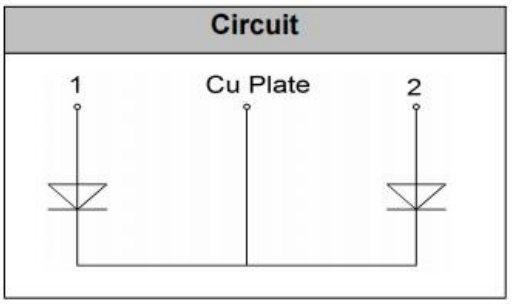


FRED Modules

VRRM 400V
IFAV 300 A



Applications

- Inversion Welder
- 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

Maximum Ratings

Symbol	Conditions	Values	Units
V_R		400	V
V_{RRM}		400	V
I_{FAV}	T_C=100°C, Per Leg	150	A
	T_C=100°C, Per Module	300	A
I_{FRMS}	T_C=100°C, Per Leg	210	A
I_{FSM}	t=10ms T_J=25℃	2400	A
I^2t	t=10ms T_J=25℃	28800	A^2s
P_D		694	W
T_J		-40 to +150	℃
Tstg		-40 to +125	℃
Mt	To Terminals(M6)	5±15%	N·m
Ms	To Heatsink(M6)	5±15%	N·m
Weight		85	g

Thermal Characteristics

Symbol	Conditions	Values	Units
Rth(j-c)	Junction to Case(Per Leg)	0.18	℃/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
I_{RM}	V_R=400V	--	--	0.5	mA
	V_R=400V, T_J=125°C	--	--	5	mA
V_F	I_F=150A	--	1.15	1.35	V
	I_F=150A, T_J=125°C	--	1.05	1.25	V
trr	I_F=1A, V_R=30V, di_F/dt=-200A/μs	--	44	--	ns
trr	V_R=200V, I_F=150A, di_F/dt=-200A/μs, TJ=25°C	--	90	--	ns
I_{RRM}		--	9	--	A
trr	V_R=200V, I_F=150A, di_F/dt=-200A/μs, TJ=125°C	--	200	--	ns
I_{RRM}		--	17	--	A

