

1F60A-120F/R(60A) FAST RECOVERY DIODE MODULE

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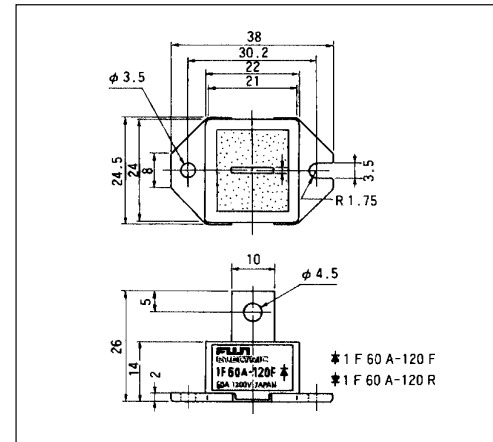
■ Features

- Short Reverse Recovery Time
- Variety of Connection Menu
- Insulated Type

■ Applications

- Arc-Welders
- Free-Wheeling Diode
- High Speed Rectifiers

■ Outline Drawings, mm



■ Inner Circuit Schematic



■ Maximum ratings and characteristics

● Absolute maximum ratings

Item	Symbol	Conditions	Rating	Unit
Repetitive peak reverse voltage	V_{RRM}		1200	V
Non-repetitive peak reverse voltage	V_{RSM}		1320	V
Average output current	$I_{F(AV)}$	50/60Hz Sine wave, $T_c=75^\circ\text{C}$	60	A
Surge current	I_{FSM}	From rated load, Sine wave 10ms	1000	A
I^2t	I^2t	From rated load	4000	A^2s
Operating junction temperature	T_j		-40 to +125	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to +125	$^\circ\text{C}$
Screw torque	Terminals		1.7	N·m
	Mountings		0.8	N·m
Net mass			33	g

●Electrical characteristics ($T_a=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage drop	V_{FM}	$T_j=25^\circ\text{C}$, $I_{FM}=60\text{A}$			3.0	V
Reverse current	I_{RRM}	$T_j=125^\circ\text{C}$, $V_R=V_{RRM}$			20	mA
Reverse recovery time	t_{rr}	$T_j=25^\circ\text{C}$, $I_F=I_R=0.1\text{A}$			0.6	μs

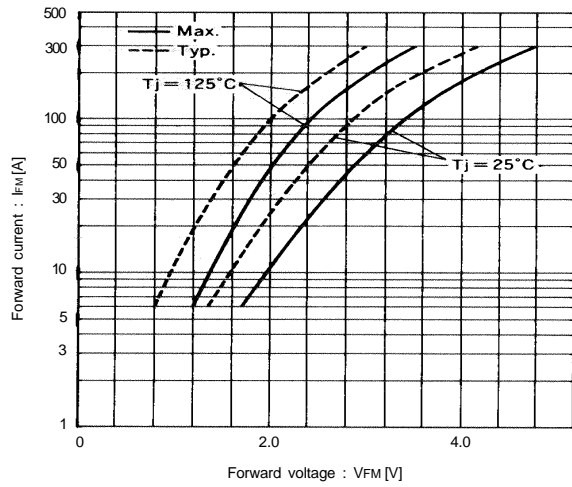
● Thermal Characteristics

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Thermal resistance	$R_{th(j-c)}$	Junction to case			0.32	$^\circ\text{C}/\text{W}$
	$R_{th(c-f)}$	the base to cooling fin *			0.1	$^\circ\text{C}/\text{W}$

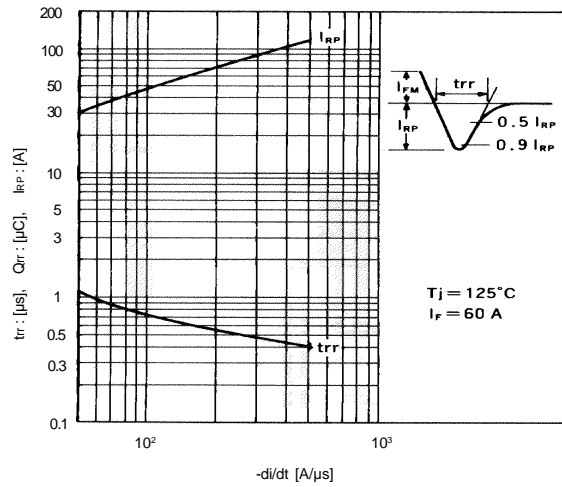
* : With Thermal Compound

■ Characteristics

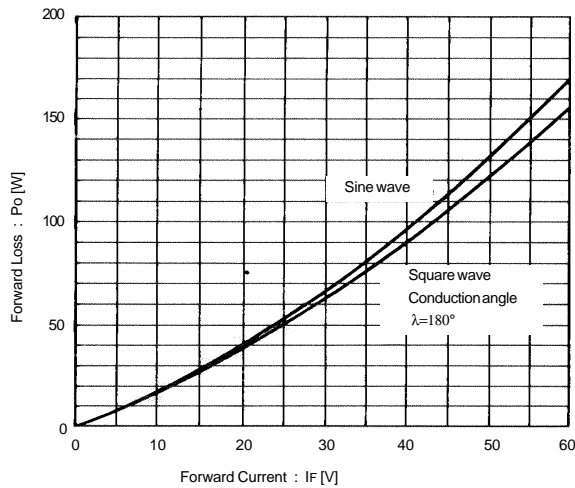
Forward Characteristics



Reverse Recovery Characteristics



Power Loss



Transient Thermal Impedance

