



## FRED Modules

**V<sub>RRM</sub>** 400V

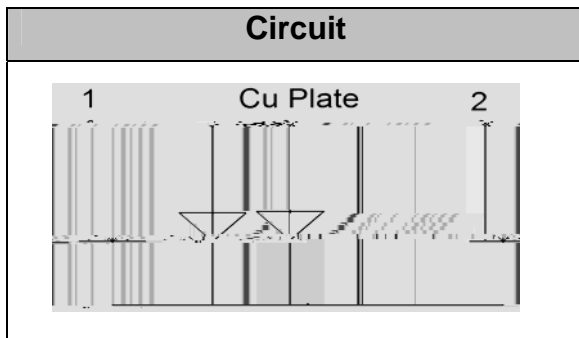
**I<sub>FAV</sub>** 200 A

### 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 <sub>R</sub>		400	V
V <sub>R<sub>RM</sub></sub>		400	V
I <sub>F(AV)</sub>	T <sub>C</sub> =125°C, Per Diode	100	A
	T <sub>C</sub> =125°C, Per Module	200	A
	T <sub>C</sub> =125°C, 20KHz, Per Module	150	A
I <sub>F(RMS)</sub>	T <sub>C</sub> =125°C, Per Diode	150	A
I <sub>FSM</sub>	1/2 Cycle, 50Hz, Sine	1500	A
	1/2 Cycle, 60Hz, Sine	1800	A
I <sup>2</sup> t	T <sub>J</sub> =45°C, t=10ms, 50Hz, Sine	11250	A <sup>2</sup> s
	T <sub>J</sub> =45°C, t=8.3ms, 60Hz, Sine	16200	A <sup>2</sup> s
P <sub>D</sub>		833	W
T <sub>J</sub>		-40 to +150	°C
T <sub>STG</sub>		-40 to +125	°C
Torque	Recommended M6	3 4.7	N·m
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Weight		92	g

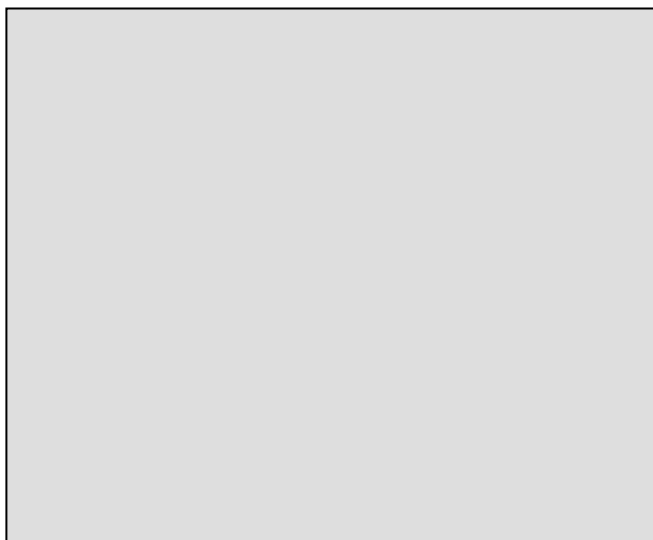
## Thermal Characteristics

Symbol	Conditions	Values	Units
R <sub>th(j-c)</sub>	Per diode	0.15	/W

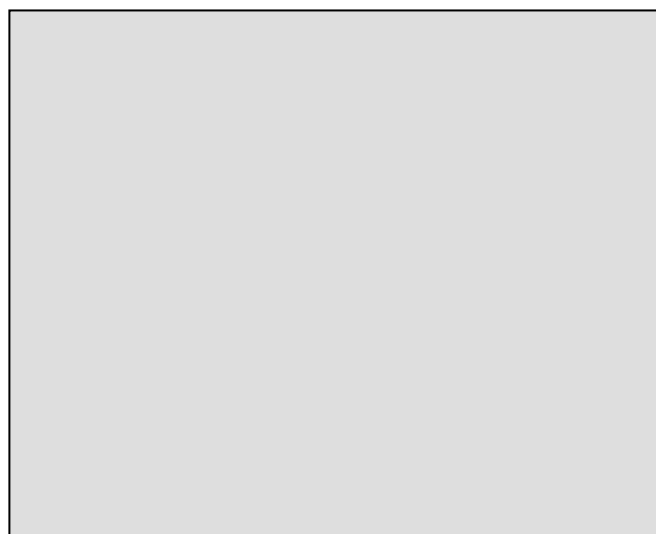
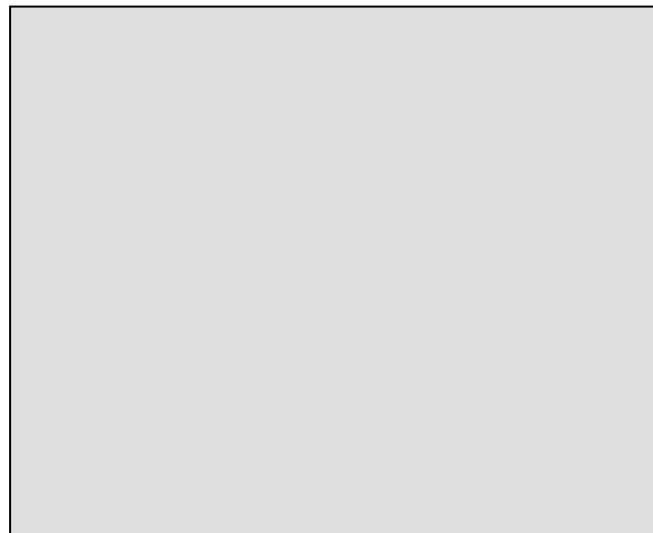


