45^{\circ}\text{C}$, $t=10\text{ms}$, 50Hz, Sine	16200	A^2s
	$T_J=45^{\circ}\text{C}$, $t=8.3\text{ms}$, 60Hz, Sine	19000	A^2s
P_D		568	W
Visol	AC, $T_{on}=1\text{min}$	3000	V
T_J		-40 to +150	$^{\circ}\text{C}$
T_{STG}		-40 to +125	$^{\circ}\text{C}$
Torque	Recommended (M6)	4.5	N·m
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Weight		105	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Junction-to-Case	0.2	$^{\circ}\text{C}/\text{W}$

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
I_{RM}	$V_R=1200\text{V}$	--	--	1	mA
	$V_R=1200\text{V}$, $T_J=125^{\circ}\text{C}$	--	--	5	mA
V_F	$I_F=200\text{A}$	--	2.3		V
	$I_F=200\text{A}$, $T_J=125^{\circ}\text{C}$	--	1.9		V
trr	$I_F=1\text{A}$, $V_R=30\text{V}$, $di_F/dt=-200\text{A}/\mu\text{s}$	--	57	--	ns
trr	$V_R=600\text{V}$, $I_F=200\text{A}$, $di_F/dt=-200\text{A}/\mu\text{s}$, $T_J=25^{\circ}\text{C}$	--	110	--	ns
I_{RRM}		--	9	--	A
trr	$V_R=600\text{V}$, $I_F=200\text{A}$, $di_F/dt=-200\text{A}/\mu\text{s}$, $T_J=125^{\circ}\text{C}$	--	500	--	ns
I_{RRM}		--	21	--	A

Performance Curves

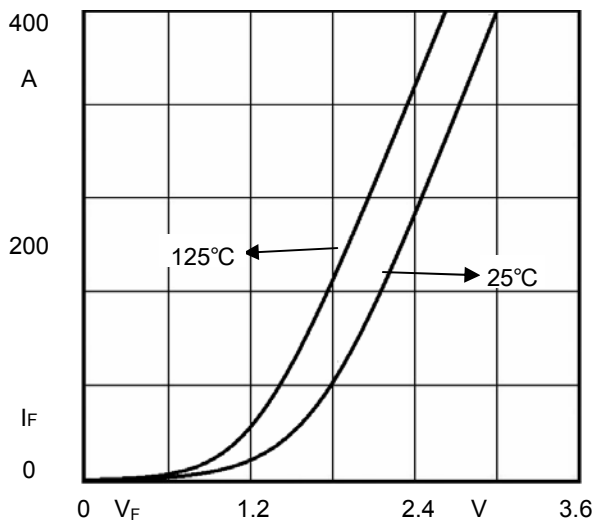


Fig1. Forward Voltage Drop vs Forward Current

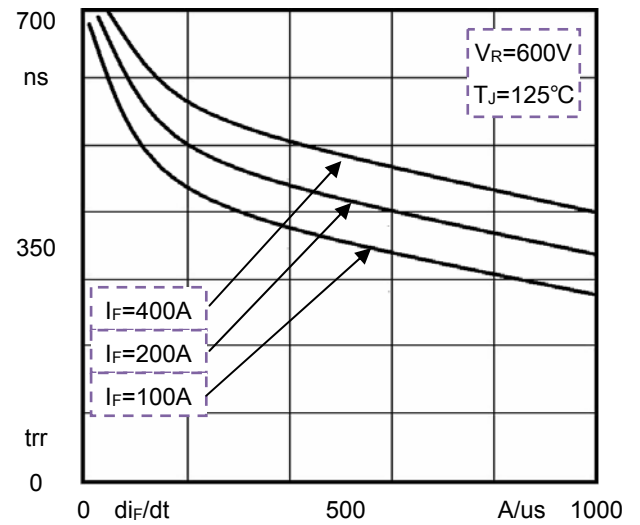


Fig2. Reverse Recovery Time vs diF/dt

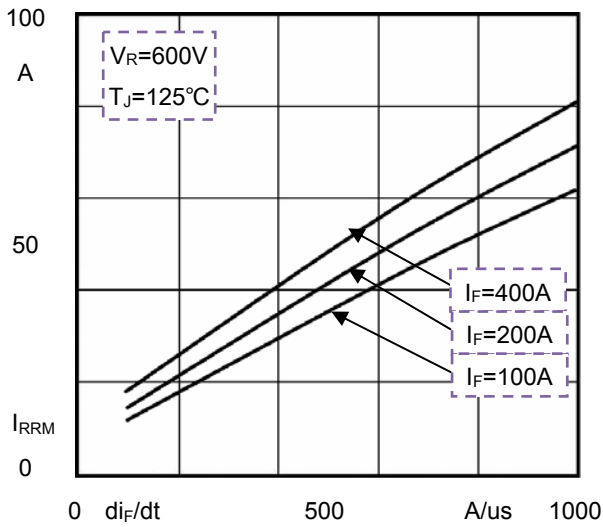


Fig3. Reverse Recovery Current vs diF/dt

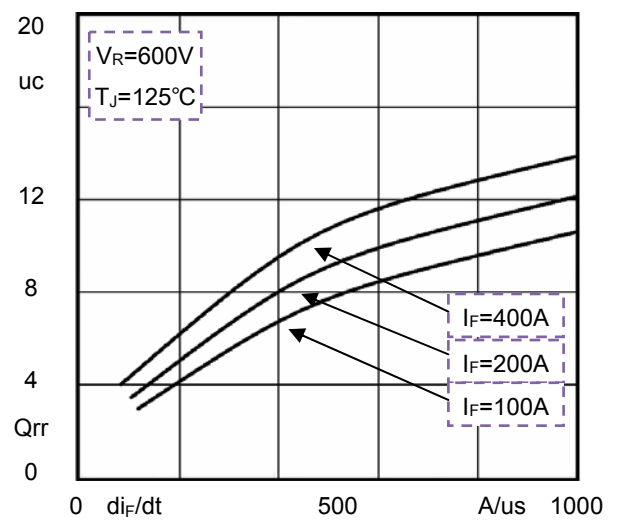


Fig4. Reverse Recovery Charge vs diF/dt

Ordering Information

Device	Packing
Part Number-BP	Bulk:10pcs/Box,100pcs/Carton

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