

Three Phase Rectifier Bridge

V_{RRM} 800 to 1600V
 I_D 50 Amp

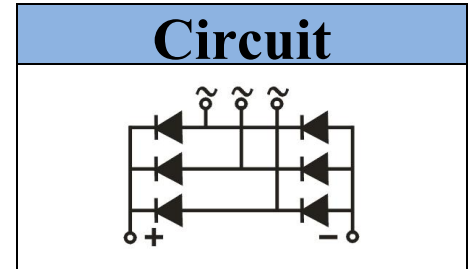


Features

- Glass passivated chip
- Ideal for printed circuit boards
- High surge current capability
- High temperature soldering guaranteed: 265°C/10 seconds

Applications

- Inverter for AC or DC motor control
- Current stabilized power supply
- Input rectifiers for variable frequency drives
- Input rectifiers for PWM inverter



Module Type

Type	V_{RRM}	V_{RSM}
MT5008G	800V	900V
MT5010G	1000V	1100V
MT5012G	1200V	1300V
MT5016G	1600V	1700V

Maximum Ratings

Symbol	Item	Conditions	Values	Unit
I_D	Output Current	Three Phase, Full Wave $T_c = 78^\circ\text{C}$	50	A
I_{FSM}	Surge Forward Current	$T_j = 25^\circ\text{C}$, $t = 50\text{Hz}(10\text{ms})$, $V_R = 0\text{V}$	450	A
I^2t	Circuit Fusing Consideration	$t = 10\text{ms}$ $T_j = 25^\circ\text{C}$	1010	A^2s
V_{ISO}	Isolation Breakdown Voltage	AC 50Hz/60Hz; R.M.S; 1min	2500	V
T_j	Operating Junction Temperature		-40 to +150	$^\circ\text{C}$
T_{stg}	Storage Temperature		-40 to +125	$^\circ\text{C}$
M_s	Mounting Torque	To Heatsink(M5)	2.5~3	N·m
Weight	Module (Approximately)		20	g

Thermal Characteristics

Symbol	Item	Conditions	Values	Unit
$R_{th(j-c)}$	Thermal Impedance, Max	Junction to Case(Per Total)	0.65	$^\circ\text{C}/\text{W}$
		Junction to Case(Per Diode)	3.9	$^\circ\text{C}/\text{W}$

Electrical Characteristics

Symbol	Item	Conditions	Values			Unit
			Min.	Typ.	Max.	
V_{FM}	Forward Voltage Drop, Max	$T_j = 25^\circ\text{C}$ $I_F = 25\text{A}$	—	—	1.18	V
I_{RRM}	Repetitive Peak Reverse Current, Max	$T_j = 25^\circ\text{C}$ $V_R = V_{RRM}$	—	—	5	μA
		$T_j = 150^\circ\text{C}$ $V_R = V_{RRM}$	—	—	3	mA
V_{T0}	Threshold Voltage, for power loss calculation only	$T_j = 125^\circ\text{C}$	0.75			V
r_T	Slope Resistance, for power loss calculation only	$T_j = 125^\circ\text{C}$	7			m Ω

