

FRED Modules



V_{RRM} 600V

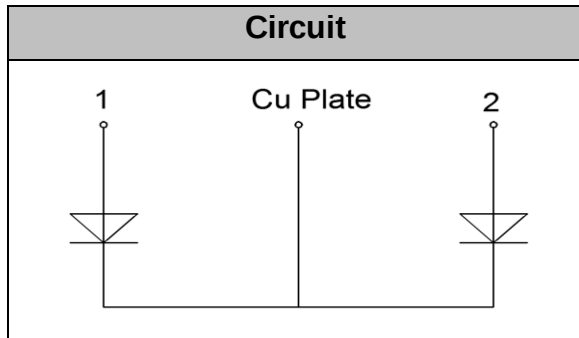
I_{FAV} 300 A

Applications

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

Features

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



Maximum Ratings

Symbol	Conditions	Values	Units
V _R		600	V
V _{RRM}		600	V
I _{F(AV)}	T _C =125°C, Per Diode	150	A
	T _C =125°C, Per Module	300	A
I _{F(RMS)}	T _C =125°C, Per Diode	220	A
I _{FSM}	1/2 Cycle, 50Hz, Sine	3500	A
	1/2 Cycle, 60Hz, Sine	4000	A
I ² t	T _J =45°C, t=10ms, 50Hz, Sine	61250	A ² s
	T _J =45°C, t=8.3ms, 60Hz, Sine	80000	A ² s
P _D		2080	W
T _J		-40 to +150	°C
T _{STG}		-40 to +125	°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	°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	$I_F=150A$	--	1.2	1.3	V
	$I_F=150A, T_J=125^{\circ}C$	--	--	1.25	V
t_{rr}	$I_F=1A, V_R=30V, di_F/dt=-200A/\mu s$	--	50	--	ns
t_{rr}	$V_R=300V, I_F=150A, di_F/dt=-200A/\mu s, T_J=25^{\circ}C$	--	130	--	ns
I_{RRM}		--	14	--	A
t_{rr}	$V_R=300V, I_F=150A, di_F/dt=-200A/\mu s, T_J=125^{\circ}C$	--	220	--	ns
I_{RRM}		--	22	--	A

