



Micro Commercial Components



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MF300K06F3

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

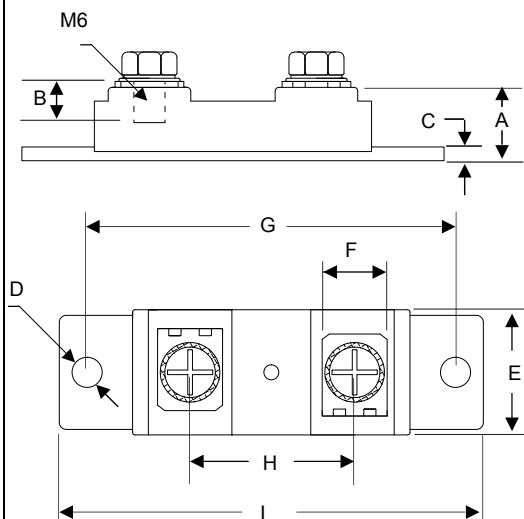
Applications

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



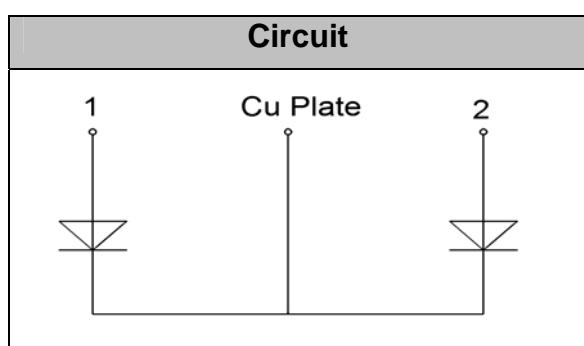
**300 Amp
FRED Modules
600 Volts**

F3



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		Ø
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	

Circuit



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Maximum Ratings

Symbol	Conditions	Values	Units
V_R		600	V
V_{RRM}		600	V
$I_{F(AV)}$	$T_C=125^\circ C$, Per Diode	150	A
	$T_C=125^\circ C$, Per Moudle	300	A
	$T_C=125^\circ C$, 20KHz, Per Moudle	200	A
$I_{F(RMS)}$	$T_C=125^\circ C$, Per Diode	220	A
I_{FSM}	1/2 Cycle , 50Hz, Sine	3500	A
	1/2 Cycle , 60Hz, Sine	4000	A
I^2t	$T_J=45^\circ C$, $t=10ms$, 50Hz, Sine	61250	A^2s
	$T_J=45^\circ C$, $t=8.3ms$, 60Hz, Sine	80000	A^2s
P_D		2080	W
T_J		-40 to +150	$^\circ C$
T_{STG}		-40 to +125	$^\circ C$
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	0.06	$^\circ C/W$

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
I_{RM}	$V_R=600V$	--	--	1	mA
	$V_R=600V$, $T_J=125^\circ C$	--	--	20	mA
V_F	$I_F=150A$	--	1.1	1.4	V
	$I_F=150A$, $T_J=125^\circ C$	--	--	1.25	V
trr	$I_F=1A$, $V_R=30V$, $di_F/dt=-200A/\mu s$	--	50	--	ns
trr	$V_R=300V$, $I_F=150A$, $di_F/dt=-200A/\mu s$, $T_J=25^\circ C$	--	130	--	ns
I_{RRM}		--	14	--	A
trr	$V_R=300V$, $I_F=150A$, $di_F/dt=-200A/\mu s$, $T_J=125^\circ C$	--	220	--	ns
I_{RRM}		--	22	--	A

