

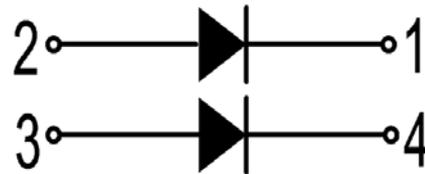
PRODUCT FEATURES

- Ultrafast Recovery Time
- Low Recovery Loss
- Soft Reverse Recovery Characteristics
- Low Leakage Current
- Popular SOT-227 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	t
V_R	Maximum D.C. Reverse Voltage		1200	V
V_{RRM}	Maximum Repetitive Reverse Voltage			
$I_{F(AV)}$	Average Forward Current	$T_C=50^{\circ}\text{C}$, Per Diode	100	A
$I_{F(RMS)}$	RMS Forward Current	$T_C=50^{\circ}\text{C}$, Per Diode	140	
I_{FSM}	Non-Repetitive Surge Forward Current	$T_J=45^{\circ}\text{C}$, 1/2 Cycle, 50Hz,	950	
		$T_J=45^{\circ}\text{C}$, 1/2 Cycle, 60Hz,	1050	
I^2t	For Fusing	$T_J=45^{\circ}\text{C}$, t=10ms, 50Hz, Sine	4510	A ² S
		$T_J=45^{\circ}\text{C}$, t=10ms, 60Hz, Sine	4570	
P_D	Power Dissipation		280	W
V_{isol}	Insulation Test Voltage	AC, t=1min	3000	V
T_J	Junction Temperature		-40 to +150	°C
T_{STG}	Storage Temperature Range		-40 to +125	°C
Torque	Module to Sink	Recommended (M4)	0.7~1.1	Nm
Torque	Module Electrodes	Recommended (M4)	0.7~1.1	Nm
R_{thJC}	Junction to Case Thermal Resistance		0.44	°C/W
Weight			26.5	g

ELECTRICAL CHARACTERISTICS

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

Symbol	Parameter/Test Conditions		Min	Typ	Max	t
I_{RM}	Maximum Reverse Leakage Current	$V_R = 1200\text{V}$			1	mA
		$V_R = 1200\text{V}, T_J = 125^{\circ}\text{C}$			20	
V_F	Forward Voltage	$I_F=100\text{A}$		3.25		V
		$I_F=100\text{A}, T_J=125^{\circ}\text{C}$		2.55		
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			150		ns
I_{RRM}	Maximum Reverse Recovery Current	$di_F/dt = -200\text{A}/\mu\text{s}$		16		A
t_{rr}	Reverse Recovery Time			320		ns
I_{RRM}	Maximum Reverse Recovery Current	$di_F/dt = -200\text{A}/\mu\text{s}, T_J=125$		30		A
t_{rr}	Reverse Recovery Time			200		ns
I_{RRM}	Maximum Reverse Recovery Current	$di_F/dt = -1000\text{A}/\mu$		105		A