Performance Curves

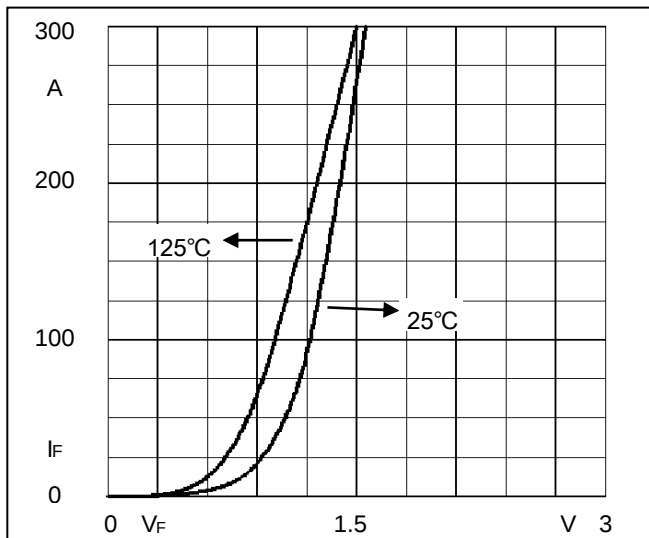


Fig1. Forward Voltage Drop vs Forward Current

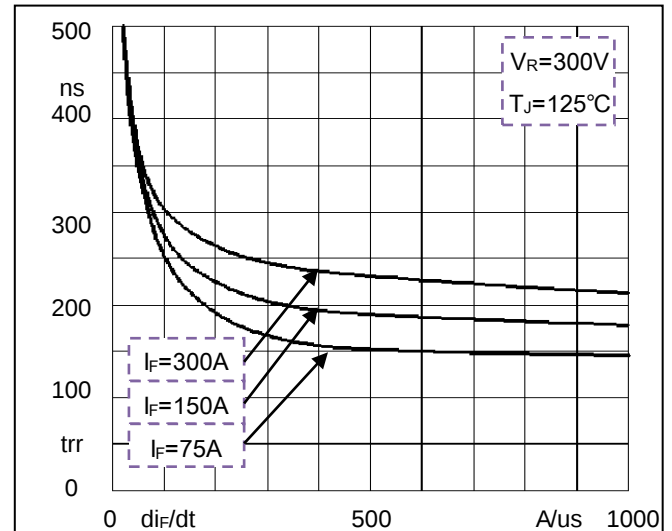


Fig2. Reverse Recovery Time vs di_F/dt

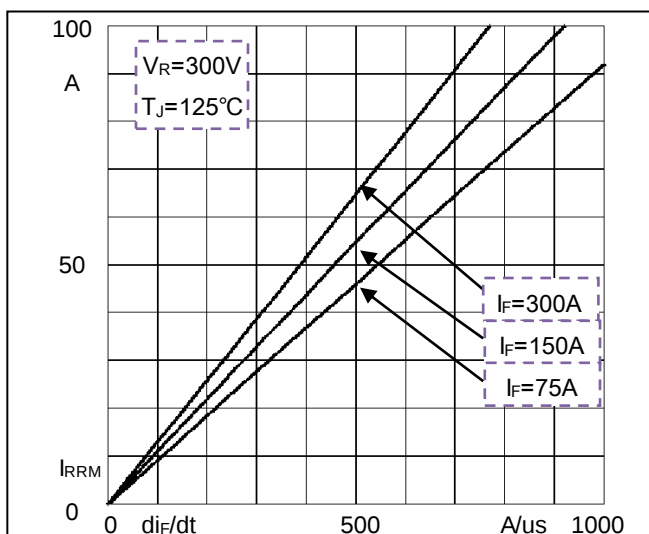


Fig3. Reverse Recovery Current vs di_F/dt

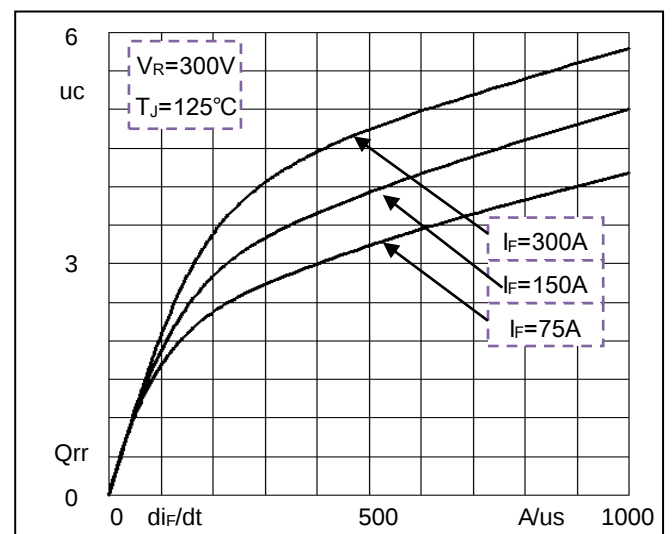
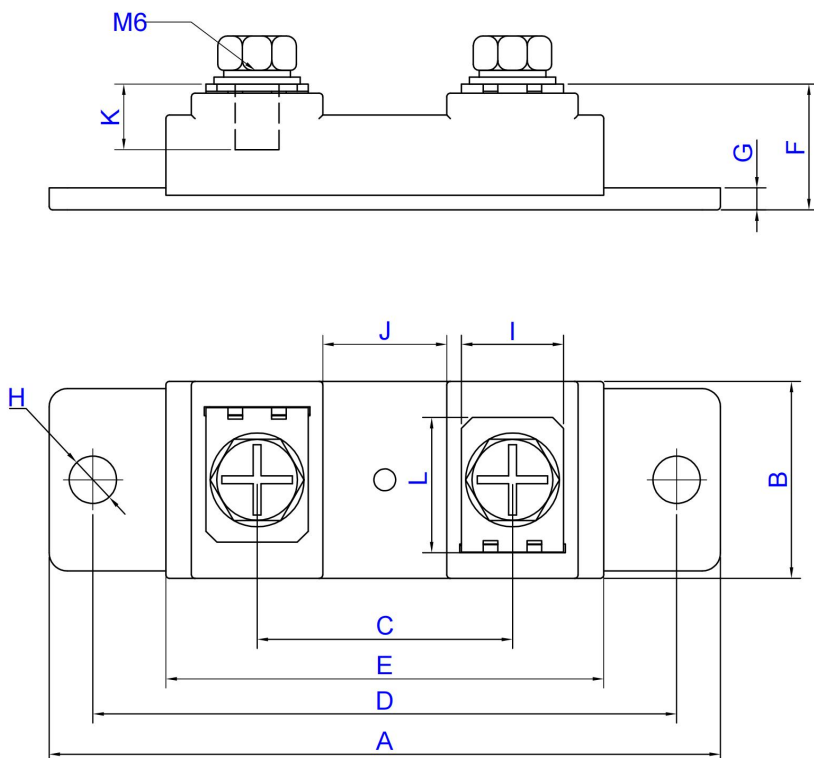


Fig4. Reverse Recovery Charge vs di_F/dt

Package Outline Information

CASE: F3



DIM	Min (mm)	Max (mm)	Note
A	91.5	92.5	
B	26.5	27.5	
C	34.5	35.5	
D	79.5	80.5	
E	59.5	60.5	
F	16.5	17.5	
G	2.8	3.2	
H	6.2	6.8	Ø
I	13.8	14.2	
J	16.5	17.5	
K	8.5	9.5	
L	18.2	18.8	

Packing Standard

Item	Length: A (mm)	Width: B (mm)	Height: C (mm)	Quantity (PCS)
Inner Box	276	258	40	10
Outer Carton	545	295	240	120



Disclaimer

The information presented in this document is for reference only. Yangzhou Yangjie Electronic Technology Co., Ltd. reserves the right to make changes without notice for the specification of the products displayed herein to improve reliability, function or design or otherwise.

The product listed herein is designed to be used with automotive electronics, are not designed for use in medical, life-saving, lifesustaining, or military, Yangjie or anyone on its behalf, assumes no responsibility or liability for any damages resulting from such improper use of sale.

This publication supersedes & replaces all information previously supplied. For additional information, please visit our website <http://www.21yangjie.com>, or consult your nearest Yangjie's sales office for further assistance.