Performance Curves

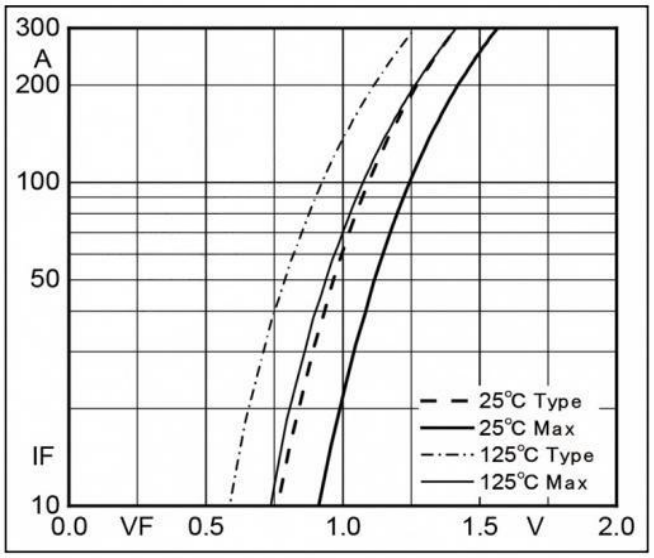


Fig1. Forward Characteristics

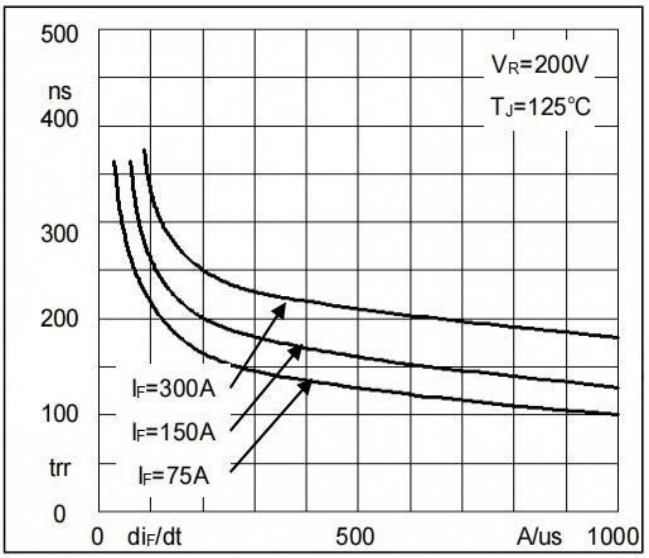


Fig2.Reverse Recovery Time vs di_F/dt

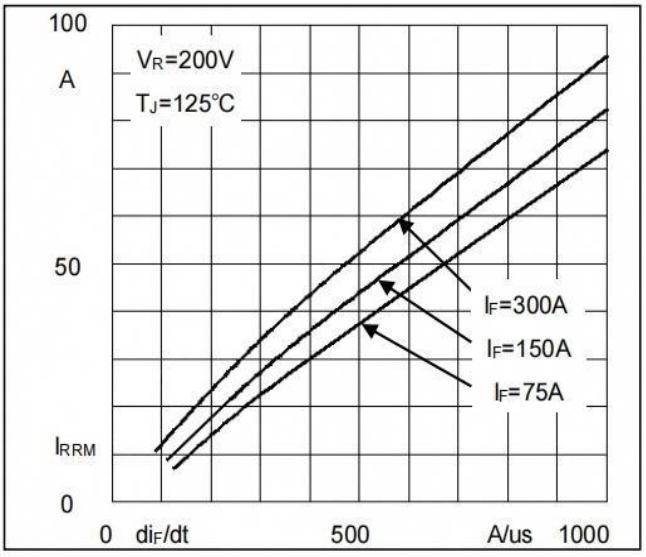


Fig3. Reverse Recovery Current vs di_F/dt

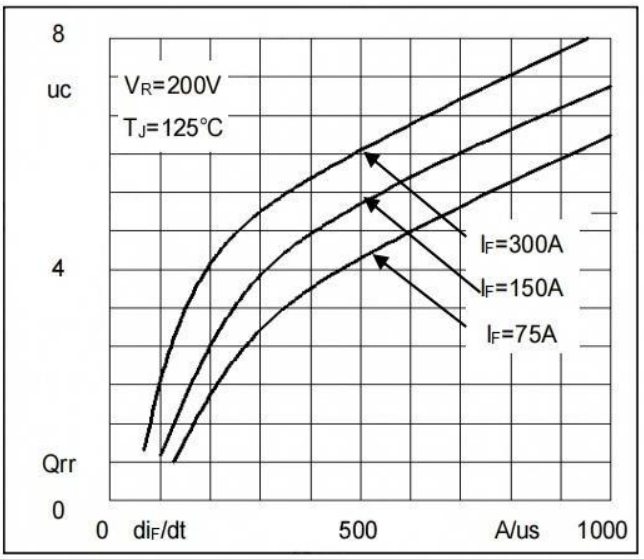
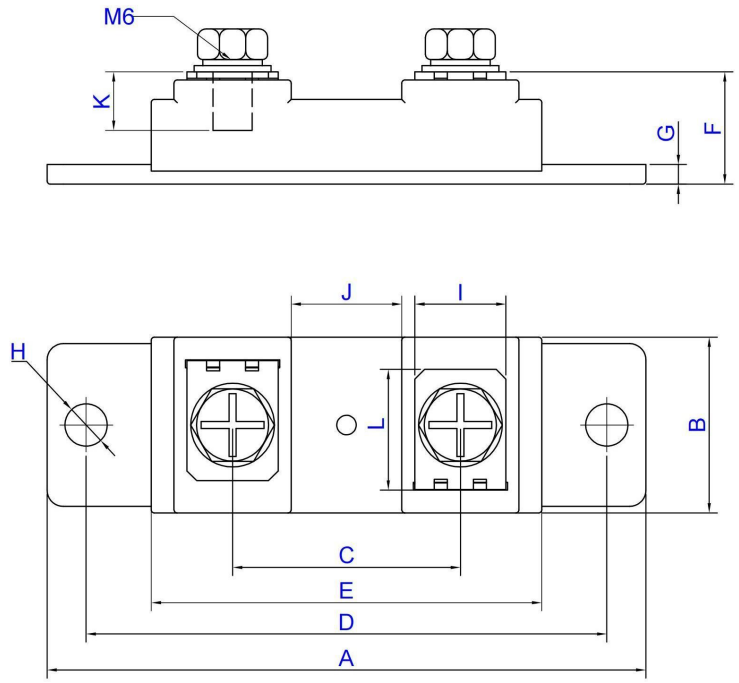


Fig4. Reverse Recovery Charge vs diF/dt

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

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