

FRED Modules

V_{RRM} 600V

I_{FAV} 200 A

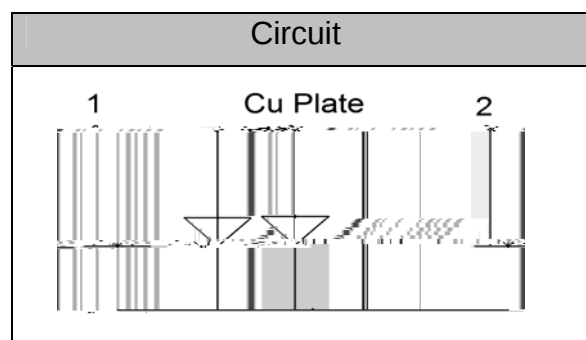


Applications

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

Features

- y Soft Reverse Recovery Characteristics
- y Ultrafast Reverse Recovery Time
- y Low Reverse Recovery Loss
- y Low Forward Voltage
- y High Surge Current Capability
- y 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	100	A
	T _C =125°C, Per Module	200	A
I _{F(RMS)}	T _C =125°C, Per Diode	141	A
I _{FSM}	1/2 Cycle , 50Hz, Sine	2100	A
	1/2 Cycle , 60Hz, Sine	2350	A
I ² t	T _J =45°C, t=10ms, 50Hz, Sine	22000	A ² s
	T _J =45°C, t=8.3ms, 60Hz, Sine	27600	A ² s
P _D		1400	W
T _J		-40 to +150	°C
T _{STG}		-40 to +125	°C
Torque	RecommendedHM6H	3H 4 .7	N·m
Torque	RecommendedHM6H	3H 4 .7	N·m
Weight		92	g

Thermal Characteristics

Symbol	Conditions	Values	Units
R _{th(j-c)}	Per diode	0.09	/W

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
I_{RM}	$V_R=600V$	--	--	0.5	mA
	$V_R=600V, T_J=125^{\circ}C$	--	--	1	mA
V_F	$I_F=100A$	--	1.15		V
	$I_F=100A, T_J=125^{\circ}C$	--	1.0		V
t_{rr}	$I_F=1A, V_R=30V, di_F/dt=-200A/s$	--	48	--	ns
t_{rr}	$V_R=300V, I_F=100A, di_F/dt=-200A/s, T_J=25^{\circ}C$	--	105		

