

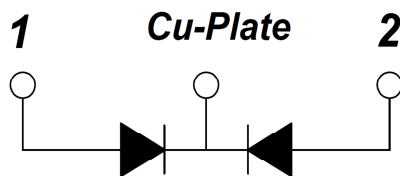
## PRODUCT FEATURES

- 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		400	V
$V_{RRM}$	Maximum Repetitive Reverse Voltage			
$I_{F(AV)}$	Average Forward Current	$T_C = 110^\circ\text{C}$ , Per Diode	100	A
		$T_C = 110^\circ\text{C}$ , Per Module	200	
$I_{F(RMS)}$	RMS Forward Current	$T_C = 110^\circ\text{C}$ , Per Diode	150	
$I_{FSM}$	Non Repetitive Surge Forward Current	$T_J = 45^\circ\text{C}$ , $t = 10\text{ms}$ , Sine, peak value	1200	
		$T_J = 45^\circ\text{C}$ , $t = 8.3\text{ms}$ , Sine, peak value	1310	
$I^2t$	For Fusing	$T_J = 45^\circ\text{C}$ , $t = 10\text{ms}$ , Sine, peak value	7200	A <sup>2</sup> S
		$T_J = 45^\circ\text{C}$ , $t = 8.3\text{ms}$ , Sine, peak value	7122	
$P_D$	Power Dissipation		625	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)		0.2	$^\circ\text{C}/\text{W}$
Weight			92	g

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**ELECTRICAL CHARACTERISTICS**

*T<sub>C</sub> = 25°C unless otherwise specified*

Symbol	Parameter/Test Conditions		Min.	Typ.	Max.	Unit
<b>I<sub>RM</sub></b>	Maximum Reverse Leakage Current	V <sub>R</sub> = 400V			0.5	mA
		V <sub>R</sub> = 400V, T <sub>J</sub> = 125°C			10	
<b>V<sub>F</sub></b>	Forward Voltage	I <sub>F</sub> = 100A		1.5	2.0	V
		I <sub>F</sub> = 100A, T <sub>J</sub> = 125°C		1.2		
<b>t<sub>rr</sub></b>	Reverse Recovery Time (I <sub>F</sub> = 1A, di <sub>F</sub> /dt = -200A/μs, V <sub>R</sub> = 30V)			35		ns
<b>t<sub>rr</sub></b>	Reverse Recovery Time	I <sub>F</sub> = 100A, V <sub>R</sub> = 200V,		60		ns
<b>I<sub>RRM</sub></b>	Maximum Reverse Recovery Current	di <sub>F</sub> /dt = -200A/μs		9		A
<b>t<sub>rr</sub></b>	Reverse Recovery Time	I <sub>F</sub> = 100A, V <sub>R</sub> = 200V,		85		ns
<b>I<sub>RRM</sub></b>	Maximum Reverse Recovery Current	di <sub>F</sub> /dt = -200A/μs, T <sub>J</sub> = 125°C		15		A

