

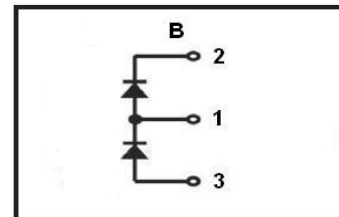
PRODUCT FEATURES

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



APPLICATIONS

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



ABSOLUTE MAXIMUM RATINGS ($T_C=25^{\circ}\text{C}$ unless otherwise specified)

Symbol	Parameter/Test Conditions		Values	Unit
V_R	Maximum D.C. Reverse Voltage		600	V
V_{RRM}	Maximum Repetitive Reverse Voltage			
$I_{F(AV)}$	Average Forward Current	$T_C=110^{\circ}\text{C}$, Per Diode	300	A
$I_{F(RMS)}$	RMS Forward Current	$T_C=110^{\circ}\text{C}$, Per Diode	420	
I_{FSM}	Non Repetitive Surge Forward Current	$T_J=45^{\circ}\text{C}$, $t=10\text{ms}$, Sine, peak value	3000	
		$T_J=45^{\circ}\text{C}$, $t=8.3\text{ms}$, Sine, peak value	3200	
I^2t	For Fusing	$T_J=45^{\circ}\text{C}$, $t=10\text{ms}$, Sine, peak value	45	kA ² s
		$T_J=45^{\circ}\text{C}$, $t=8.3\text{ms}$, Sine, peak value	51.2	
P_D	Power Dissipation		893	W
T_J	Junction Temperature		-40 to +150	$^{\circ}\text{C}$
T_{STG}	Storage Temperature Range		-40 to +125	$^{\circ}\text{C}$
V_{isol}	Isolation Breakdown Voltage	AC, 50Hz(R.M.S), $t=1\text{minute}$	3000	V
Torque	Module to Sink	Recommended (M6)	3~5	Nm
Torque	Module Electrodes	Recommended (M6)	3~5	Nm
R_{thJC}	Junction to Case Thermal Resistance(Per Diode)		0.14	$^{\circ}\text{C}/\text{W}$
Weight			155	g

MacMic Science & Technology Co., Ltd.

Add: #18, Hua Shan Zhong Lu, New District, Changzhou City, Jiangsu Province, P. R. of China

Tel.: +86-519-85163708 Fax: +86-519-85162291 Post Code: 213022 Website: www.macmicst.com

MMF300S060B

ELECTRICAL CHARACTERISTICS ($T_C=25^\circ\text{C}$ unless otherwise specified)

Symbol	Parameter/Test Conditions	Min.	Typ.	Max.	Unit
I_{RM}	Maximum Reverse Leakage Current	$V_R = 600\text{V}$		2	mA
		$V_R = 600\text{V}, T_J = 125^\circ\text{C}$		10	
V_F	Forward Voltage	$I_F=300\text{A}$	1.15	1.65	V
		$I_F=300\text{A}, T_J=125^\circ\text{C}$		1.45	
t_{rr}	Reverse Recovery Time ($I_F = 1\text{A}, di_F/dt = -200\text{A}/\mu\text{s}, V_R = 30\text{V}$)		55		ns
t_{rr}	Reverse Recovery Time	$I_F=300\text{A}, V_R=300\text{V},$	150		ns
I_{RRM}	Maximum Reverse Recovery Current	$di_F/dt = -200\text{A}/\mu\text{s}$	17.5		A
t_{rr}	Reverse Recovery Time	$I_F=300\text{A}, V_R=300\text{V},$	245		ns
I_{RRM}	Maximum Reverse Recovery Current	$di_F/dt = -200\text{A}/\mu\text{s}, T_J=125^\circ\text{C}$	30		A

