Fast Recovery Diode Module

Parameter	Value	Unit
Reverse Voltage	1200	V
Forward Current	120	A

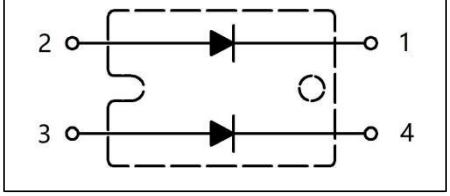
Features

- Ultra fast Reverse Recovery Time
- Soft Reverse Recovery Characteris
- Low Reverse Recovery Loss
- High System Power Density

Applications

- Inversion Welder
- Power Factor Correction(PFC)Circuit
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper

Circuit



Maximum Ratings

Symbol	Description	Conditions	Value	Unit
VR	Maximum D.C. Reverse Voltage		1200	V
VRRM	Maximum Repetitive Reverse Voltage			
IFAV	Average Forward Current	Rectangular， d=0.5， Tc=71℃， Per Leg	60	A
		Rectangular， d=0.5， Tc=71℃， Per Module	120	
IFRMS	RMS Forward Current	Tc=71℃, Per Leg	84	A
IFSM	Non-Repetitive Peak Surge Current	Tj=25℃, t=50Hz(10ms), VR=0V, Per Leg	550	A
I^2t	Circuit Fusing Consideration	t=10ms Tj=25℃	1510	A^2s
Ptot	Total Power Dissipation	Tj=25℃	208	W
VISO	Isolation Breakdown Voltage	AC 50Hz/60Hz; R.M.S; 1min	3000	V
Tj	Operating Junction Temperature		-40 to+150	℃
Tstg	Storage Temperature		-40 to+125	℃
Mt	Mounting Torque	To Terminals(M4)	0.7~1.1	N·m
Ms		To Heatsink(M4)	0.7~1.1	
Weight	Module (Approximately)		34	g

Thermal Characteristics

Symbol	Description	Conditions	Value	Unit
Rth(j-c)	Thermal Impedance, Max	Junction to Case(Per Leg)	0.6	℃/W
Rth(c-s)	Thermal Impedance, Max	Case to Heat Sink	0.1	℃/W

Electrical Characteristics

Symbol	Description	Conditions	Value			Unit
			Min.	Typ.	Max.	
V_{FM}	Forward Voltage Drop Per Leg, Max	Tj=25℃, I_F=60A	-	-	2.1	V
I_{RRM}	Repetitive Peak Reverse Current Per Leg, Max	Tj=25℃, V_R=V_{RRM}	-	-	0.5	mA
		Tj=150℃ V_R=V_{RRM}	-	-	10	
t_{rr}	Typical Reverse Recovery Time Per Leg	I_F=0.5A, I_R = -1A, I_{RR}= -0.25A	-	50	-	ns
t_{rr}	Reverse Recovery Time	I_F=60A, V_R=600V, di_F/dt = -200A/μs, Tj=25℃	-	150	-	ns
I_{RM}	Maximum Reverse Recovery Current		-	15	-	A
t_{rr}	Reverse Recovery Time	I_F=60A, V_R=600V, di_F/dt =-200A/μs, Tj=125℃	-	340	-	ns
I_{RM}	Maximum Reverse Recovery Current		-	28	-	A
V_{T0}	Threshold Voltage, for power loss calculation only	Tj=125℃	1.2			V
r_T	Slope Resistance, for power loss calculation only	Tj=125℃	8.3			mΩ

