

Single Phase Rectifier Bridge Module

V_{RRM} 1200 to 2200V
I_D 100 Amp

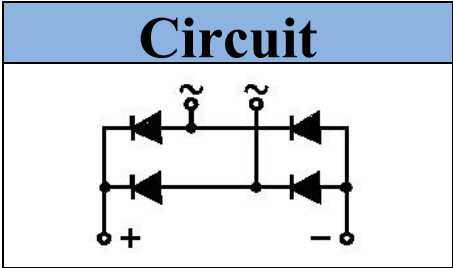


Features

- Very low forward voltage drop
- High surge current capability

Applications

- Inverter for AC or DC motor control
- Current stabilized power supply
- Switching power supply



Module Type

Type	V _{RRM}	V _{RSM}
MDQ100-12	1200V	1300V
MDQ100-16	1600V	1700V
MDQ100-18	1800V	1900V
MDQ100-20	2000V	2100V
MDQ100-22	2200V	2300V

Maximum Ratings

Symbol	Item	Conditions	Values	Unit
I _D	Output Current	Three Phase, Full Wave T _c = 100°C	100	A
I _{FSM}	Surge Forward Current	T _j = 25°C, t = 50Hz(10ms), V _R = 0V	1400	A
I ² t	Circuit Fusing Consideration	t = 10ms T _j = 25°C	9800	A²s
V _{ISO}	Isolation Breakdown Voltage	AC 50Hz/60Hz; R.M.S; 1min	2500	V
T _j	Operating Junction Temperature		-40 to +150	°C
T _{stg}	Storage Temperature		-40 to +125	°C
M _t	Mounting Torque	To Terminals(M5)	3±15%	N·m
M _s		To Heatsink(M6)	5±15%	
Weight	Module (Approximately)		190	g

Thermal Characteristics

Symbol	Item	Conditions	Values	Unit
R _{th(j-c)}	Thermal Impedance, Max	Junction to Case(Per Module)	0.28	°C/W
		Junction to Case(Per Diode)	1.12	°C/W
R _{th(c-s)}	Thermal Impedance, Max	Case to Heat Sink	0.07	°C/W

Electrical Characteristics

Symbol	Item	Conditions	Values			Unit
			Min.	Typ.	Max.	
V _{FM}	Forward Voltage Drop, Max	T _j = 25°C I _F = 150A	—	—	1.20	V
I _{RRM}	Repetitive Peak Reverse Current, Max	T _j = 25°C V _R = V _{RRM}	—	—	0.1	mA
		T _j = 150°C V _R = V _{RRM}	—	—	5	
V _{T0}	Threshold Voltage, for power loss calculation only	T _j = 125°C	0.70			V
r _T	Slope Resistance, for power loss calculation only	T _j = 125°C	1.35			mΩ