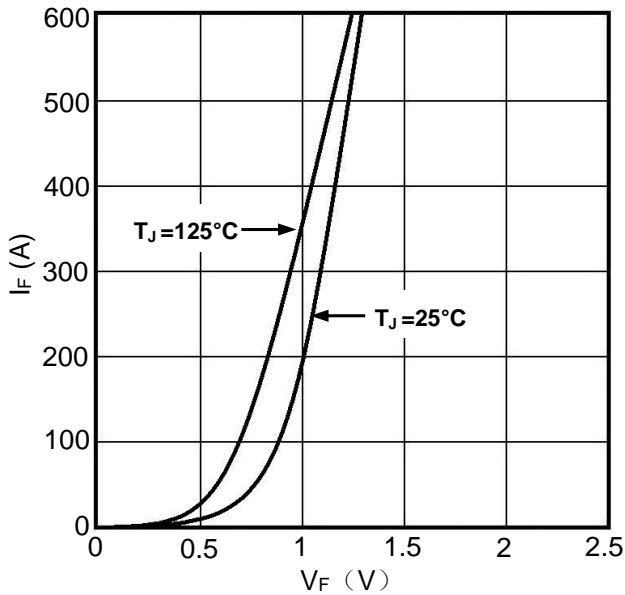


Figure1. Forward Voltage Drop vs Forward Current

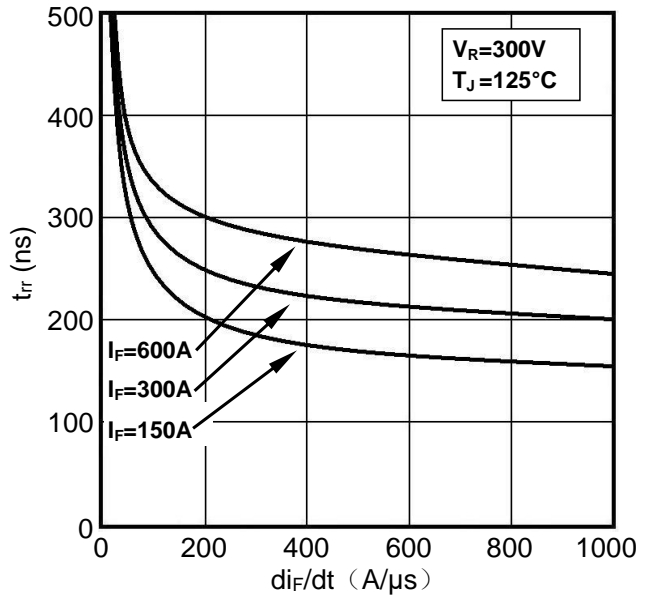


Figure2. Reverse Recovery Time vs di_F/dt

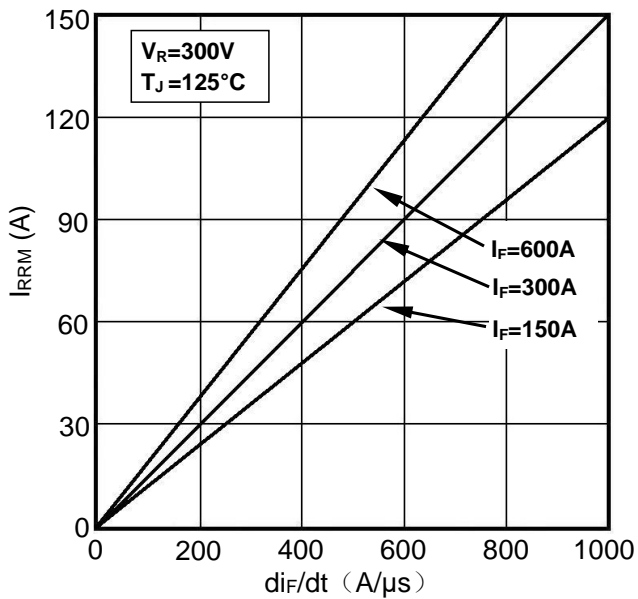


Figure3. Reverse Recovery Current vs di_F/dt

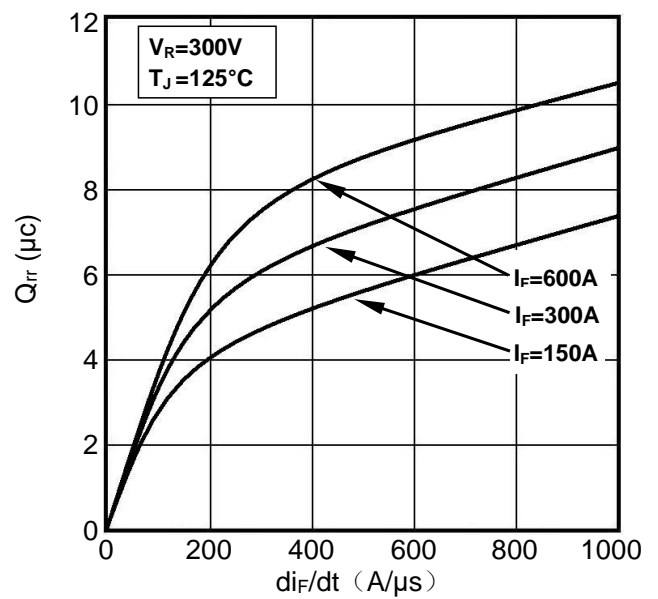


