

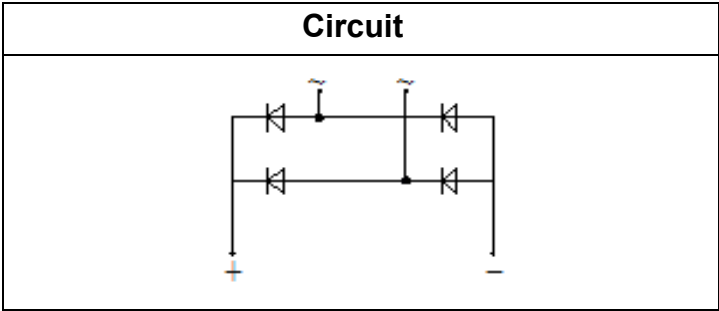
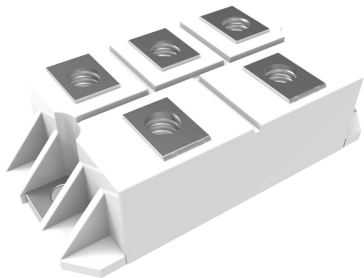
Features

- Soft Reverse Recovery Characteristics
- Ultrafast Reverse Recovery Time
- Low Reverse Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Built in Full Bridge FRD Construction

Applications

- Cutting Machine
- High Speed & High Power Converters, Inverter Welders
- Various Switching
- Telecommunication Power Supply

Part Number	$I_{F(AV)}$	V_{RRM}
MF100H07M4	100A	700V



**100 Amp
FRED Modules
700 Volts**

M4

DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.768	0.807	19.50	20.50	
B	0.846	0.886	21.50	22.50	
C	0.433	0.472	11.00	12.00	
D	0.098	0.138	2.50	3.50	
E	0.807	0.846	20.50	21.50	
F	0.768	0.807	19.50	20.50	
G	0.197	0.236	5.00	6.00	
H	1.634	1.673	41.50	42.50	
I	0.374	0.413	9.50	10.50	
J	1.161	1.201	29.50	30.50	
K	0.217		5.50		Φ
L	2.579	2.618	65.50	66.50	
M	3.209	3.248	81.50	82.50	

Maximum Ratings

Symbol	Conditions	Values	Units
V_{RRM}	Repetitive Peak Reverse Voltage	700	V
I_D	Single phase ,half wave 180°conduction $T_c=25^{\circ}\text{C}$	200	A
	Single phase ,half wave 180°conduction $T_c=100^{\circ}\text{C}$	100	A
I_{FSM}	1/2 Cycle , 50Hz, Sine	1750	A
I^2t	$T_J=45^{\circ}\text{C}$, $t=10\text{ms}$, 50Hz, Sine	15312	A^2s
P_D	$T_c=25^{\circ}\text{C}$	360	W
T_J		-40 to +150	$^{\circ}\text{C}$
T_{STG}		-40 to +150	$^{\circ}\text{C}$
Visol	3000V AC 1min	1	mA
Torque	To Sink Recommended (M5)	2.5~3.5	N·m
Torque	To Terminal Recommended (M5)	2.5~3.5	N·m
Weight		142	g

Thermal Characteristics

Symbol	Conditions	Values	Units
$R_{th(j-c)}$	Per module	0.3	$^{\circ}\text{C/W}$
$R_{th(c-s)}$	Per module	0.07	$^{\circ}\text{C/W}$

Electrical Characteristics

Symbol	Conditions	Values			Units
		Min.	Typ.	Max.	
I_{RM}	$V_R=700\text{V}$	--	--	0.1	mA
	$V_R=700\text{V}$, $T_J=125^{\circ}\text{C}$	--	--	2	mA
V_F	$I_F=100\text{A}$	--	1.2	1.4	V
	$I_F=100\text{A}$, $T_J=125^{\circ}\text{C}$	--	1.1	--	V
trr	$I_F=1\text{A}$, $V_R=30\text{V}$, $di_F/dt=-200\text{A}/\mu\text{s}$	--	40	--	ns
trr	$I_F=100\text{A}$, $di/dt=-200\text{A}/\mu\text{s}$	--	150	--	ns
Irr	$I_F=100\text{A}$, $di/dt=-200\text{A}/\mu\text{s}$	--	16	--	A
trr	$I_F=100\text{A}$, $di/dt=-200\text{A}/\mu\text{s}$, $T_J=125^{\circ}\text{C}$	--	300	--	ns
Irr	$I_F=100\text{A}$, $di/dt=-200\text{A}/\mu\text{s}$, $T_J=125^{\circ}\text{C}$	--	28	--	A