## Electrical Characteristics

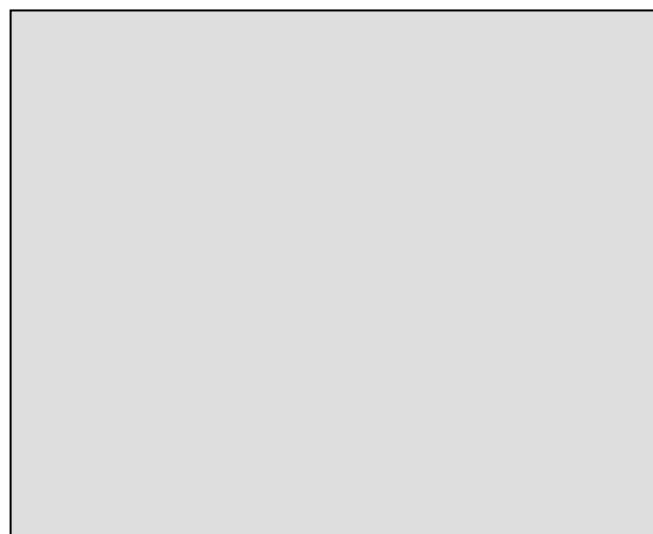
### Performance Curves



**Fig1. Forward Voltage vs. Current**



**Fig3. Reverse Recovery Current vs  $di_F/dt$**

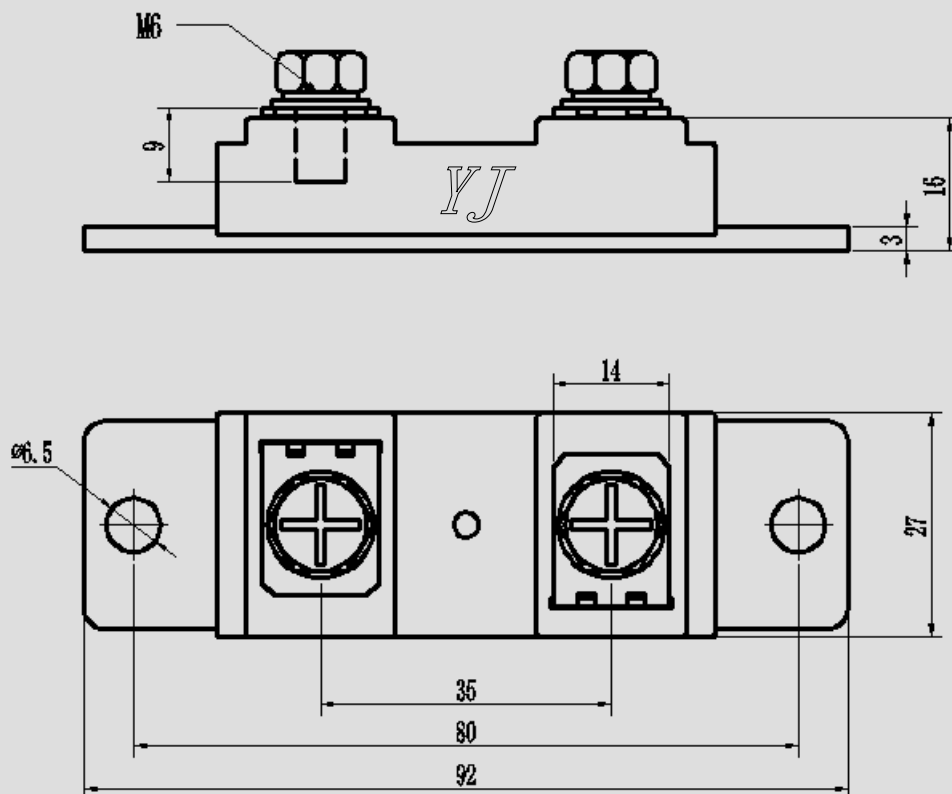


**Fig4. Reverse Recovery Charge vs  $di_F/dt$**



**Package Outline Information**

**CASE: F3**



**Dimensions in mm**