

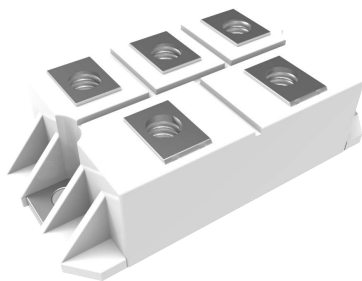
**Features**

- 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

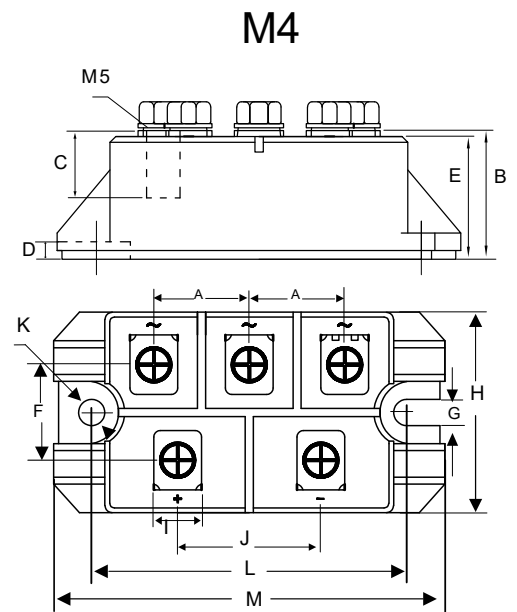
**Applications**

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

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

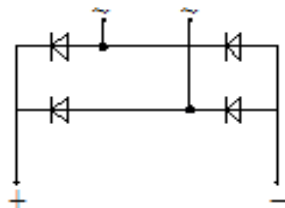


**100 Amp  
FRED Modules  
700 Volts**



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	

**Circuit**



### Maximum Ratings

Symbol	Conditions	Values	Units
$V_{RRM}$	Repetitive Peak Reverse Voltage	700	V
$I_D$	Single phase ,half wave 180°conduction $T_c=25^{\circ}C$	200	A
	Single phase ,half wave 180°conduction $T_c=100^{\circ}C$	100	A
$I_{FSM}$	1/2 Cycle , 50Hz, Sine	1750	A
$I^2t$	$T_J=45^{\circ}C$ , $t=10ms$ , 50Hz, Sine	15312	A <sup>2</sup> s
$P_D$	$T_c=25^{\circ}C$	360	W
$T_J$		-40 to +150	$^{\circ}C$
$T_{STG}$		-40 to +150	$^{\circ}C$
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