Performance Curves

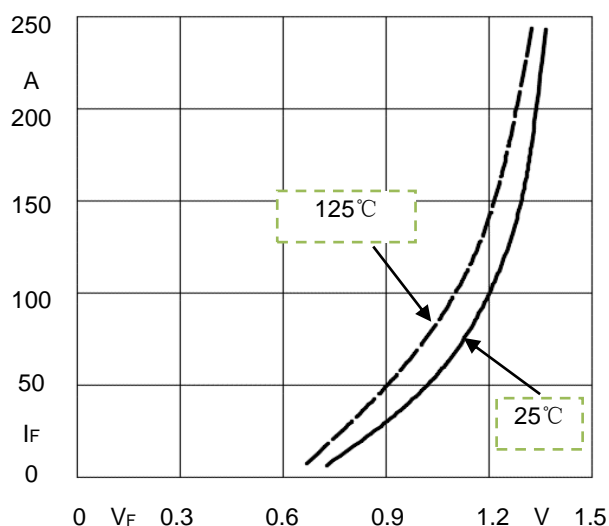


Fig1. Forward Voltage Drop vs Forward Current
Drop vs Forward Current

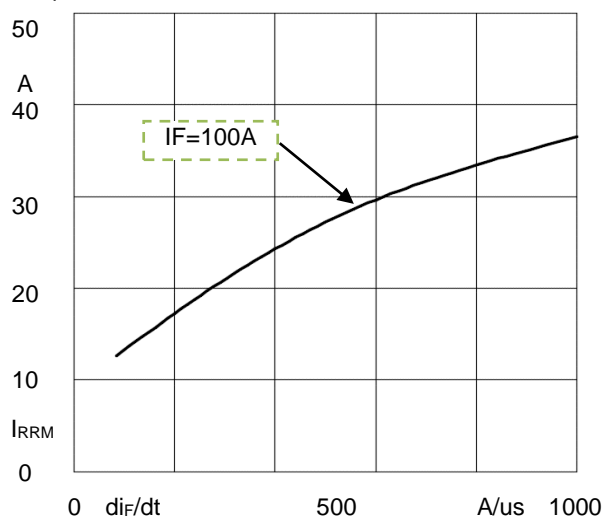


Fig3. Reverse Recovery Current vs di_F/dt

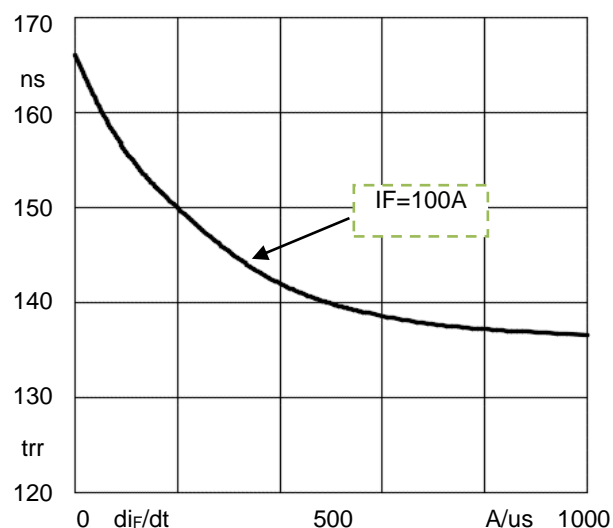


Fig2. Reverse Recovery Time vs di_F/dt

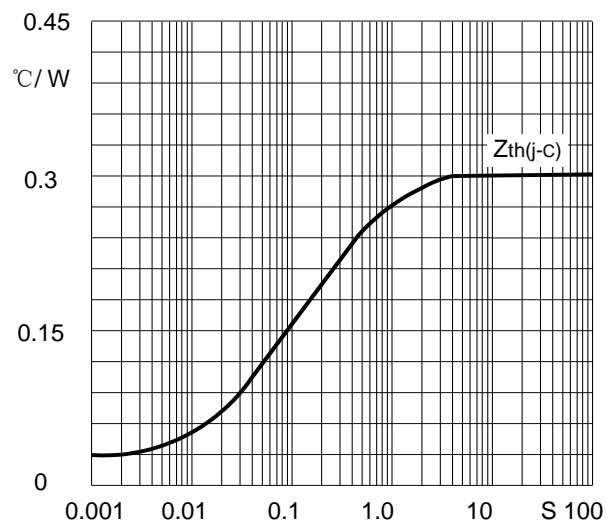


Fig4. Transient Thermal Impedance

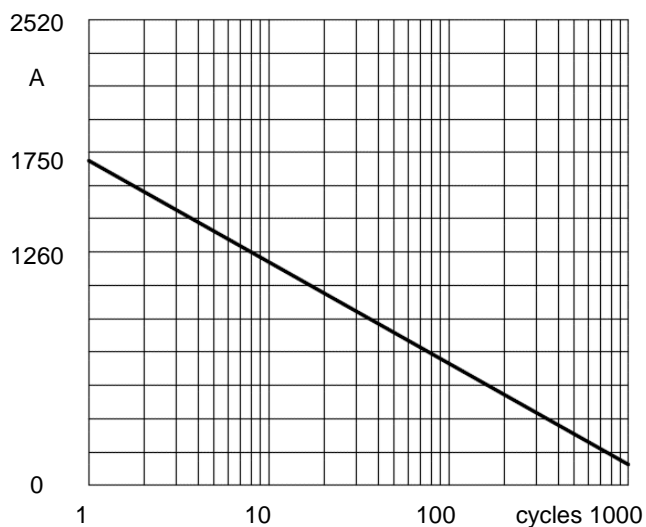


Fig5. Max Non-Repetitive Forward Surge Current

Ordering Information

Device	Packing
Part Number-BP	Bulk:6pcs/Box,60pcs/Carton

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