



PACKAGE : T1

600V
300A

PRELIMINARY

■ CIRCUIT DIAGRAM



■ FEATURES

- High Speed $t_{rr} \leq 200\text{ns}$
- $I_{F(AV)}$ 300A
- Isolated Mounting base
- High Surge Capability
- Low Forward Voltage Drop

■ APPLICATIONS

- High power converter
- Switched mode power supplies (SMPS)
- UPS
- Electrical welding machine

■ ABSOLUTE MAXIMUM RATINGS

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

Symbol	Parameter	Conditions	Ratings	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	-	600	V
$V_{R(DC)}$	DC Reverse Voltage	-	480	V
$I_{F(AV)}$	Forward current	$T_c = 25^\circ\text{C}$	600	A
		$T_c = 80^\circ\text{C}$	300	A
I_{FMS}	Surge Forward current	10ms Half sine wave	4000	A
I^2t	I^2t for Fusing	10ms half sine wave	5000	A^2s
T_{vj}	Maximum junction temperature	-	-40 ~ 150	$^\circ\text{C}$
T_{stg}	Storage temperature range	-	-40 ~ 125	$^\circ\text{C}$
V_{ISO}	Isolation Breakdown Voltage	@AC 1 minutes	2500	V
M_S	Mounting screw torque	M5	3.0 ~ 6.0	N.m
M_t	Mounting terminals screw torque	M6	2.5 ~ 5.0	N.m

■ ELECTRICAL CHARACTERISTICS

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

Symbol	Parameter	Min	Typ	Max	Unit	Conditions	
V_R	Break down voltage	600	-	-	V		
V_F	Diode Forward Voltage Drop	-	-	1.35	V	$T_{vj} = 25^\circ\text{C}$	$I_F = 300\text{A}$
		-	-	1.35		$T_{vj} = 125^\circ\text{C}$	
I_{rr}	Peak Reverse Recovery Current	-	60	-	A	$I_F = 300\text{A}$, $V_R = 300\text{V}$	$T_{vj} = 125^\circ\text{C}$
Q_{rr}	Diode Recovery Charge	-	7	-	μC		
$R_{th(j-c)}$	Junction-to-Case	-	0.135	-	K/W		
Weight	Module		150		g		

Technical information and specification subject to change without notice.

PRELIMINARY

PERFORMANCE CURVES (I)