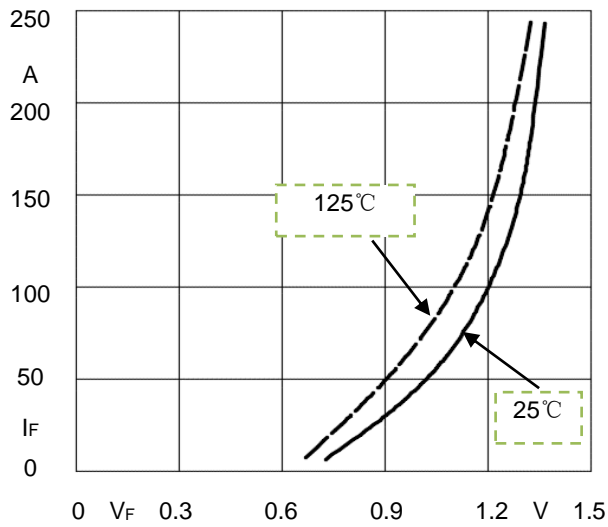
### Thermal Characteristics

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

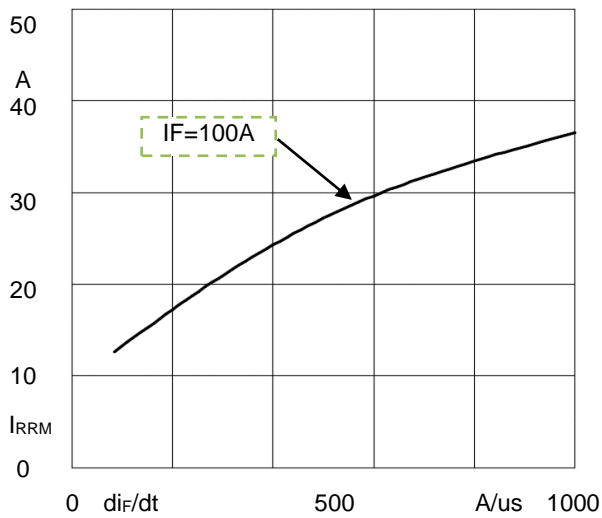
### Electrical Characteristics

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

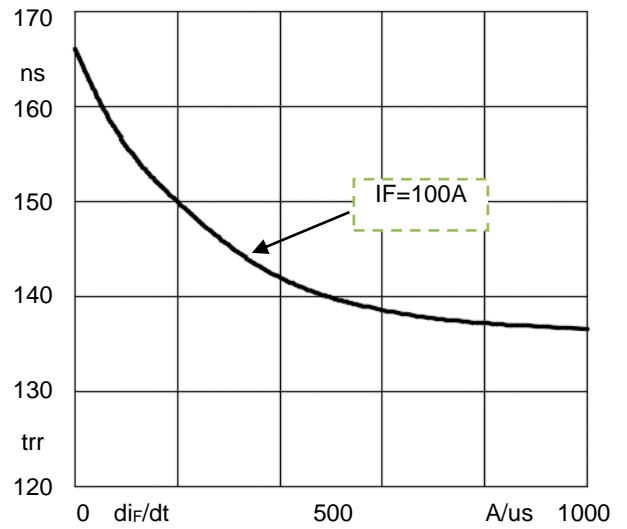
**Performance Curves**



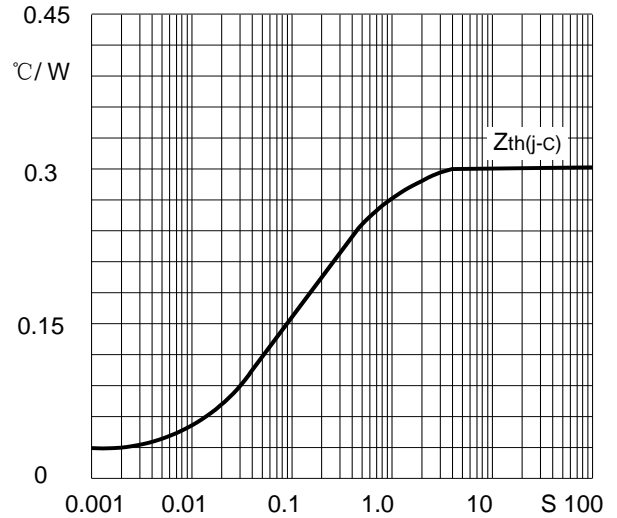
**Fig1. Forward Voltage Drop vs Forward Current**  
Drop vs Forward Current



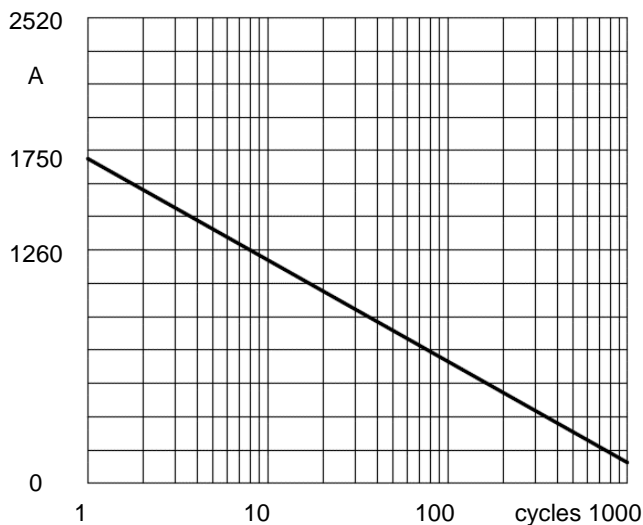
**Fig3. Reverse Recovery Current vs diF/dt**



**Fig2. Reverse Recovery Time vs diF/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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