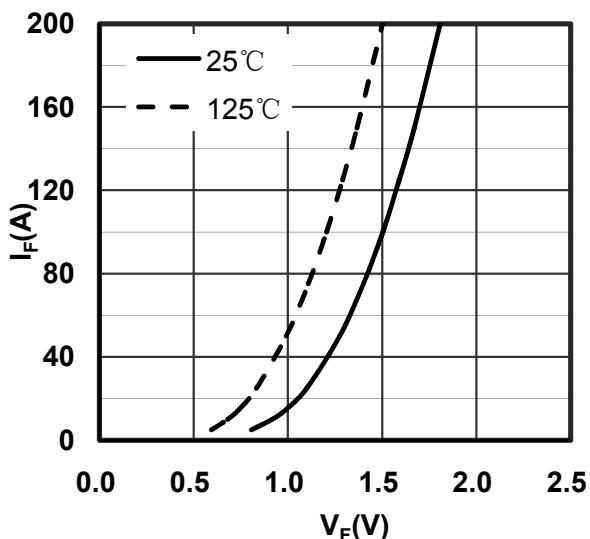


Figure 1. Forward Voltage Drop vs Forward Current

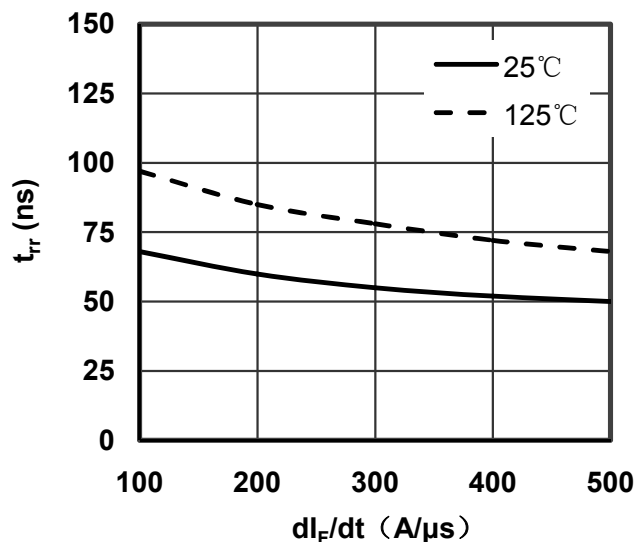


Figure 2. Reverse Recovery Time vs di<sub>F</sub>/dt

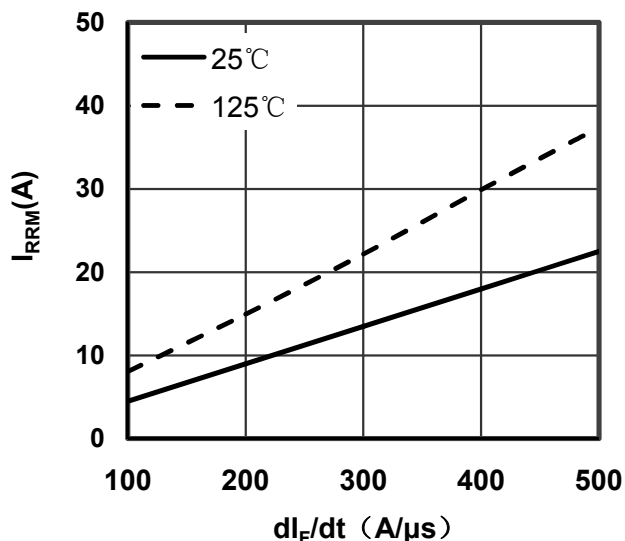


Figure 3. Reverse Recovery Current vs di<sub>F</sub>/dt

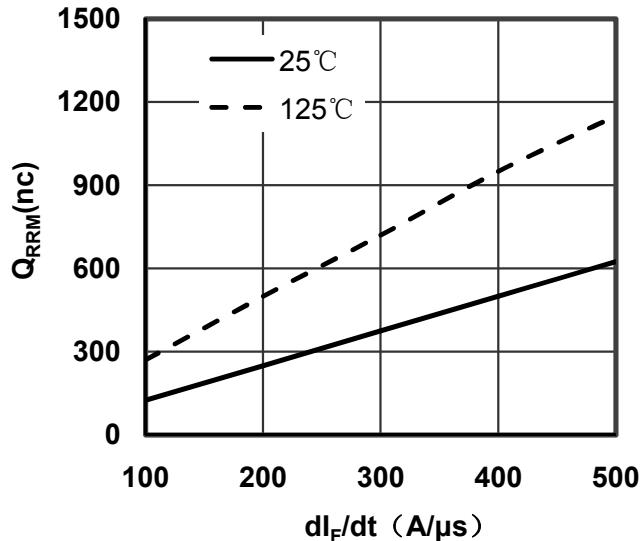


