

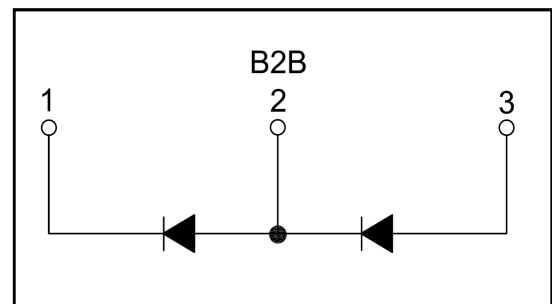
## PRODUCT FEATURES

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low 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		1700	V
$V_{RRM}$	Maximum Repetitive Reverse Voltage			
$I_{F(AV)}$	Average Forward Current	TC=75°C, Per Diode	400	A
		TC=75°C, 20KHz, Per Diode	300	
$I_{F(RMS)}$	RMS Forward Current	TC=75°C, Per Diode	560	
$I_{FSM}$	Non-Repetitive Surge Forward Current	1/2 Cycle, 50Hz, Sine	3200	
		1/2 Cycle, 60Hz, Sine	3450	
$I_2t$	For Fusing	$T_J=45^\circ\text{C}$ , t=10ms, 50Hz, Sine	51200	A <sup>2</sup> S
		$T_J=45^\circ\text{C}$ , t=10ms, 60Hz, Sine	49400	
$P_D$	Power Dissipation		1250	W
$T_J$	Junction Temperature		-40 to +150	°C
$T_{STG}$	Storage Temperature Range		-40 to +150	°C
<b>Torque</b>	Module-to-Sink	Recommended (M6)	3~5	N.m
	Module Electrodes	Recommended (M6)	3~5	N.m
$R_{\theta JC}$	Junction-to-Case Thermal Resistance		0.1	°C/W
<b>Weight</b>			300	g

**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	$V_R = 1700\text{V}$			5	mA
		$V_R = 1700\text{V}, T_J = 125^\circ\text{C}$			20	
$V_F$	Forward Voltage	$I_F = 400\text{A}$		1.95	2.25	V
		$I_F = 400\text{A}, T_J = 125^\circ\text{C}$		2		
$t_{rr}$	Reverse Recovery Time ( $I_F = 1\text{A}, di_F/dt = -200\text{A}/\mu\text{s}, V_R = 30\text{V}$ )			145		ns
$t_{rr}$	Reverse Recovery Time	$I_F = 400\text{A}, V_R = 850\text{V},$		2.0		$\mu\text{s}$
$I_{RRM}$	Maximum Reverse Recovery Current	$di_F/dt = -200\text{A}/\mu\text{s}$		48		A
$t_{rr}$	Reverse Recovery Time	$I_F = 400\text{A}, V_R = 850\text{V},$		4.0		$\mu\text{s}$
$I_{RRM}$	Maximum Reverse Recovery Current	$di_F/dt = -200\text{A}/\mu\text{s}, T_J = 125^\circ\text{C}$		54		A
$t_{rr}$	Reverse Recovery Time	$I_F = 400\text{A}, V_R = 850\text{V},$		1.6		$\mu\text{s}$
$I_{RRM}$	Maximum Reverse Recovery Current	$di_F/dt = -1000\text{A}/\mu\text{s}, T_J = 125^\circ\text{C}$		206		A
<b>S</b>				4		