Characteristics diagrams

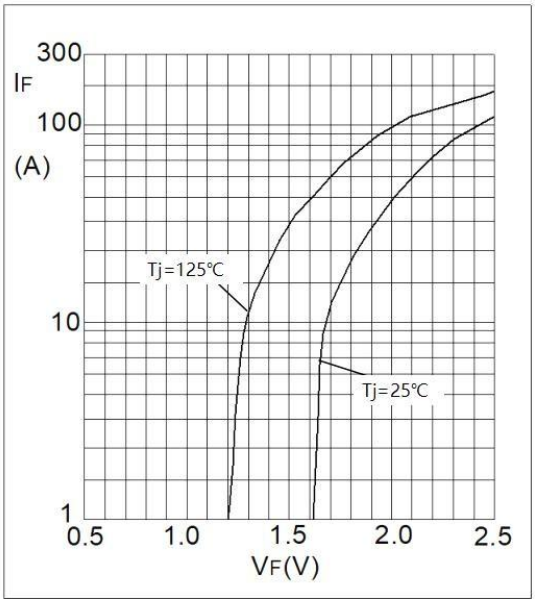


Fig1. Forward Characteristics

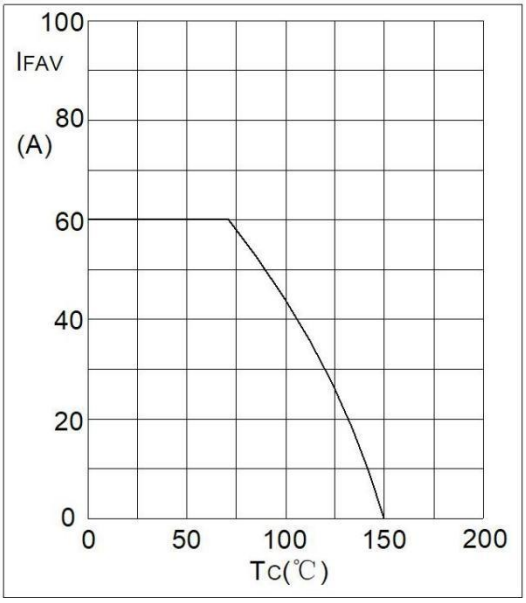


Fig2. Forward Current Derating Curve

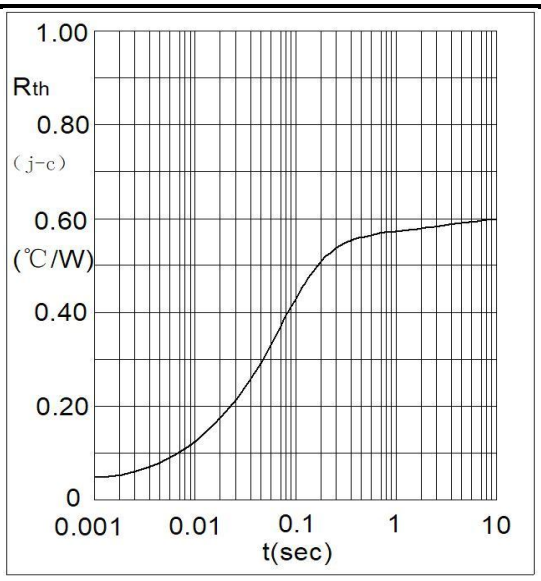


Fig3. Transient Thermal Impedance

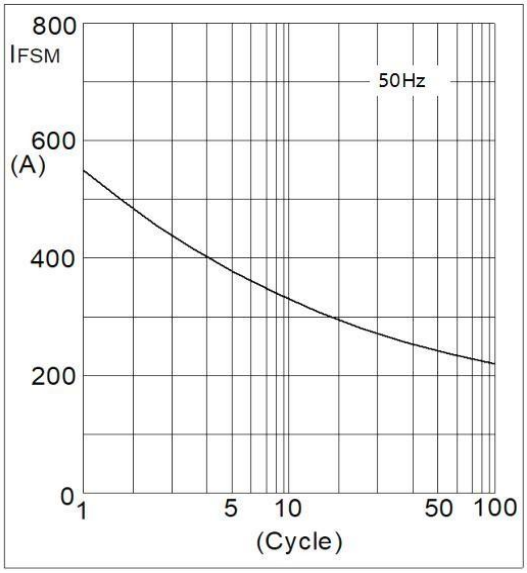


Fig4. Max Non-Repetitive Forward Surge Current

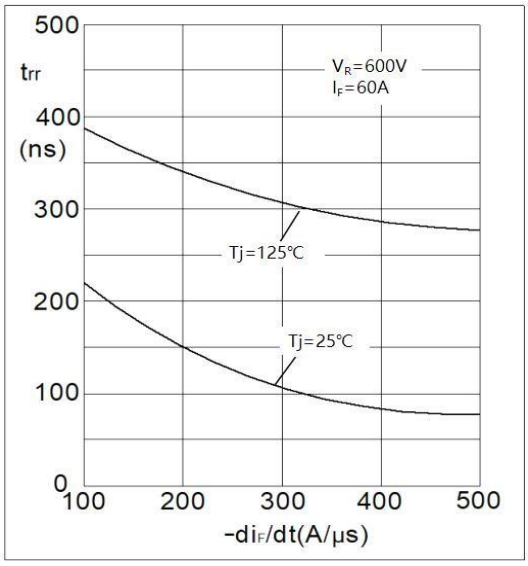


Fig5. Reverse Recovery Time VS diF/dt

