

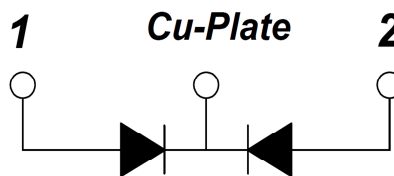
## PRODUCT FEATURES

- 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

$T_C = 25^\circ\text{C}$  unless otherwise specified

Symbol	Parameter/Test Conditions		Values	Unit
$V_R$	Maximum D.C. Reverse Voltage		100	V
$V_{RRM}$	Maximum Repetitive Reverse Voltage			
$I_{F(AV)}$	Average Forward Current	$T_C = 100^\circ\text{C}$ , Per Diode	500	A
		$T_C = 100^\circ\text{C}$ , Per Module	1000	
$I_{F(RMS)}$	RMS Forward Current	$T_C = 100^\circ\text{C}$ , Per Diode	700	
$I_{FSM}$	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	3300	
$I^2t$	For Fusing	$T_J = 45^\circ\text{C}$ , $t = 10\text{ms}$ , Sine, peak value	45000	A <sup>2</sup> S
		$T_J = 45^\circ\text{C}$ , $t = 8.3\text{ms}$ , Sine, peak value	45190	
$P_D$	Power Dissipation		1562	W
$T_J$	Junction Temperature		-40 to +150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature Range		-40 to +125	$^\circ\text{C}$
Torque	Module to Sink	Recommended (M6)	3~4.7	Nm
	Module Electrodes	Recommended (M6)	3~4.7	Nm
$R_{thJC}$	Junction to Case Thermal Resistance(Per Diode)		0.08	$^\circ\text{C}/\text{W}$
Weight			92	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	$V_R = 100\text{V}$			1	mA
		$V_R = 100\text{V}, T_J = 125^{\circ}\text{C}$			10	
$V_F$	Forward Voltage	$I_F=500\text{A}$		1.0	1.2	V
		$I_F=500\text{A}, T_J=125^{\circ}\text{C}$		0.9		
$t_{rr}$	Reverse Recovery Time ( $I_F = 1\text{A}, dI_F/dt = -200\text{A}/\mu\text{s}, V_R = 30\text{V}$ )			80		ns
$t_{rr}$	Reverse Recovery Time	$I_F=500\text{A}, V_R=50\text{V},$		120		ns
$I_{RRM}$	Maximum Reverse Recovery Current	$dI_F/dt = -200\text{A}/\mu\text{s}$		11		A
$t_{rr}$	Reverse Recovery Time	$I_F= 500\text{A}, V_R = 50\text{V},$		150		ns
$I_{RRM}$	Maximum Reverse Recovery Current	$dI_F/dt = -200\text{A}/\mu\text{s}, T_J=125^{\circ}\text{C}$		16		A