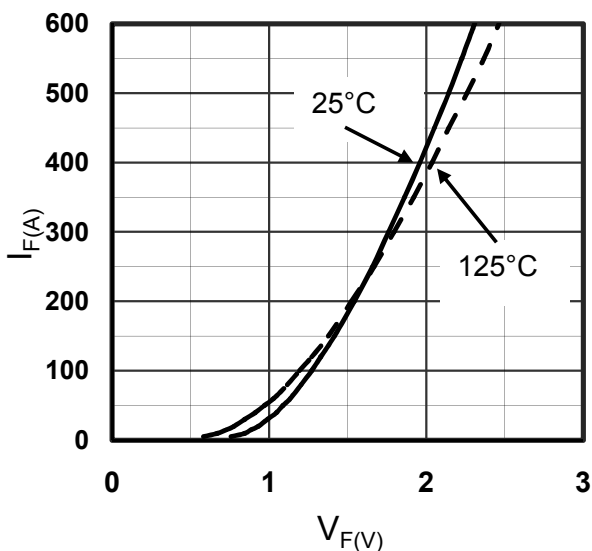


Figure1. Forward Voltage Drop vs Forward Current

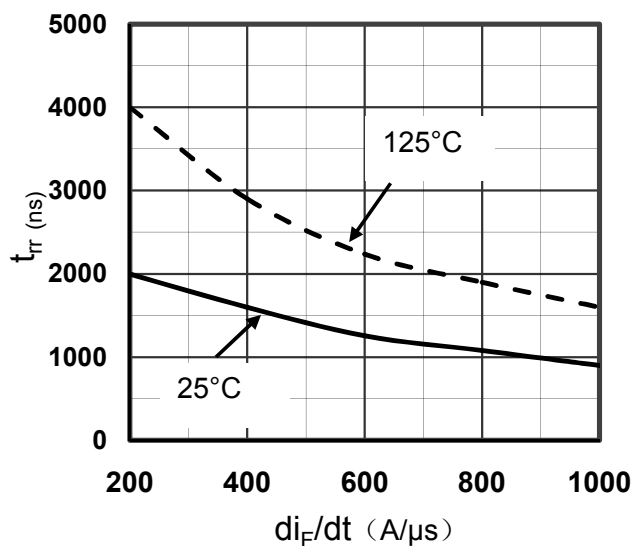


Figure2. Reverse Recovery Time vs diF/dt

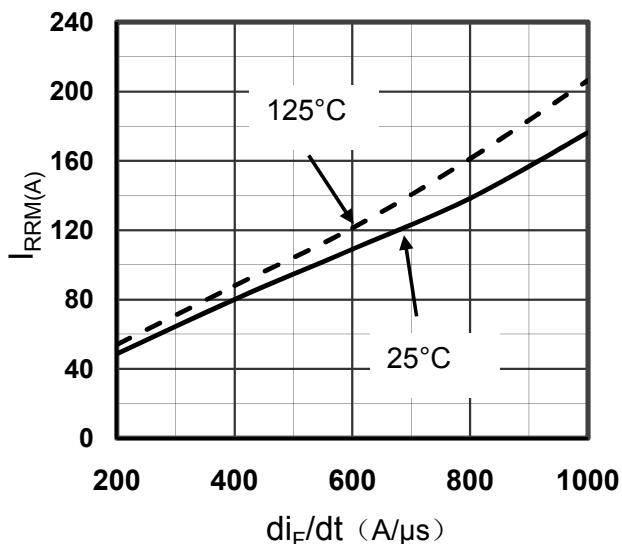


Figure3. Reverse Recovery Current vs diF/dt

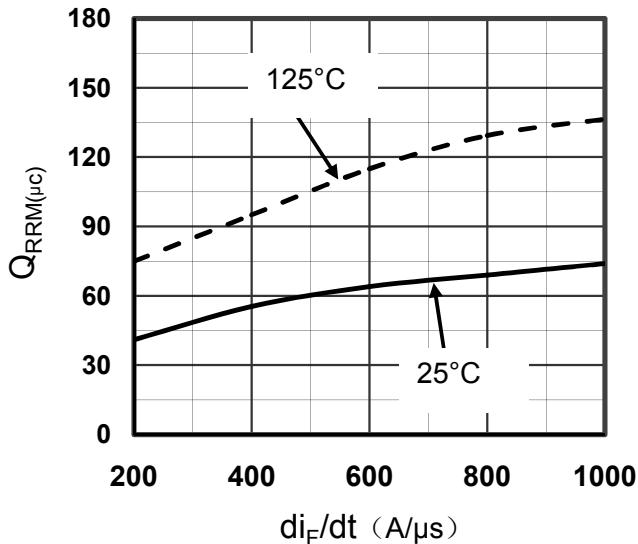