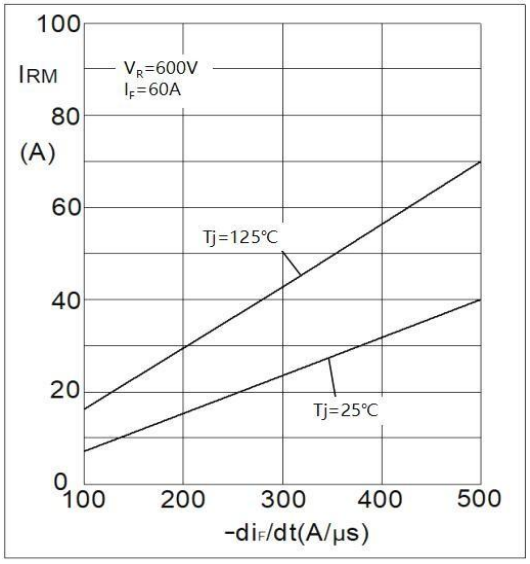


Fig6. Reverse Recovery Current VS diF/dt

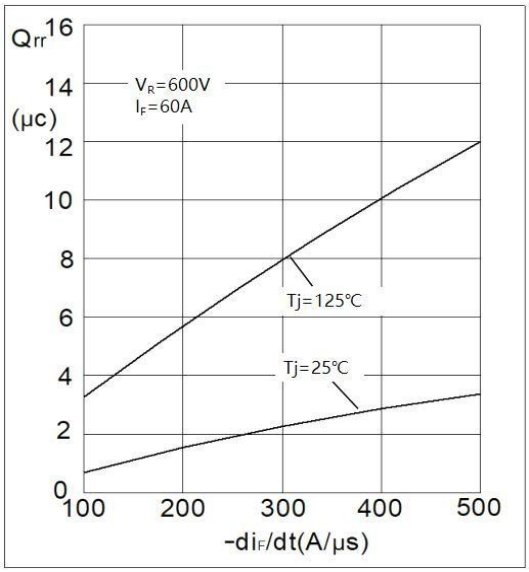
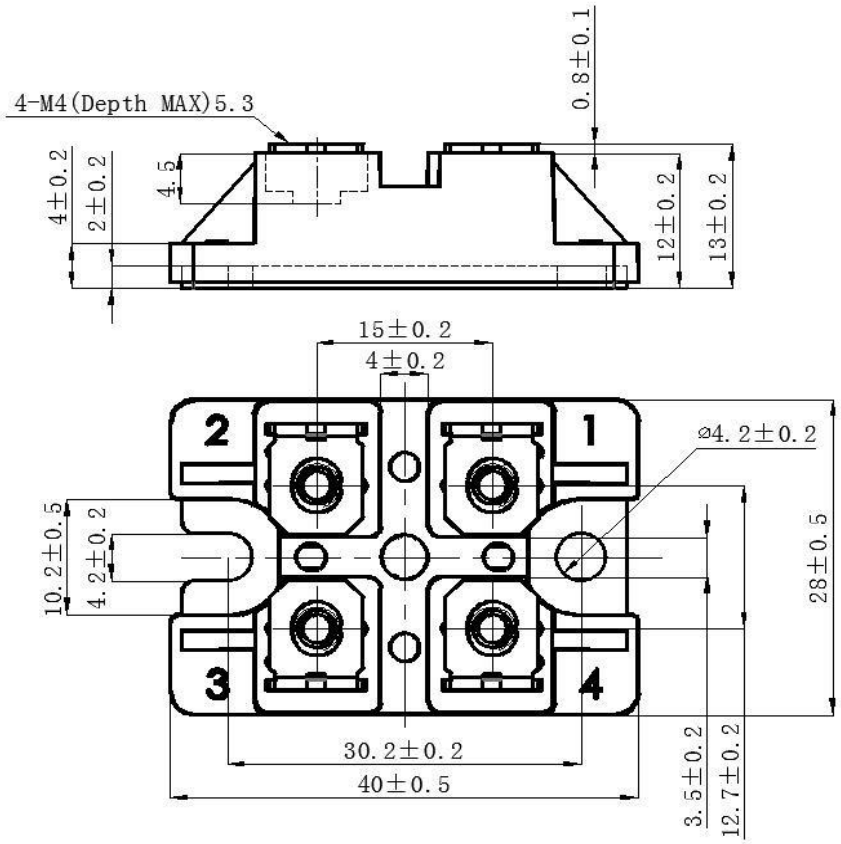


Fig7. Reverse Recovery Charge VS diF/dt

Package Outline

CASE: SOT227B/M58



Dimensions in mm

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3) Mitigate risks of accidents, fires, or societal damages resulting from product use.
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