Micro Commercial Components
130 W Cochran St, Unit B
Simi Valley, CA 93065
USA
Tel:818-701-4933

MF300C12F2

300 Amp
FRED Modules
1200 Volts

Features

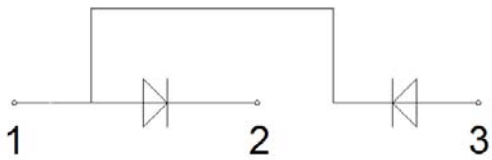
- Lead Free Finish/RoHS Compliant (NOTE 1)("P" Suffix designates RoHS Compliant. See ordering information)
- Soft Reverse Recovery Characteristics
- Ultrafast Reverse Recovery Time
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Inductance Package

Applications

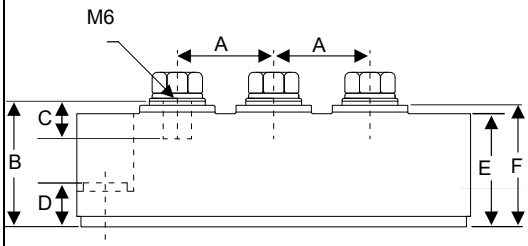
- Inversion Welder
- Uninterruptible Power Supply (UPS)
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Power Factor Correction (PFC) Circuit
- Converter & Chopper

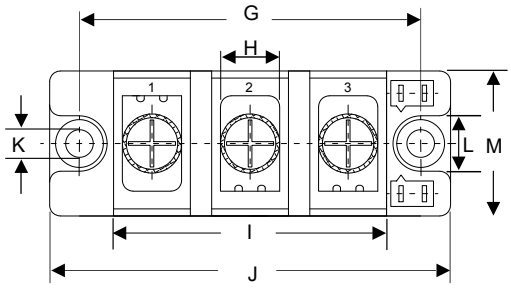


Circuit



F2





DIMENSIONS					
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		∅
L	0.492	0.531	12.50	13.50	
M	1.319	1.358	33.50	34.50	

Maximum Ratings

Symbol	Conditions	Values	Units
V_R		1200	V
V_{RRM}		1200	V
$I_{F(AV)}$	T_C=110°C, Per Diode	300	A
	T_C=120°C, 20KHz, Per Moudle	200	A
$I_{F(RMS)}$	T_C=110°C, Per Diode	420	A
I_{FSM}	1/2 Cycle , 50Hz, Sine	2700	A
	1/2 Cycle , 60Hz, Sine	2850	A
I^2t	T_J=45°C, t=10ms, 50Hz, Sine	36450	A^2s
	T_J=45°C, t=8.3ms, 60Hz, Sine	40613	A^2s
P_D		893	W
Visol	AC, Ton=1min	3000	V
T_J		-40 to +150	°C
T_{STG}		-40 to +125	°C
Torque	Recommended（M6）	5±15%	N·m
Torque	Recommended（M6）	5±15%	N·m
Weight		160	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per diode	0.14	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
I_{RM}	V_R=1200V	--	--	1	mA
	V_R=1200V, T_J=125°C	--	--	5	mA
V_F	I_F=300A	--	2.8	3	V
	I_F=300A, T_J=125°C	--	2.1	2	V
trr	I_F=1A, V_R=30V, di_F/dt=-200A/μs	--	65	--	ns
trr	V_R=600V, I_F=300A, di_F/dt=-200A/μs, T_J=25°C	--	135	--	ns
I_{RRM}		--	10	--	A
trr	V_R=600V, I_F=300A, di_F/dt=-200A/μs, T_J=125°C	--	385	--	ns
I_{RRM}		--	25	--	A