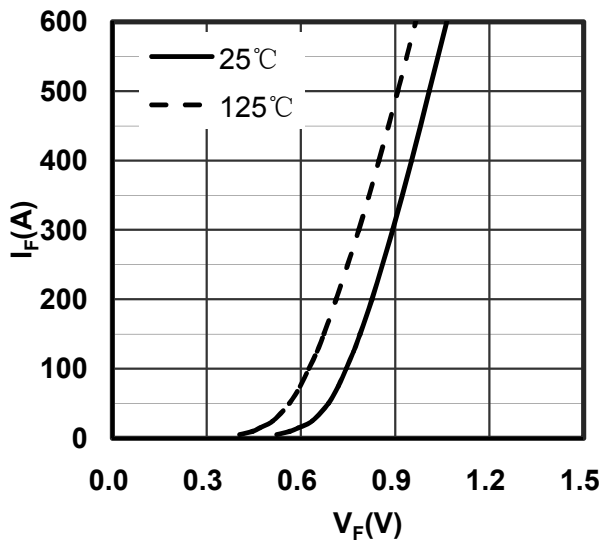


Figure 1. Forward Voltage Drop vs Forward Current

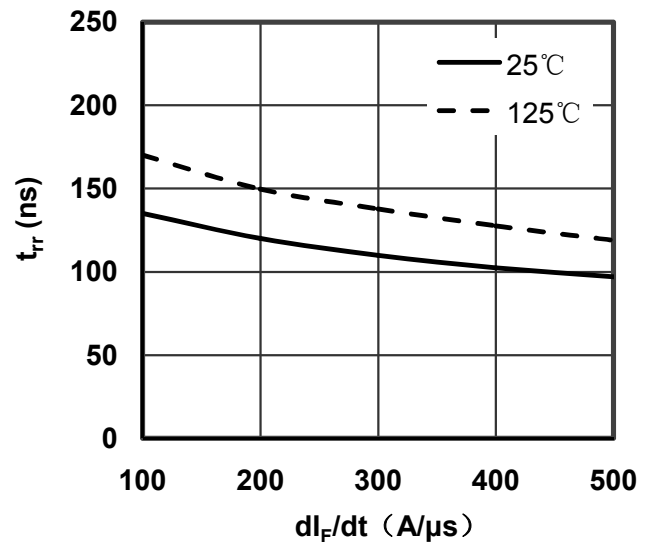


Figure 2. Reverse Recovery Time vs  $dI_F/dt$

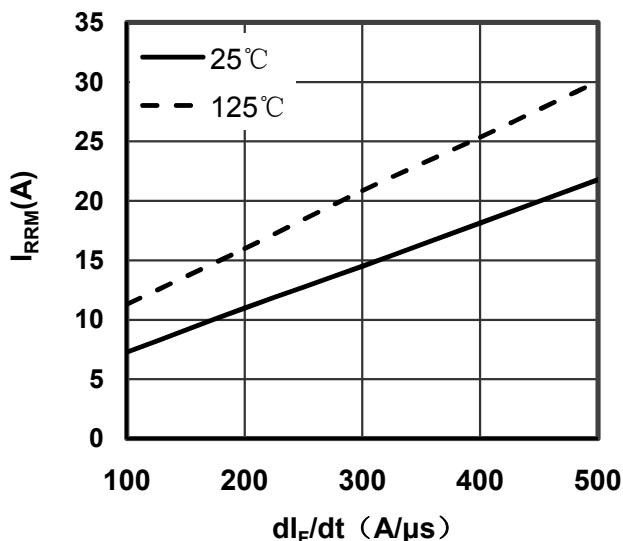


Figure 3. Reverse Recovery Current vs  $dI_F/dt$

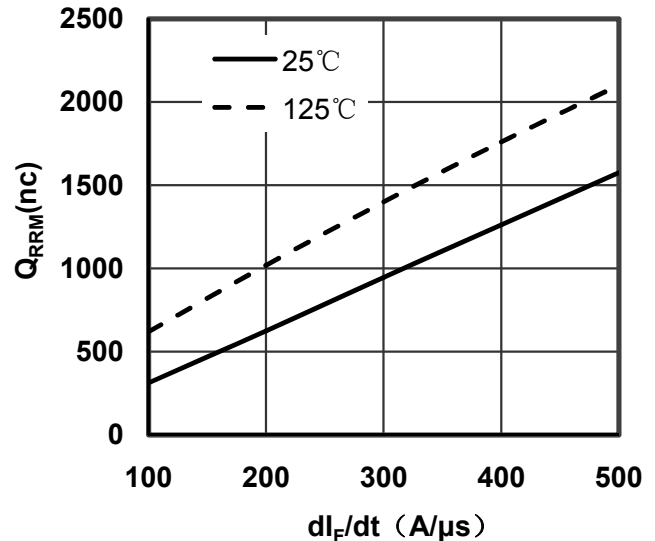