Performance Curves

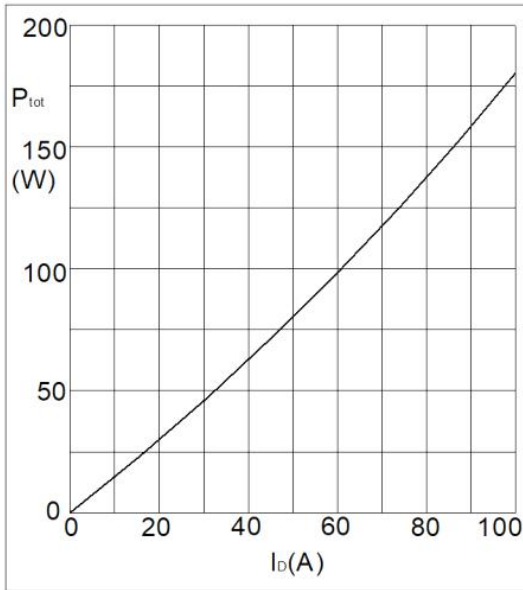


Fig1. Power Dissipation

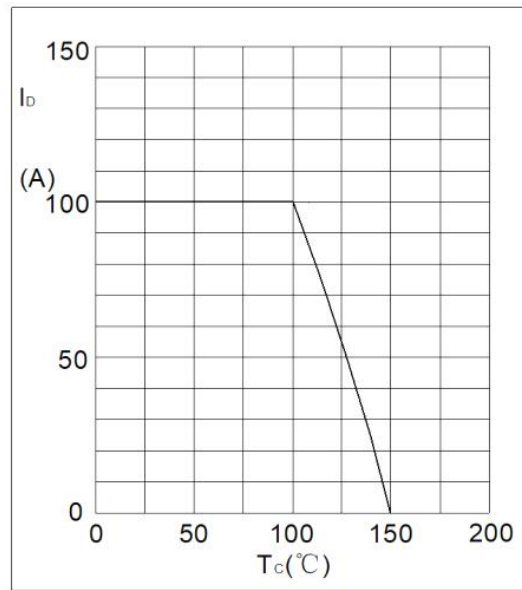


Fig2. Forward Current Derating Curve

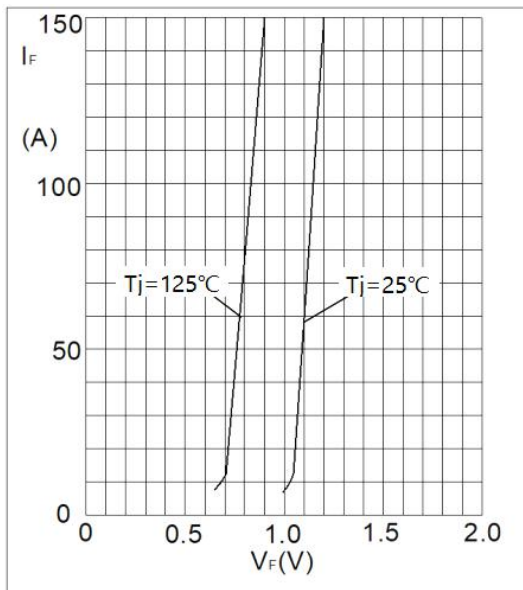


Fig3. Forward Characteristics

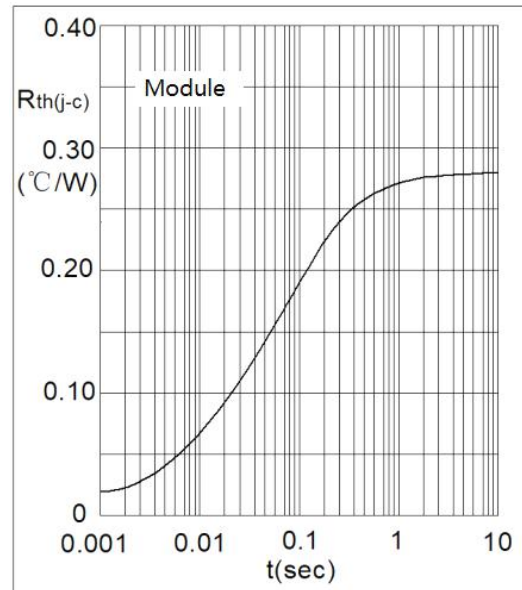


Fig4. Transient Thermal impedance

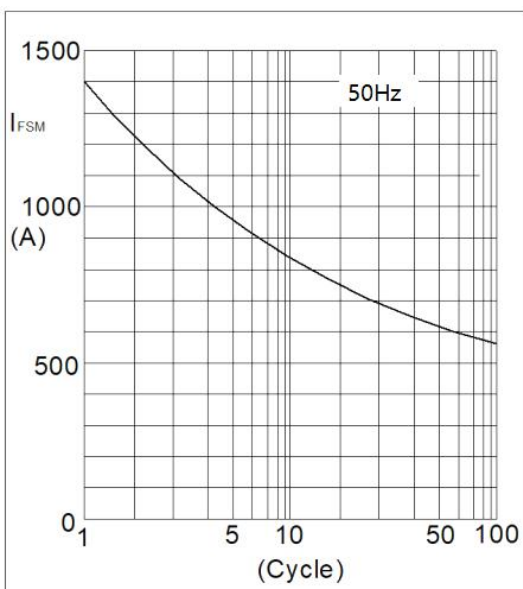
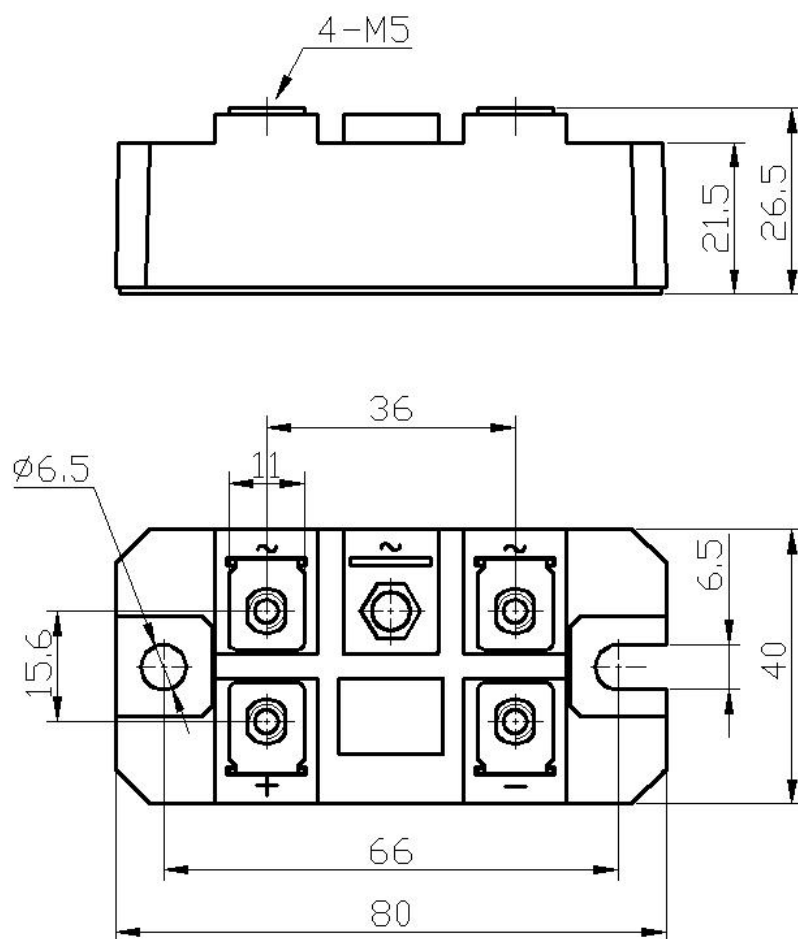


Fig5. Max Non-Repetitive Forward Surge Current

Package Outline Information

CASE: M18



Dimensions in mm

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