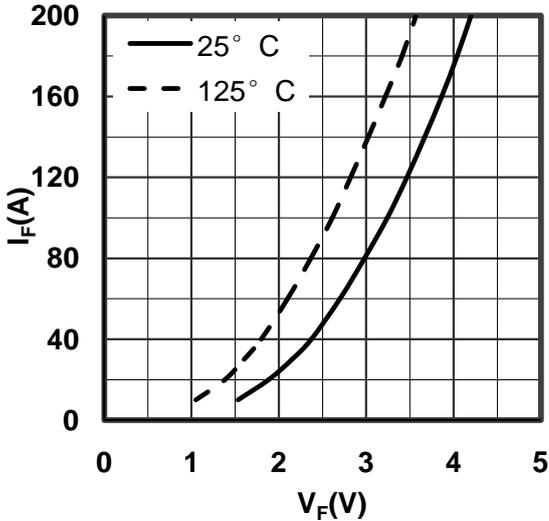


Figure 1. Forward Voltage Drop vs Forward Current

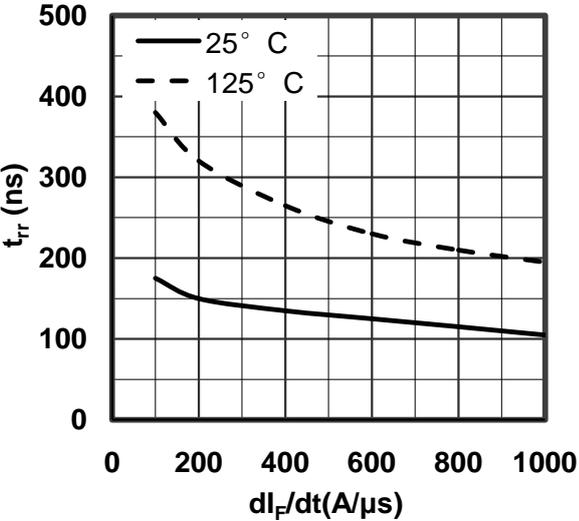


Figure 2. Reverse Recovery Time vs di_F/dt

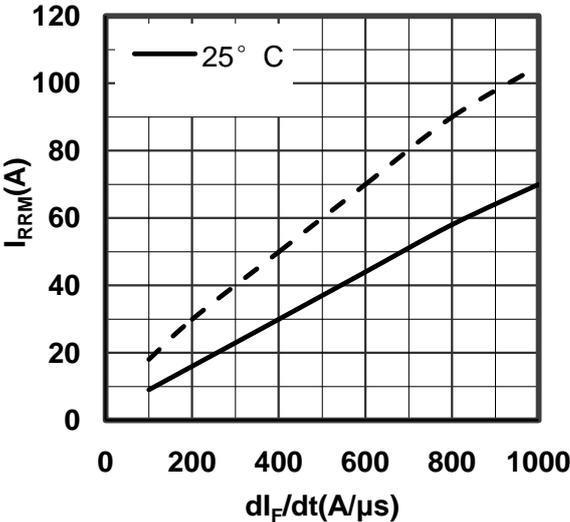


Figure 3. Reverse Recovery Current vs di_F/dt

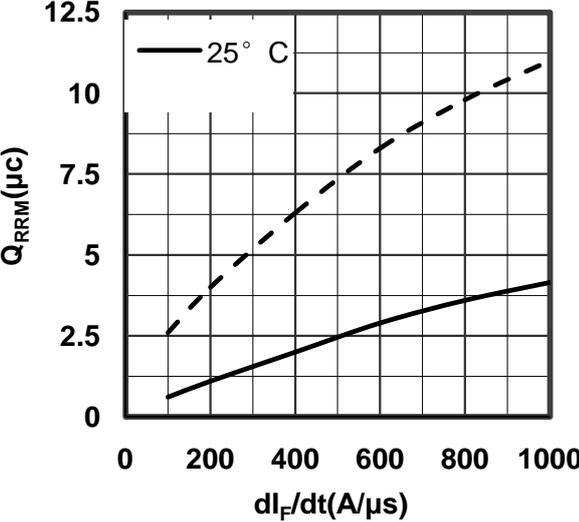


Figure 4. Reverse Recovery Charge vs di_F/dt

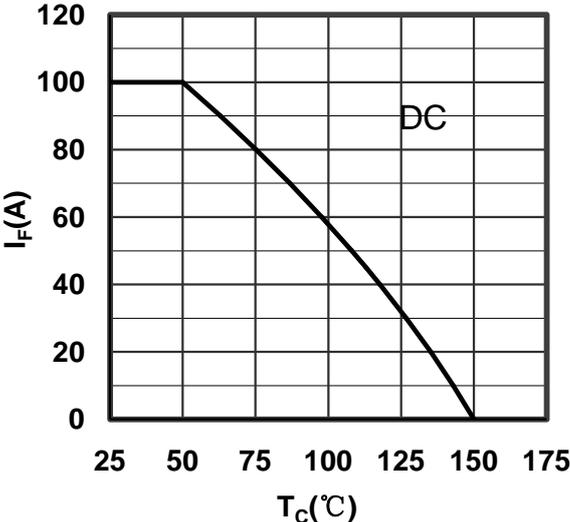


Figure 5. Forward current vs Case temperature

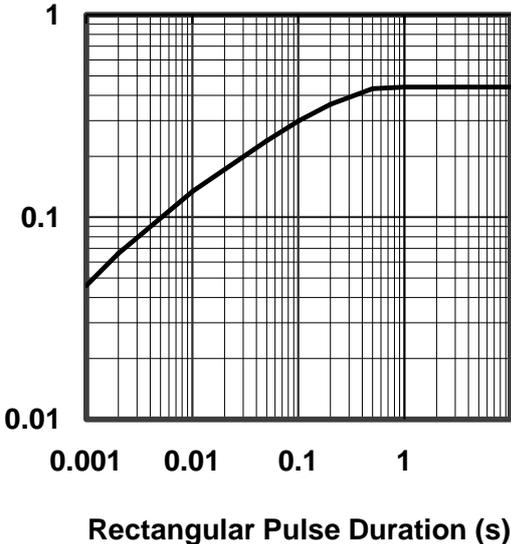
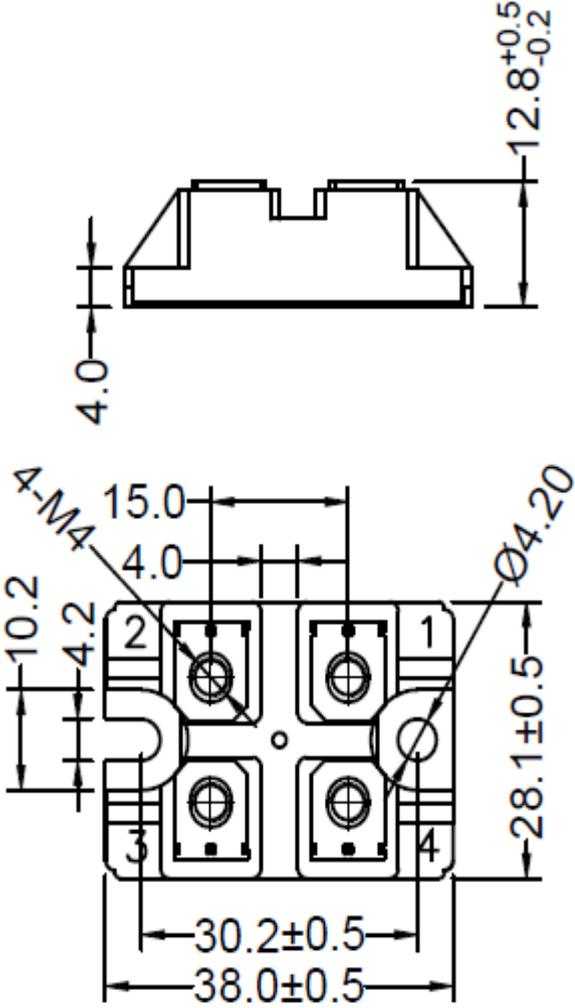


Figure 6. Transient Thermal Impedance



Dimensions in (mm)
Figure 7. Package Outline