MMF200ZB040DK1C

400V 200A DUTO FRED Module

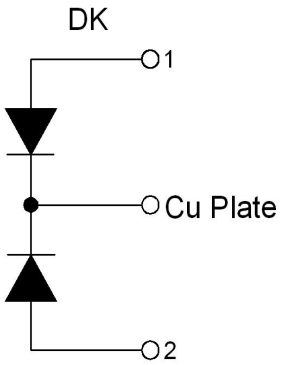
January 2013 PRELIMINARY **RoHS Compliant**

PRODUCT FEATURES

- Ultrafast Recovery Time
- Low Recovery Loss
- Low Forward Voltage
- Low Leakage Current
- Low Inductance Package

APPLICATIONS

- Inversion Welder
- Uninterruptible Power Supply
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- PFC



ABSOLUTE MAXIMUM RATINGS

T_C=25°C unless otherwise specified

Symbol	Parameter/Test Conditions		Values	Unit
V_R	Maximum D.C. Reverse Voltage		400	V
V_{RRM}	Maximum Repetitive Reverse Voltage			
$I_{F(AV)}$	Average Forward Current	TC=100°C, Per Diode	100	A
		TC=100°C, Per Moudle	200	
$I_{F(RMS)}$	RMS Forward Current	TC=100°C, Per Diode	140	
I_{FSM}	Non-Repetitive Surge Forward Current	1/2 Cycle, 50Hz, Sine	1000	
		1/2 Cycle, 60Hz, Sine	1100	
I^2t	For Fusing	T_J=45°C, t=10ms, 50Hz, Sine	5000	A^2S
		T_J=45°C, t=10ms, 60Hz, Sine	5000	
P_D	Power Dissipation		560	W
T_J	Junction Temperature		-40 to +150	°C
T_{STG}	Storage Temperature Range		-40 to +125	°C
Torque	Module-to-Sink	Recommended（M6）	3～4.7	N.m
Torque	Module Electrodes	Recommended（M6）	3～4.7	N.m
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		0.22	°C /W
Weight			70	g

ELECTRICAL CHARACTERISTICS

T_C =25°C unless otherwise specified

Symbol	Parameter/Test Conditions		Min.	Typ.	Max.	Unit
I_{RM}	Maximum Reverse Leakage Current	V_R = 400V			0.5	mA
		V_R = 400V, T_J = 125°C			1	
V_F	Forward Voltage	I_F=100A		1.1	1.3	V
		I_F=100A,T_J=125°C		1.0		
trr	Reverse Recovery Time (I_F = 1A, diF/dt = -200A/μs, V_R = 30V)			36		ns
trr	Reverse Recovery Time	I_F =100A,V_R =200V,		75		ns
I_{RRM}	Maximum Reverse Recovery Current	diF/dt = -200A/μs		8.5		A
trr	Reverse Recovery Time	I_F = 100A,V_R = 200V,		125		ns
I_{RRM}	Maximum Reverse Recovery Current	diF/dt = -200A/μs ,T_J=125°C		18		A