Performance Curves

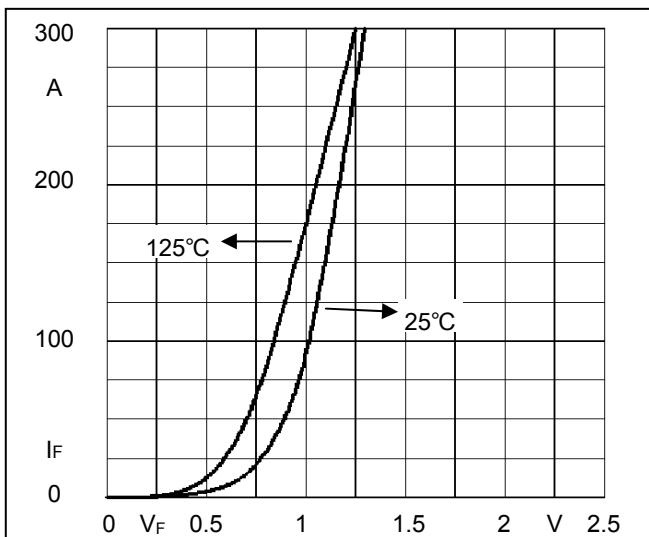


Fig1. Forward Voltage Drop vs Forward Current

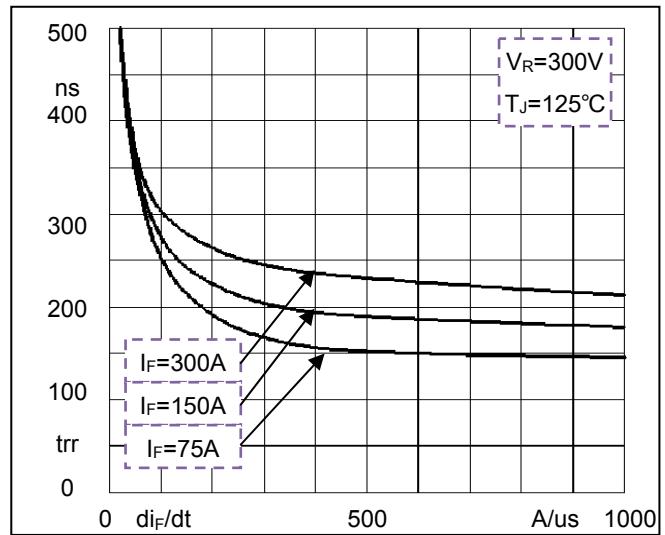


Fig2. Reverse Recovery Time vs di_F/dt

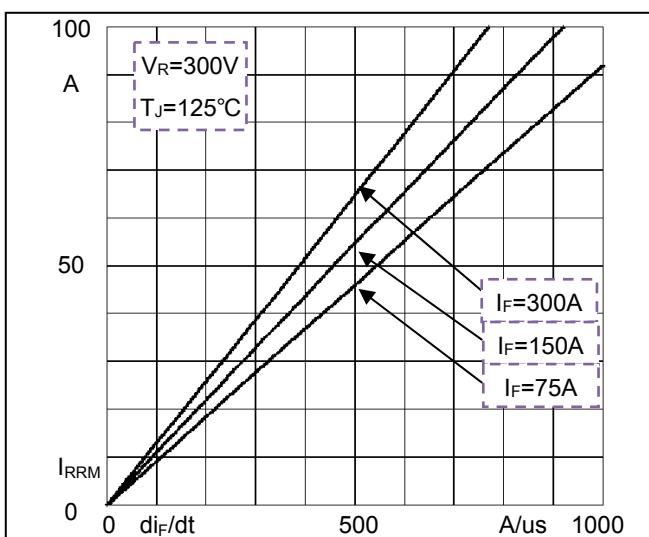


Fig3. Reverse Recovery Current vs di_F/dt

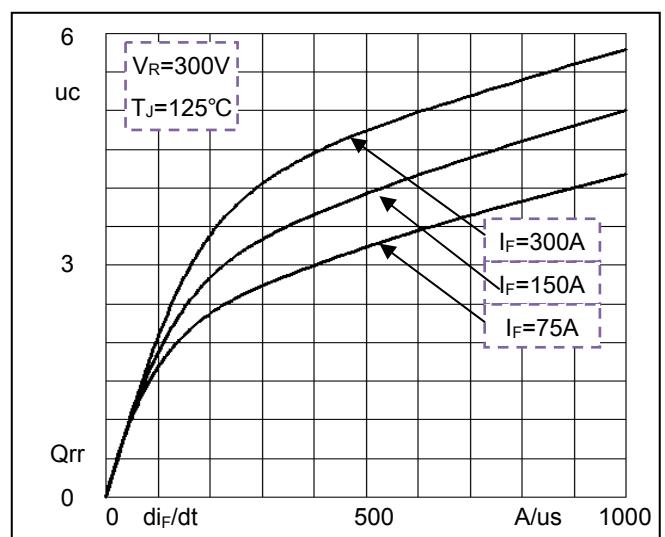


Fig4. Reverse Recovery Charge vs di_F/dt



Ordering Information :

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

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