MM80FU040BC

400V 80A FRED

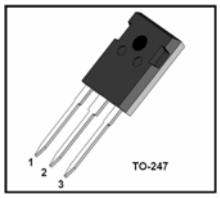
March 2008 **PRELIMINARY** **RoHS Compliant**

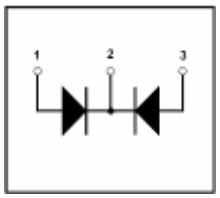
PRODUCT FEATURES

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current

APPLICATIONS

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS





DESCRIPTION

FRED from MacMic utilizes advanced processing techniques to achieve ultrafast recovery times and higher forward current. Its soft recovery characteristics and high reliability suit for wide industrial applications.

ABSOLUTE MAXIMUM RATINGS

T_C=25°C unless otherwise specified

Symbol	Parameter	Test Conditions	Max.	Unit
V_{RRM}	Repetitive Reverse Voltage		400	V
$I_{F(AV)}$	Average Forward Current	T_C=110°C, Per Diode	40	A
		T_C=110°C, Per Package	80	A
$I_{F(RMS)}$	RMS Forward Current	T_C=110°C, Per Diode	56	A
		T_C=110°C, Per Package	112	A
I_{FSM}	Non-Repetitive Surge Forward Current	t=10ms, Sine	400	A
T_J	Junction Temperature		-40 to +150	°C
T_{STG}	Storage Temperature Range		-40 to +150	°C

ELECTRICAL AND THERMAL CHARACTERISTICS

T_C=25°C unless otherwise specified

Symbol	Parameter	Test Conditions		Min.	Typ.	Max.	Unit
I_{RM}	Reverse Leakage Current	V_R=400V, T_J=25°C		--	--	25	μA
		V_R=400V, T_J=125°C		--	--	150	μA
V_F	Forward Voltage	I_F=40A		--	--	1.50	V
t_{rr}	Reverse Recovery Time (I_F=1A, V_R=30V, di_F/dt=-200A/μs)			--	22	--	ns
t_{rr}	Reverse Recovery Time	I_F=40A	T_J=25°C	--	43	--	ns
t_{rr}	Reverse Recovery Time	V_R=200V	T_J=125°C	--	65	--	ns
I_{RRM}	Max. Reverse Recovery Current	di_F/dt=-200A/μs	T_J=125°C	--	10	--	A
$R_{\theta JC}$	Thermal Resistance Junction-to-Case			--	--	0.8	°C /W

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