Figure 4. Reverse Recovery Charge vs di<sub>F</sub>/dt

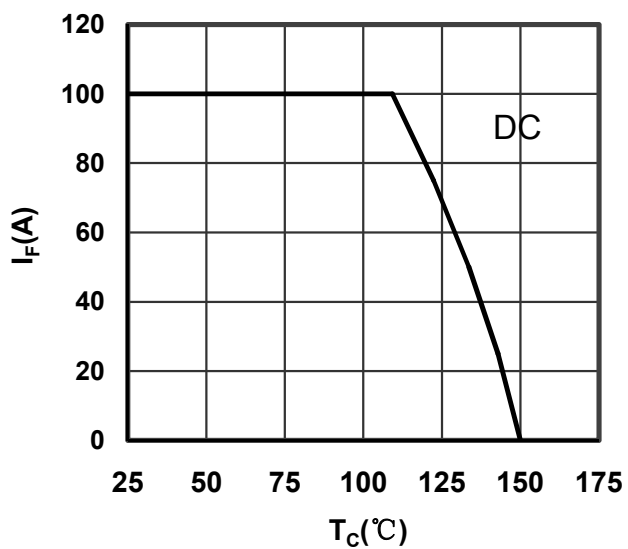


Figure 5. Forward current vs Case temperature

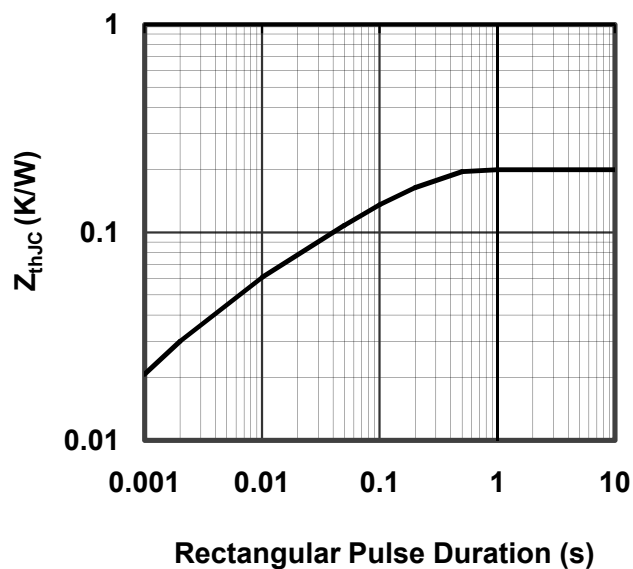
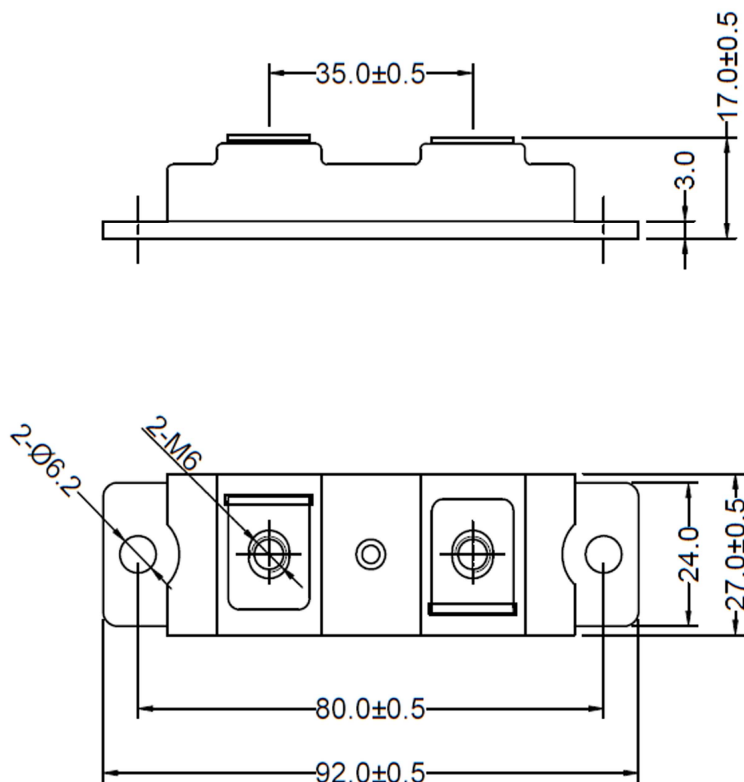


Figure 6. Transient Thermal Impedance



Dimensions in (mm)  
Figure 7. Package Outline