Performance Curves

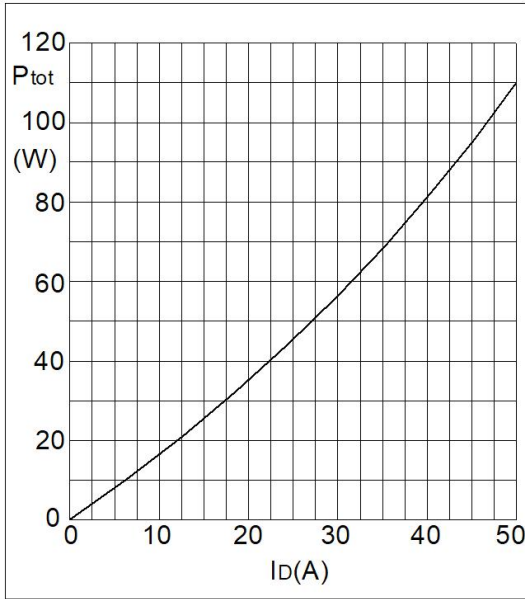


Fig1. Power Dissipation

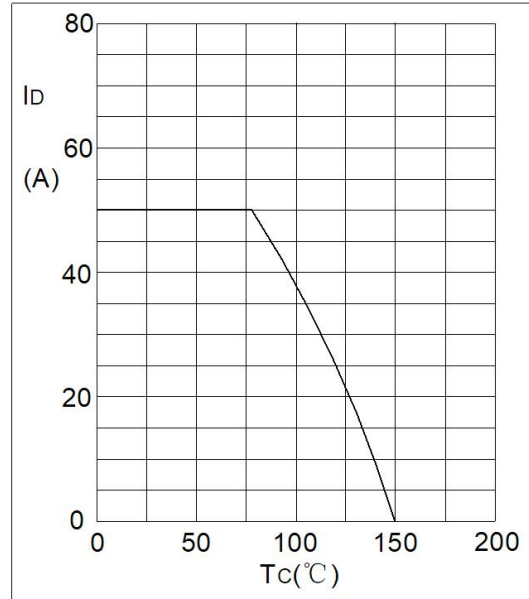


Fig2. Forward Current Derating Curve

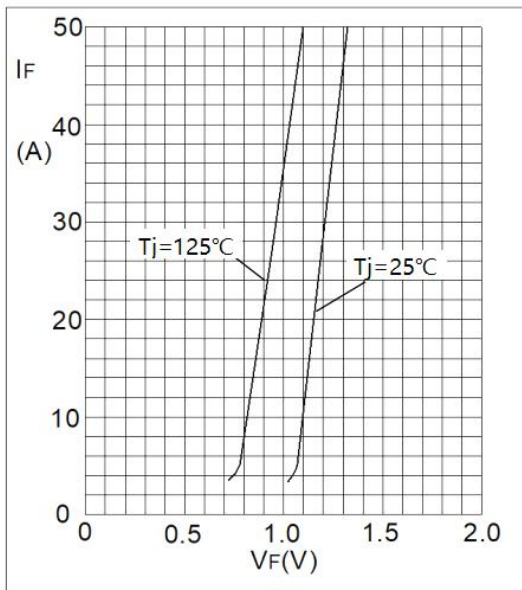


Fig3. Forward Characteristics

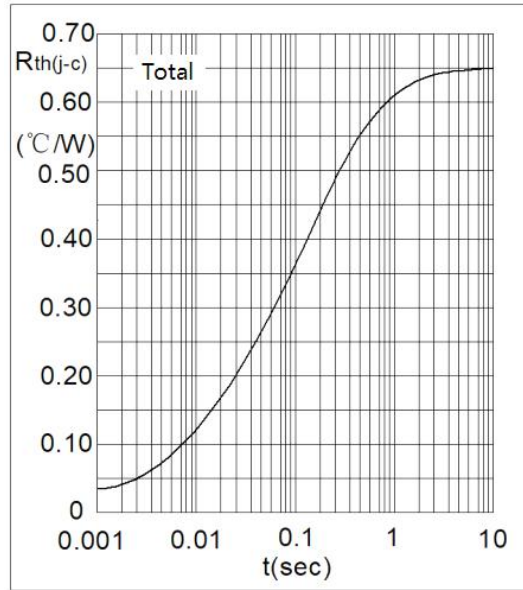


Fig4. Transient Thermal impedance

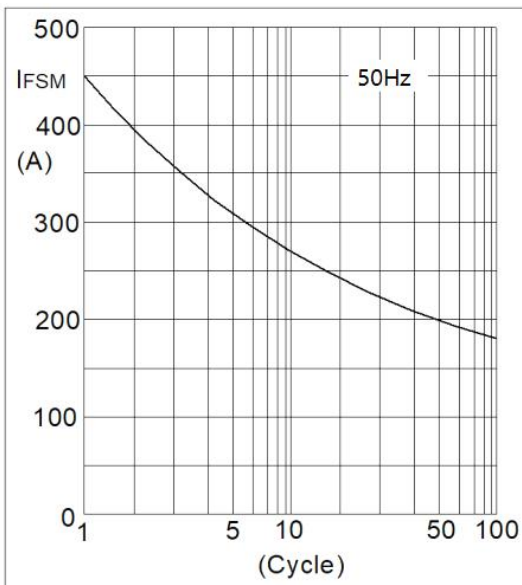
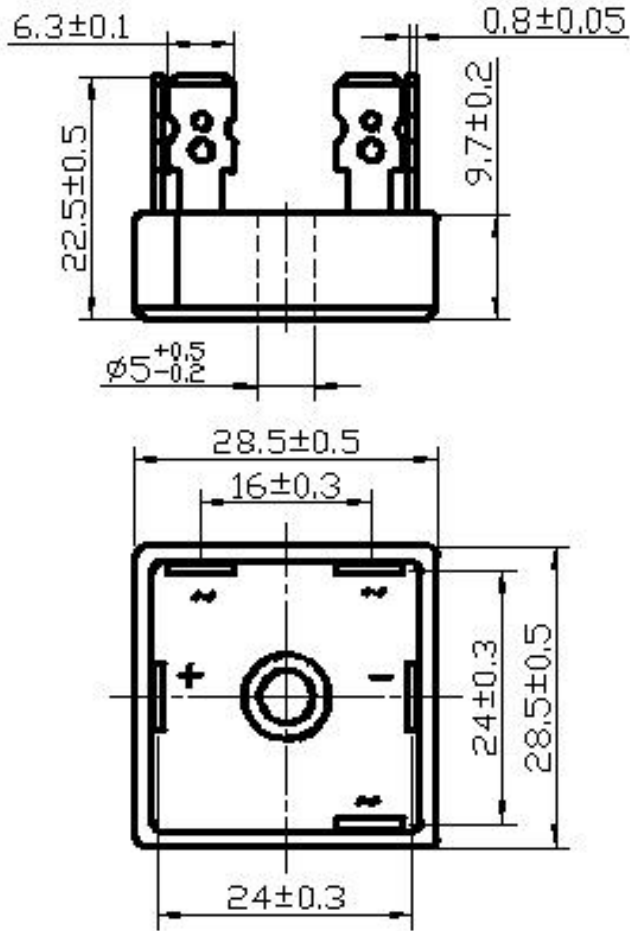


Fig5. Max Non-Repetitive Forward Surge Current

Package Outline Information

CASE: MT-G



Dimensions in mm

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