Figure 4. Reverse Recovery Charge vs  $dI_F/dt$

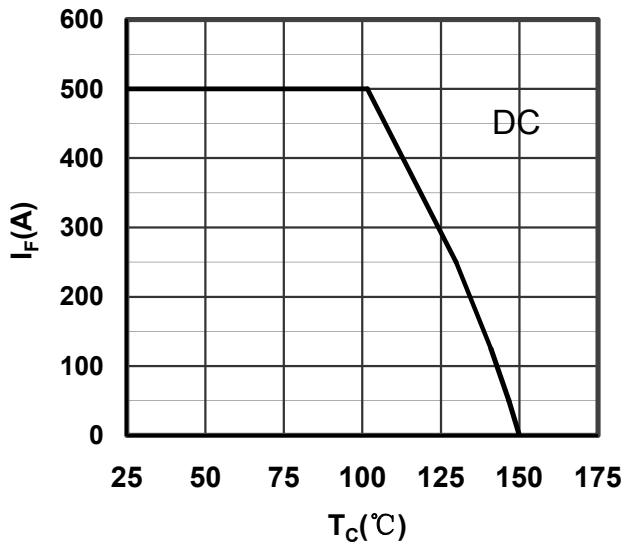


Figure 5. Forward current vs Case temperature

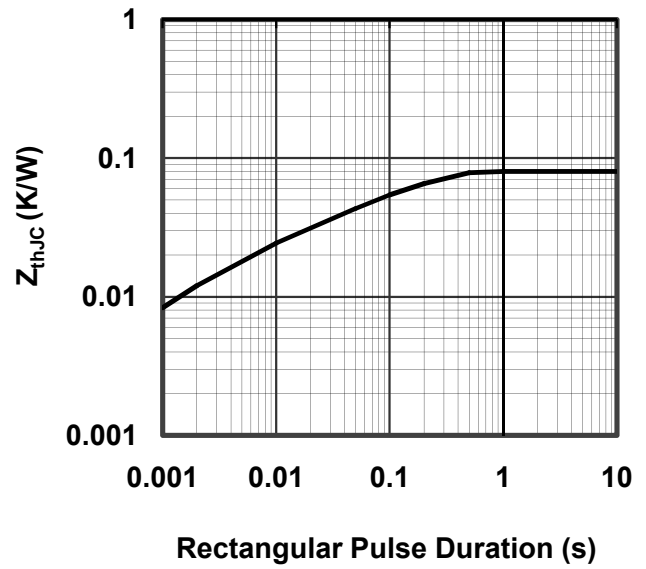
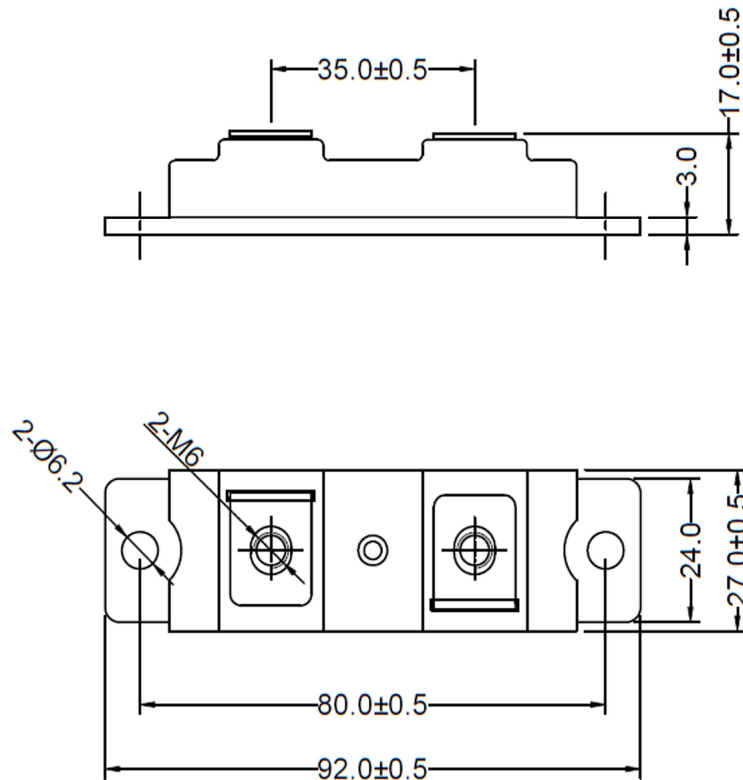


Figure 6. Transient Thermal Impedance



Dimensions in (mm)  
Figure 7. Package Outline