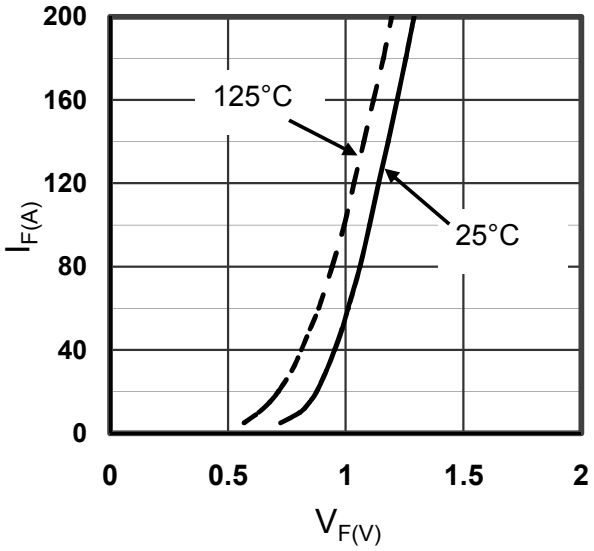


Figure1. Forward Voltage Drop vs Forward Current

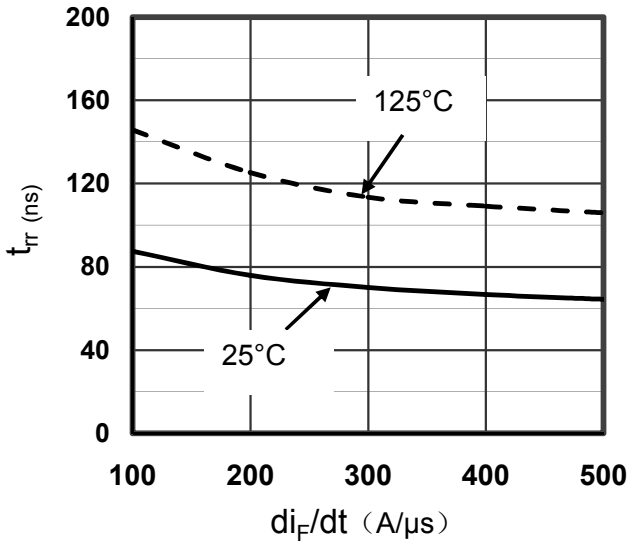


Figure2. Reverse Recovery Time vs diF/dt

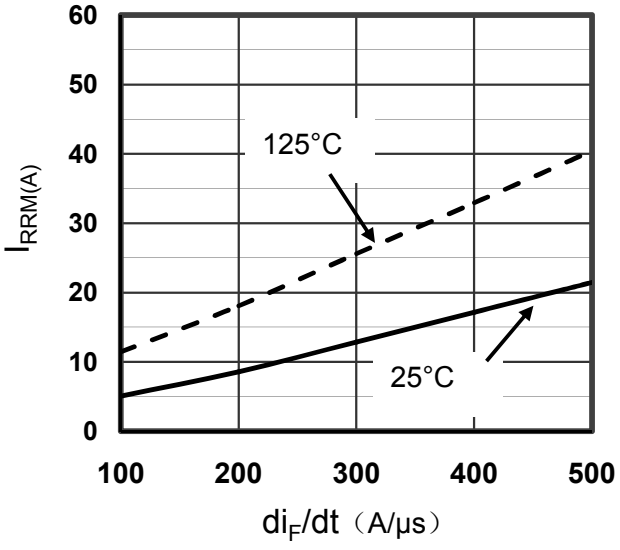


Figure3. Reverse Recovery Current vs diF/dt

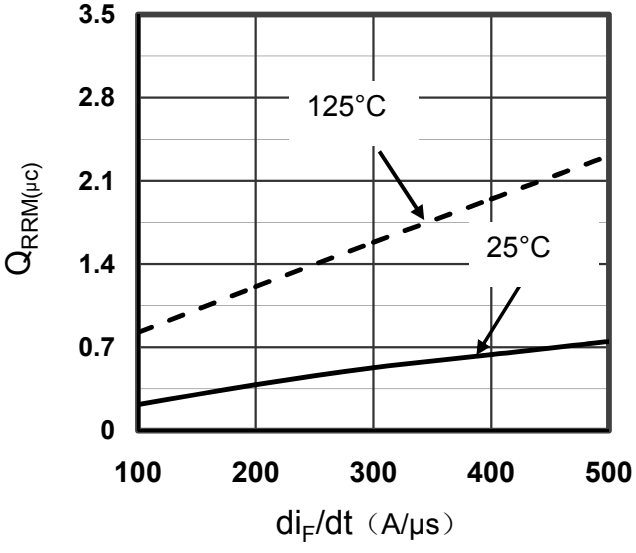