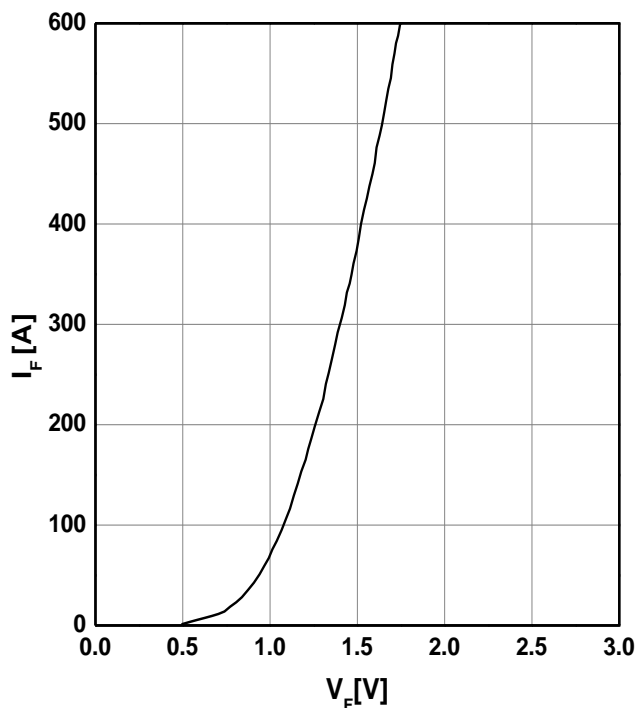


Fig1. Forward characteristics

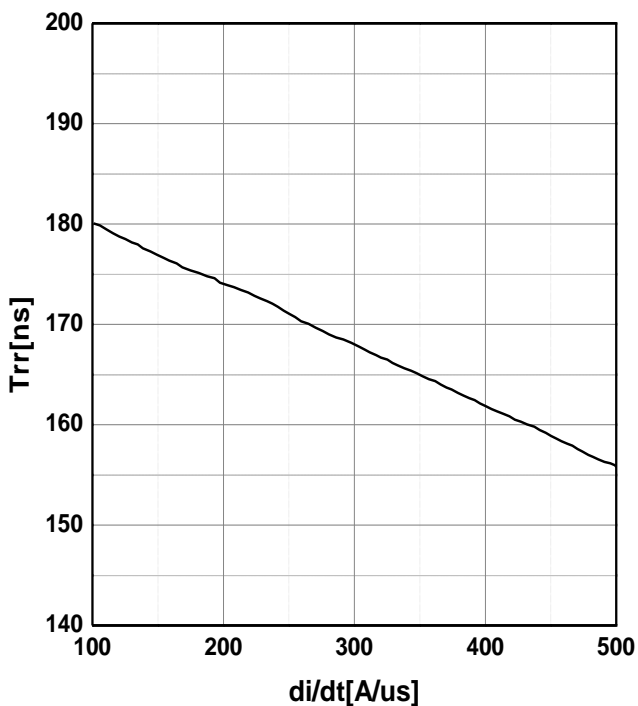


Fig2. Typical Reverse Recovery Time vs. $-di/dt$

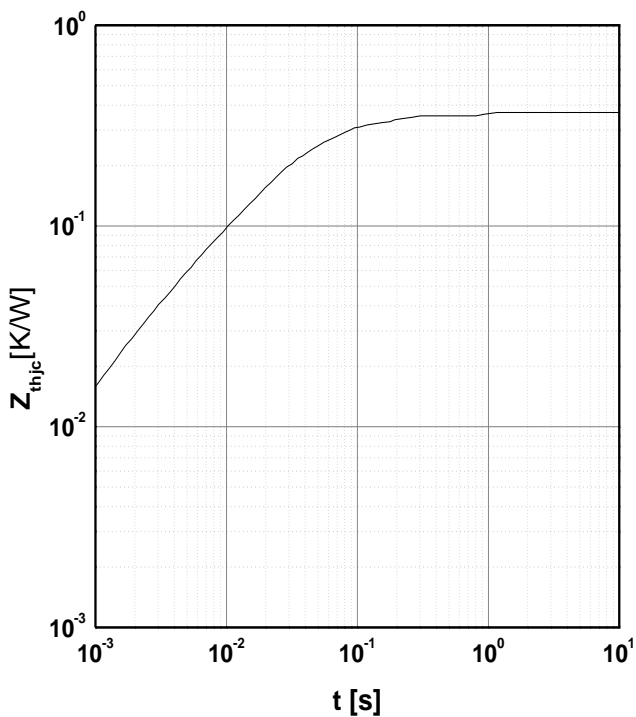


Fig3. Transient Thermal Impedance

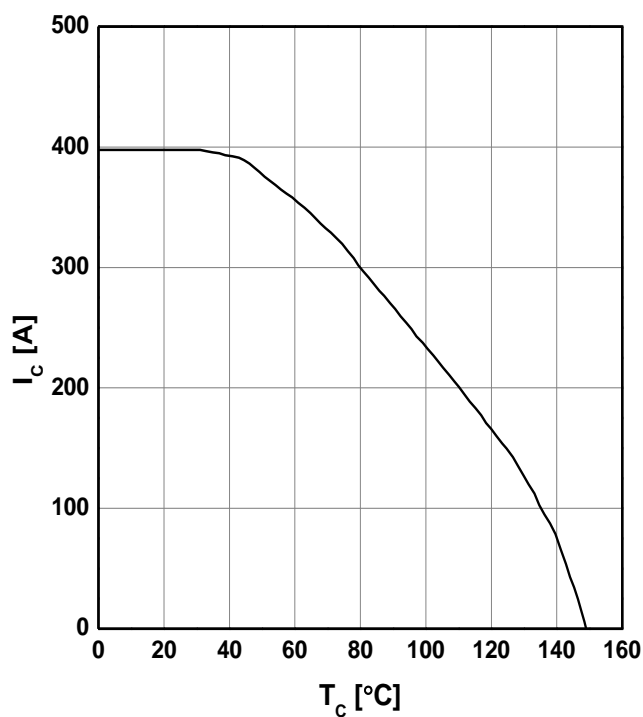


Fig4. Forward Current Derating Curve