Performance Curves



Fig1. Forward Voltage Drop vs Forward Current

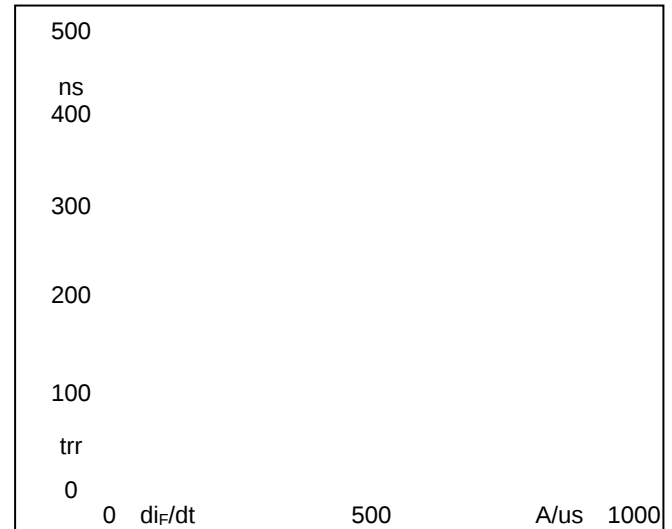


Fig2. Reverse Recovery Time vs di_F/dt



Fig3. Reverse Recovery Current vs di_F/dt



Fig4. Reverse Recovery Charge vs di_F/dt

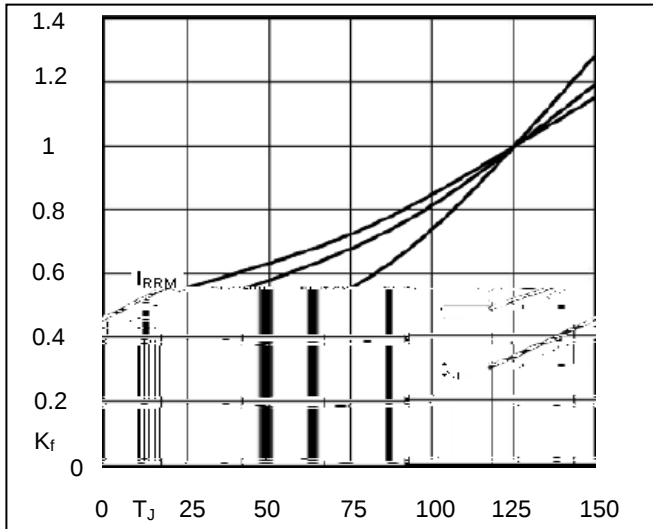


Fig5. Dynamic Parameters vs Junction Temperature

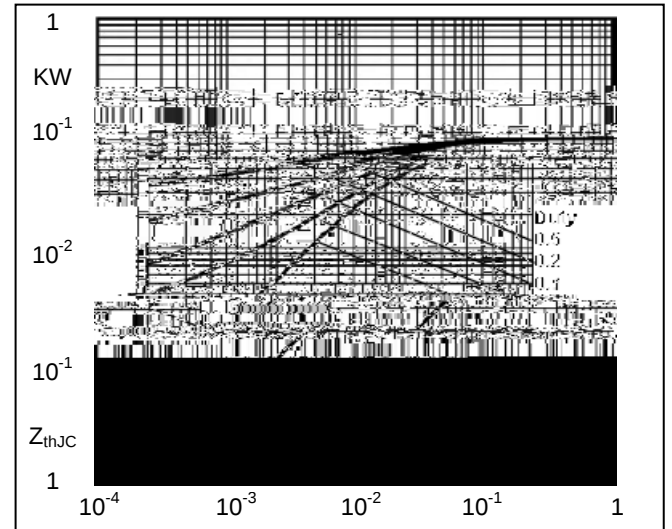
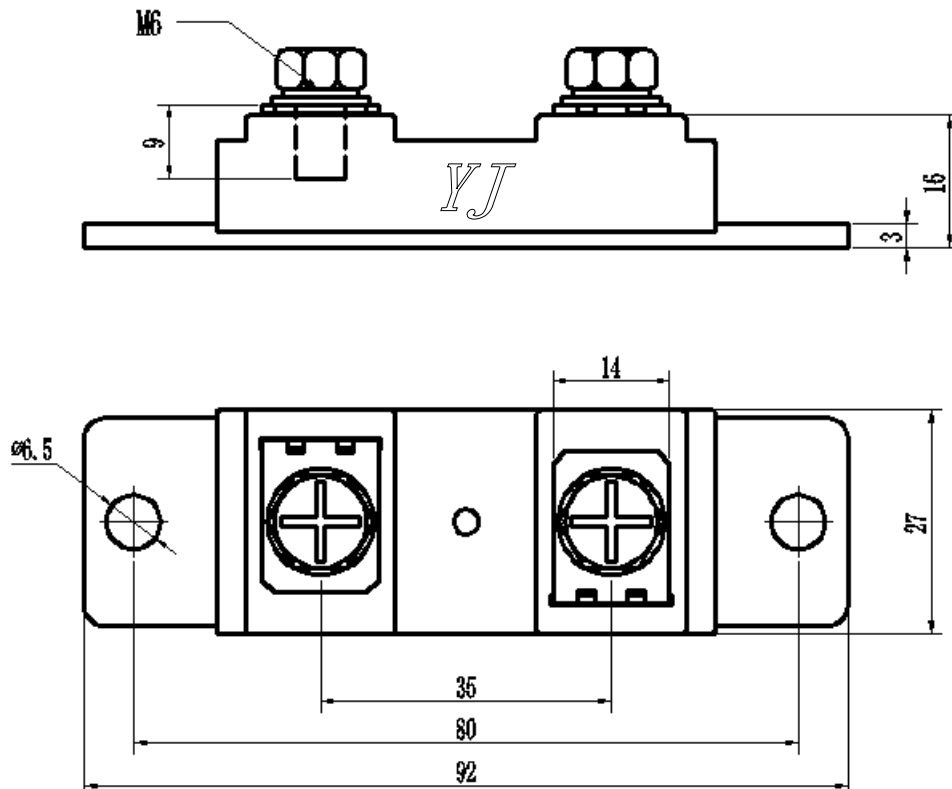


Fig6. Transient Thermal Impedance

Package Outline Information

CASE: F3



Dimensions in mm