Figure4. Reverse Recovery Charge vs diF/dt

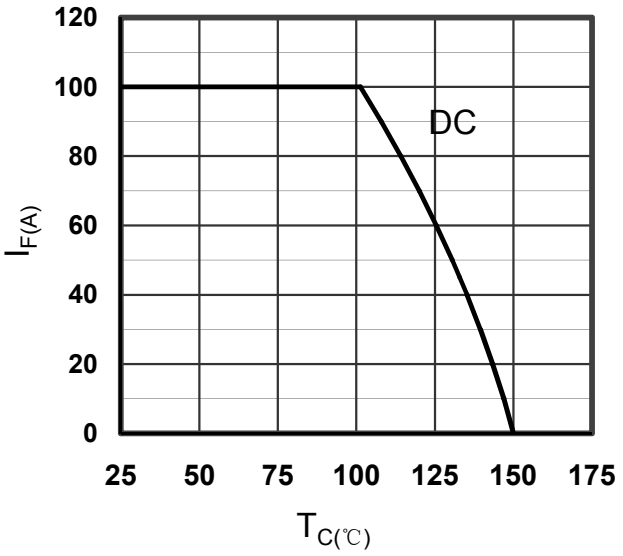


Figure5.Forward current vs.Case temperature

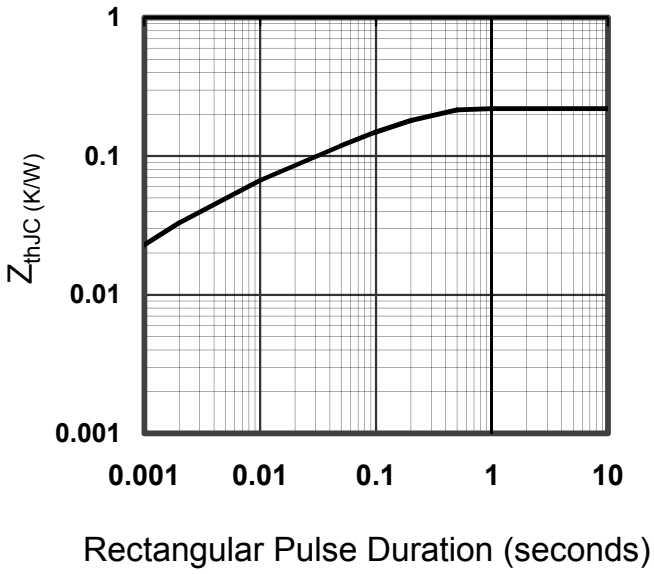
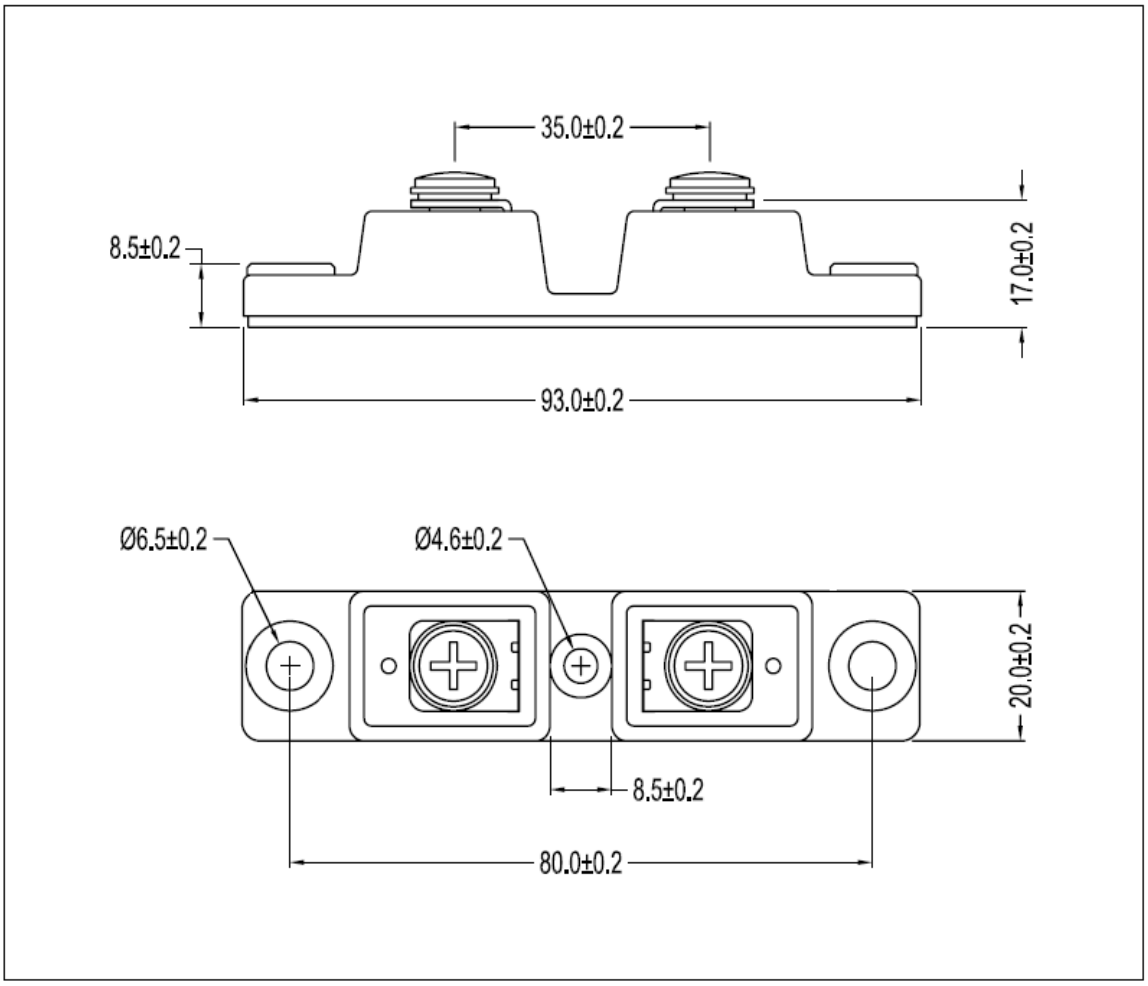


Figure6. Transient Thermal Impedance



Dimensions in Millimeters and (Inchs)
Figure7. Package Outline