



Micro Commercial Components



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**MF100U12F2**

## 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

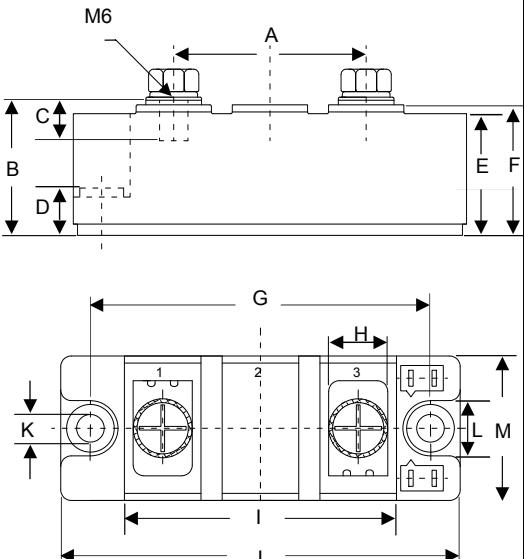
## Applications

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



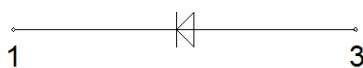
**100 Amp  
FRED Modules  
1200 Volts**

**F2**



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.886	0.925	22.50	23.50	
B	1.161	1.201	29.50	30.50	
C	0.335	0.374	8.50	9.50	
D	0.315	0.350	8.00	8.90	
E	1.043	1.083	26.50	27.50	
F	1.122	1.161	28.50	29.50	
G	3.130	3.169	79.50	80.50	
H	0.492	0.531	12.50	13.50	
I	2.500	2.539	63.50	64.50	
J	3.681	3.720	93.50	94.50	
K	0.256		6.50		Ø
L	0.492	0.531	12.50	13.50	
M	1.319	1.358	33.50	34.50	

### Circuit



# MF100U12F2

## Maximum Ratings

Symbol	Conditions	Values	Units
$V_R$		1200	V
$V_{RRM}$		1200	V
$I_{F(AV)}$	$T_C=110^\circ C$ , Per Diode	100	A
$I_{F(RMS)}$	$T_C=110^\circ C$ , Per Diode	140	A
$I_{FSM}$	1/2 Cycle , 50Hz, Sine	1100	A
	1/2 Cycle , 60Hz, Sine	1200	A
$I^2t$	$T_J=45^\circ C$ , $t=10ms$ , 50Hz, Sine	6050	$A^2s$
$P_D$		140	W
Visol	AC, $T_{on}=1min$	3000	V
$T_J$		-40 to +150	$^\circ C$
$T_{STG}$		-40 to +125	$^\circ C$
Torque	Recommended (M6)	4.5	N·m
Torque	Recommended (M6)	4.5	N·m
Weight		140	g

## Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Junction - to - Case	0.22	$^\circ C/W$

## Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
$I_{RM}$	$V_R=1200V$	--	--	1	mA
	$V_R=1200V$ , $T_J=125^\circ C$	--	--	5	mA
$V_F$	$I_F=100A$	--	1.58		V
	$I_F=100A$ , $T_J=125^\circ C$	--	1.35		V
$trr$	$I_F=1A$ , $V_R=30V$ , $di_F/dt=-200A/\mu s$	--	55	--	ns
$trr$	$V_R=600V$ , $I_F=100A$ , $di_F/dt=-200A/\mu s$ , $T_J=25^\circ C$	--	135	--	ns
$I_{RRM}$		--	10	--	A
$trr$	$V_R=600V$ , $I_F=100A$ , $di_F/dt=-200A/\mu s$ , $T_J=125^\circ C$	--	380	--	ns
$I_{RRM}$		--	21	--	A