Figure4. Reverse Recovery Charge vs diF/dt

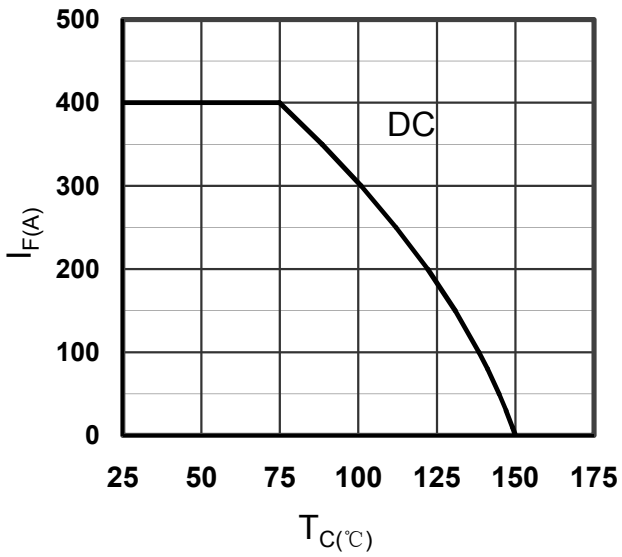


Figure5. Forward current vs. Case temperature

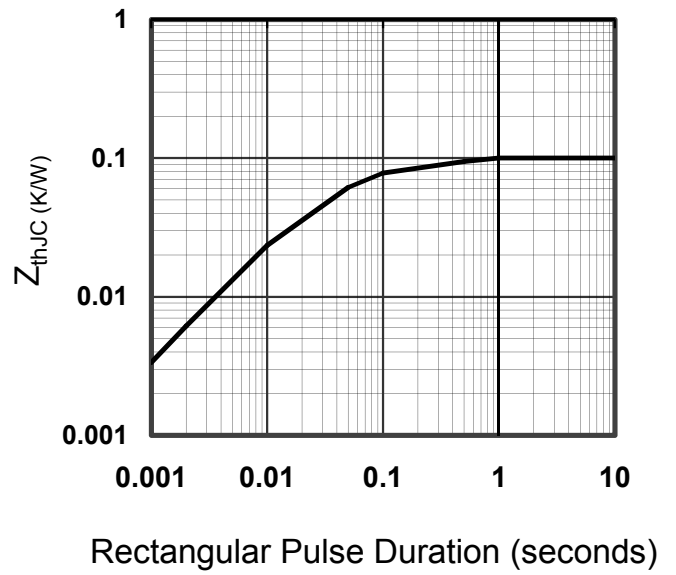
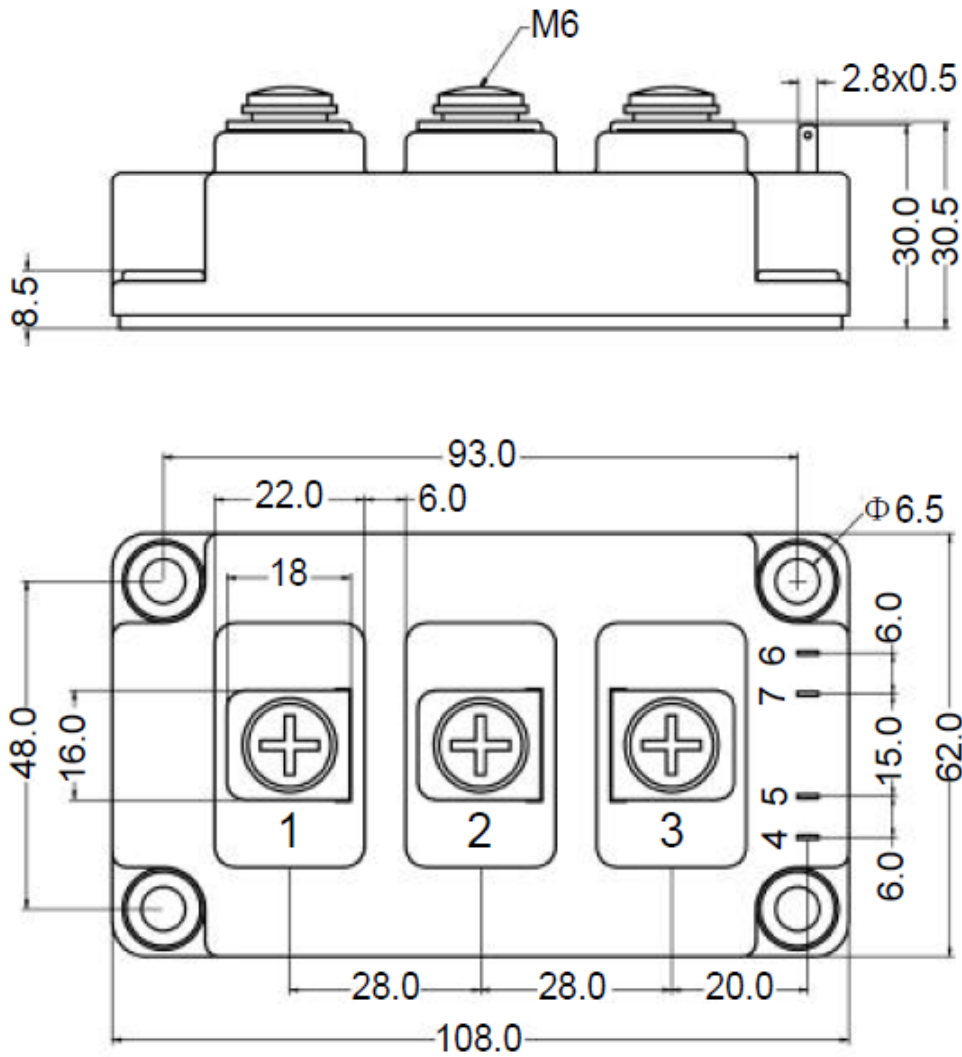


Figure6. Transient Thermal Impedance



Dimensions in Millimeters and (Inchs)  
Figure7. Package Outline