Figure4. Reverse Recovery Charge vs di_F/dt

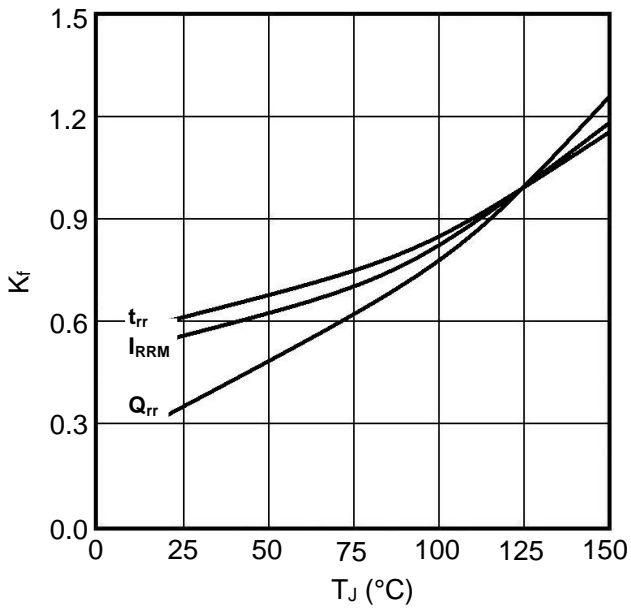


Figure 5. Dynamic Parameters vs Junction Temperature

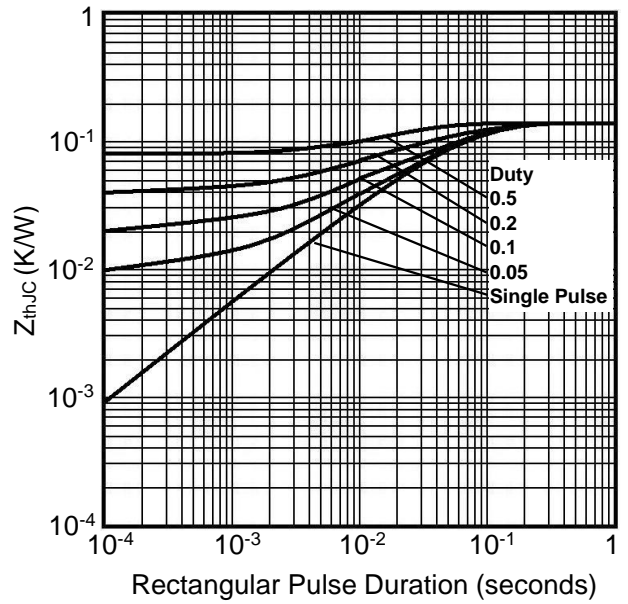
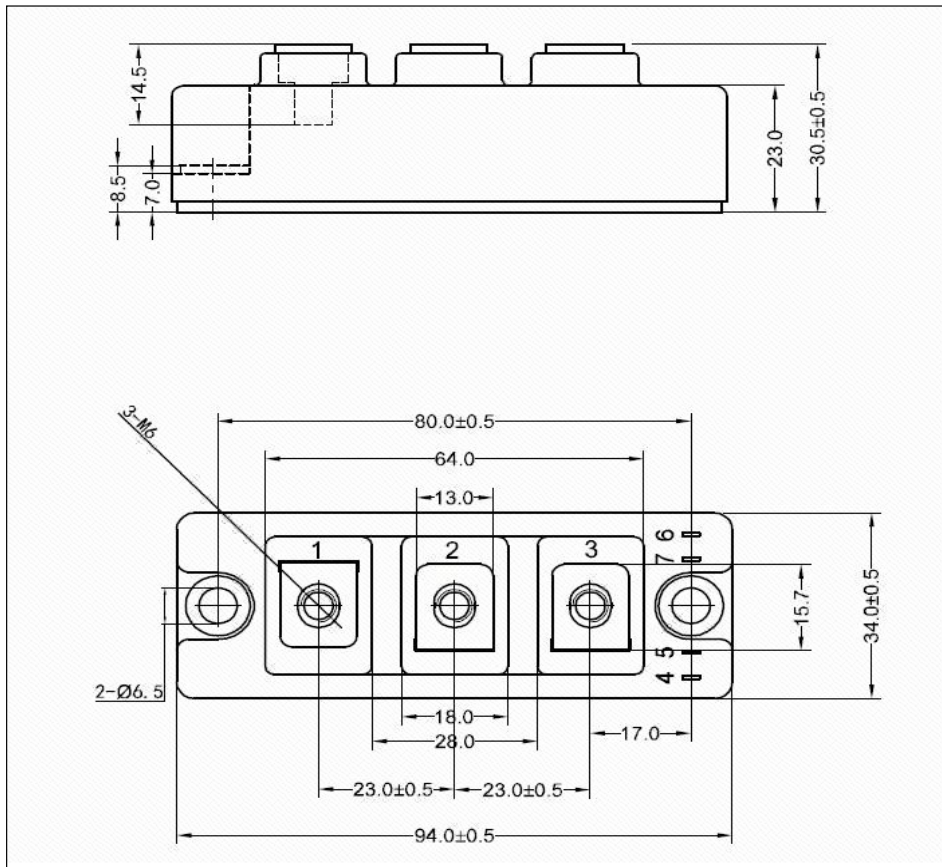


Figure 6. Transient Thermal Impedance



Dimensions in (mm)
Figure 7. Package Outline