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## Performance Curves

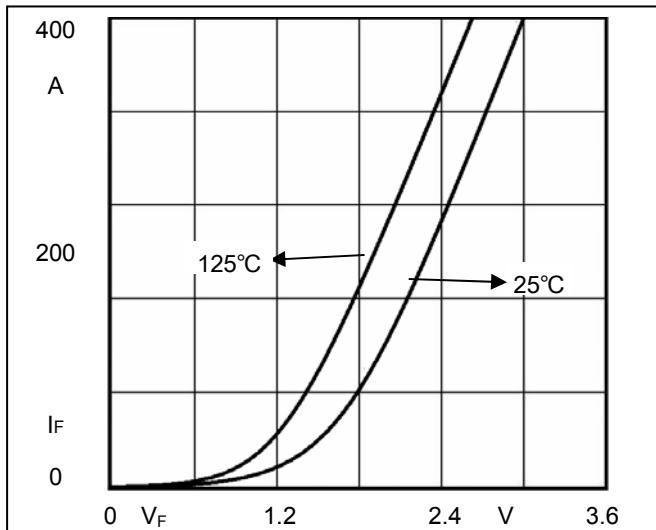


Fig1. Forward Voltage Drop vs Forward Current

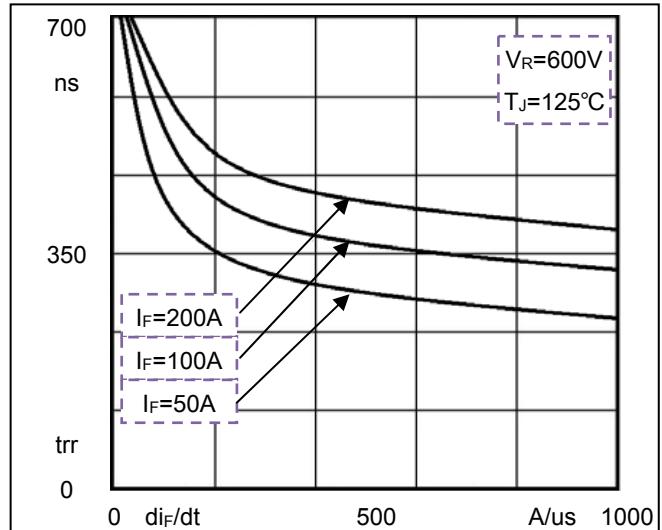


Fig2. Reverse Recovery Time vs  $di_F/dt$

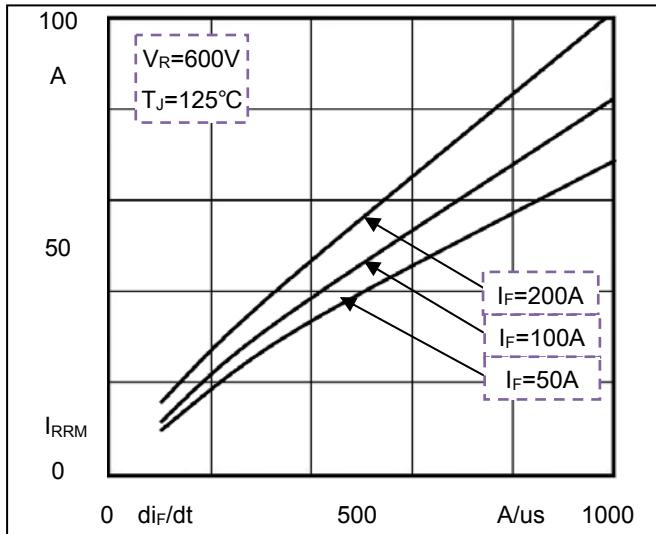


Fig3. Reverse Recovery Current vs  $di_F/dt$

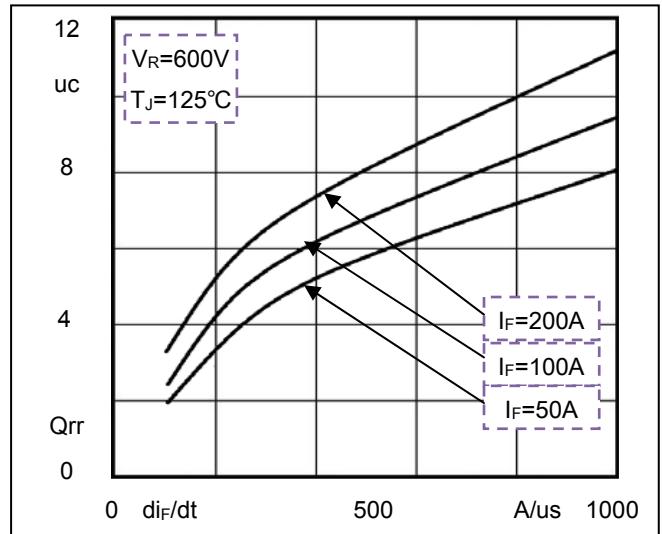


Fig4. Reverse Recovery Charge vs  $di_F/dt$



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## Ordering Information :

Device	Packing
Part Number-BP	Bulk: 8PCS/BOX ;80PCS/CTN

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