

Three Phase Rectifier Bridge Module

V_{RRM} 1200 to 2000V

I_D 100 Amp

Features

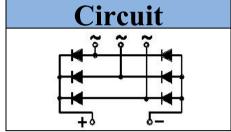
- Aluminum oxide DBC
- Glass passivated chip

Applications

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







Туре	\mathbf{V}_{RRM}	V_{RSM}
MDS100G-12	1200V	1300V
MDS100G-16	1600V	1700V
MDS100G-18	1800V	1900V
MDS100G-20	2000V	2100V

■ Maximum Ratings

Symbol	Item	Conditions	Values	Unit	
I_D	Output Current	Three Phase, Full Wave T _c = 108°C	100	Α	
I _{FSM}	Surge Forward Current	$T_j = 25^{\circ}C$, $t = 50Hz(10ms)$, $V_R = 0V$	1000	Α	
l ² t	Circuit Fusing Consideration	t = 10ms T _j =25°C	5000	A ² s	
V _{ISO}	Isolation Breakdown Voltage	AC 50Hz/60Hz; R.M.S; 1min	3000	V	
Tj	Operating Junction Temperature		-40 to +150	°C	
T _{stg}	Storage Temperature		-40 to +125	°C	
Mt	Mounting Torque	To Terminals(M5)	3±15%		
Ms	- Mounting rorque	To Heatsink(M5)	3±15%	⊢ N·m	
Weight	Module (Approximately)		135	g	

■ Thermal Characteristics

Symbol	Item	Conditions	Values	Unit
R _{th(j-c)}	Thermal Impedance, Max	Junction to Case(Per Module)	0.15	°C/W
		Junction to Case(Per Diode)	0.90	°C/W
R _{th(c-s)}	Thermal Impedance, Max	Case to Heat Sink	0.07	°C/W

■ Electrical Characteristics

Cymbol	Item	Conditions	Values			Hoit
Symbol			Min.	Тур.	Max.	Unit
V _{FM}	Forward Voltage Drop, Max	T _j = 25°C I _F = 100A	_	_	1.45	V
I _{RRM}	Repetitive Peak Reverse Current, Max	$T_j = 25^{\circ}C$ $V_R = V_{RRM}$	_	_	0.1	mA
		$T_i = 150$ °C $V_R = V_{RRM}$	_	_	5	
V _{T0}	Threshold Voltage, for power loss calculation only	T _j = 125°C	0.85		V	
r _T	Slope Resistance, for power loss calculation only	T _j = 125°C		5.5		mΩ



Performance Curves

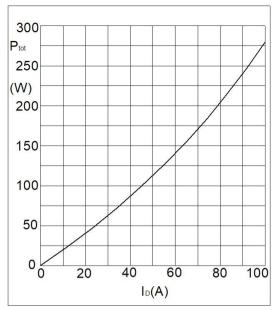


Fig1. Power Dissipation

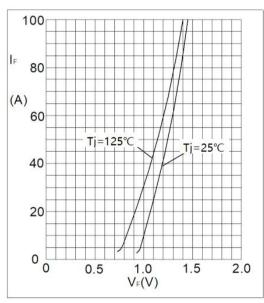


Fig3. Forward Characteristics

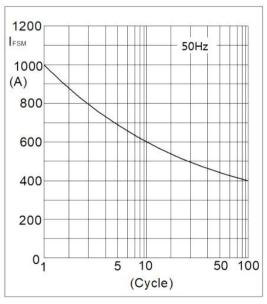


Fig5. Max Non-Repetitive Forward Surge Current

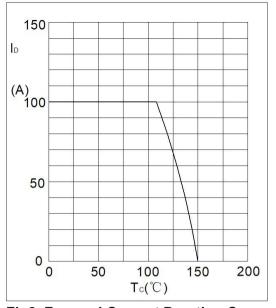


Fig2. Forward Current Derating Curve

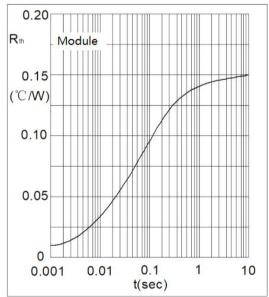
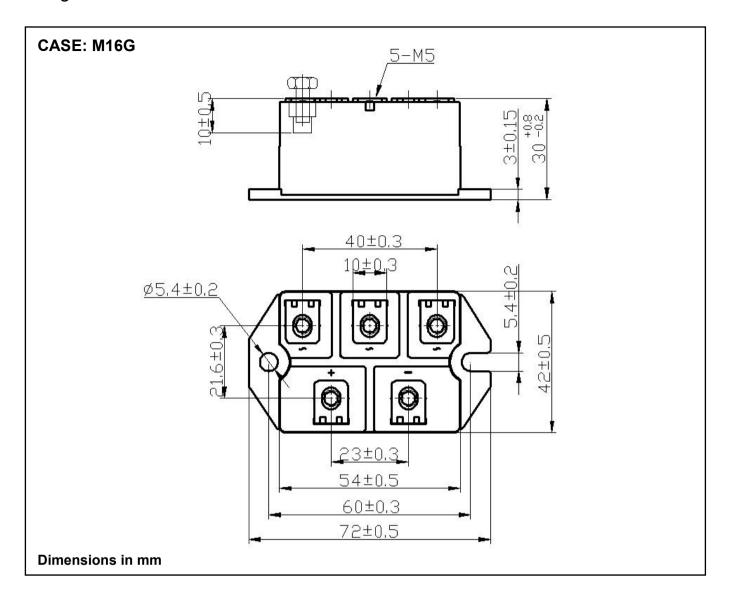


Fig4. Transient Thermal impedance



Package Outline Information



Revised: 2024-04, Revision2.1



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