Performance Curves

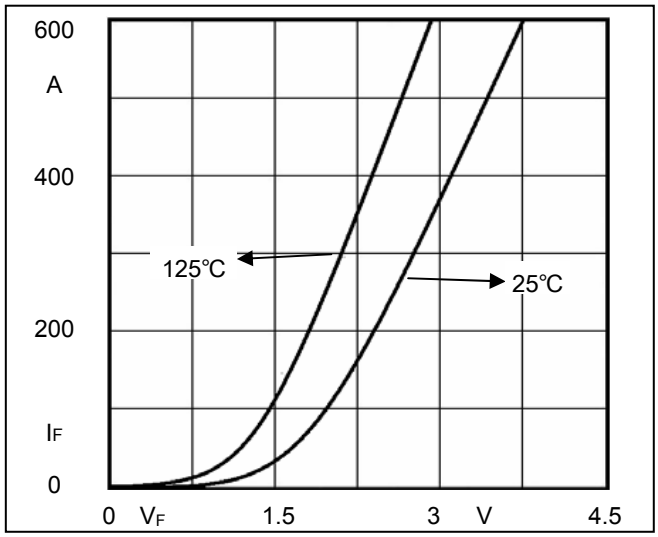


Fig1. Forward Voltage Drop vs Forward Current

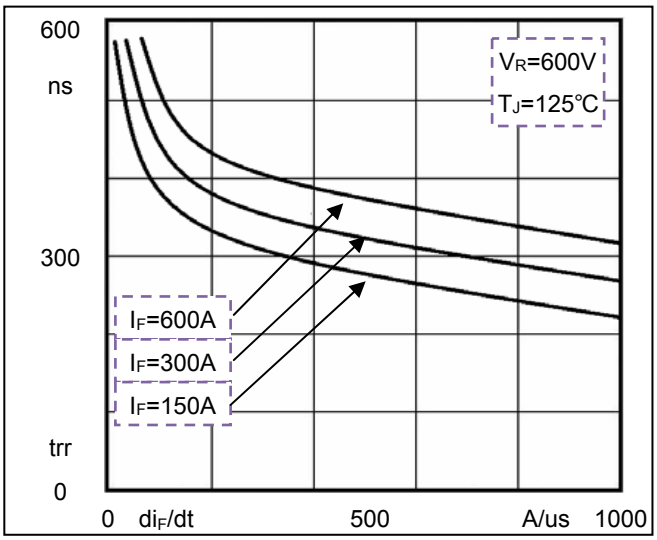


Fig2. Reverse Recovery Time vs di_F/dt

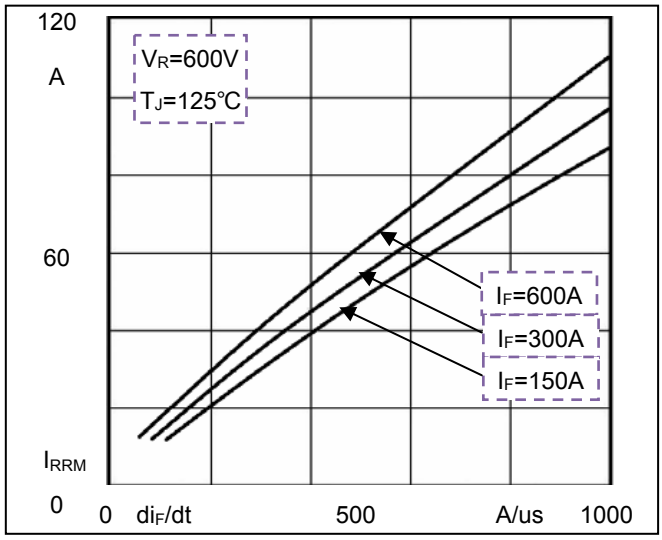


Fig3. Reverse Recovery Current vs di_F/dt

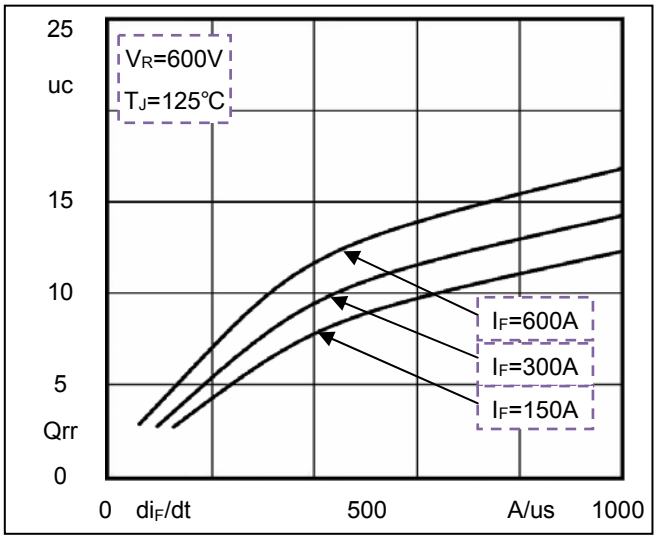


Fig4. Reverse Recovery Charge vs di_F/dt

Micro Commercial Components

Ordering Information :

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

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