

## MTS50.22

### Three-phase rectifier bridge module

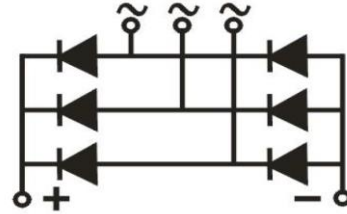


#### Features:

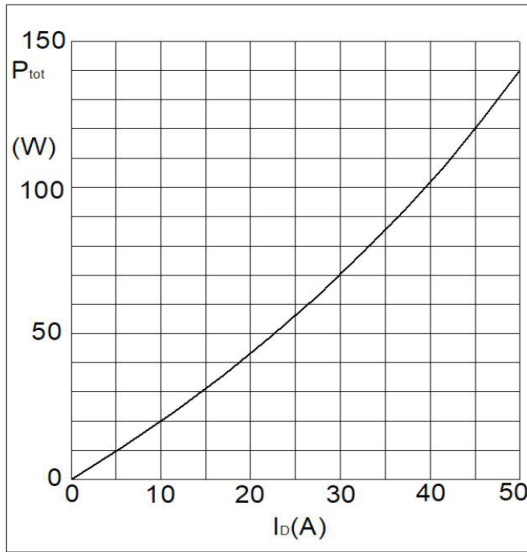
- Glass passivated chip
- Isolation voltage 3000V ~
- Aluminum oxide DBC
- UL recognized, file no. E312789

#### Typical applications:

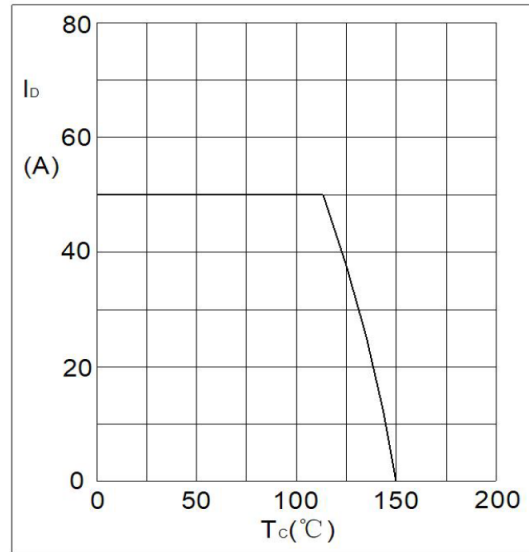
- Inverter for AC or DC motor control
- Current stabilized power supply
- Switching power supply



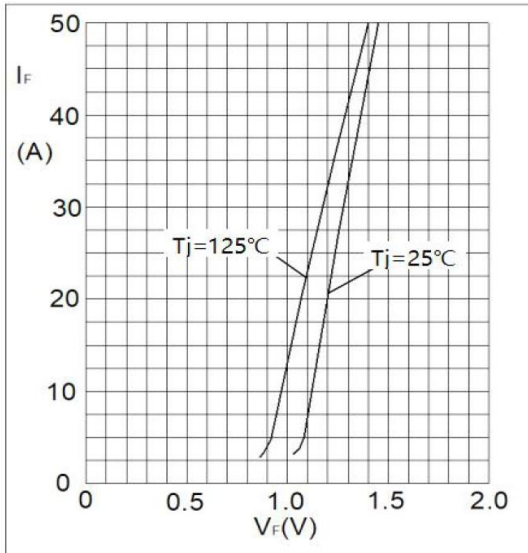
Symbol	Characteristics	Test Conditions	Value			Unit
			Min	Typ	Max	
$V_{RSM/DSM}$	Non-repetitive reverse/forward blocking voltage				2200	V
$V_{RRM/DRM}$	Repetitive reverse/forward blocking voltage				2300	V
$I_D$	DC output current	Three-phase full wave rectifying circuit, $T_c = 113^\circ\text{C}$			50	A
$I_{RRM}$	Repetitive peak current	at $V_{DRM}/V_{RRM}$ $T_j = 25^\circ\text{C}$			0.1	mA
		at $V_{DRM}/V_{RRM}$ $T_j = 150^\circ\text{C}$			5	mA
$I_{FSM}$	Surge forward current	10ms half sine wave $T_j = 55^\circ\text{C}$ , $V_R = 0\text{V}$			540	A
$I^2 t$	$I^2 t$ for fusing coordination	10ms, $T_j = 25^\circ\text{C}$			1458	$\text{A}^2\text{s}$
$V_{TO}$	Threshold voltage	$T_j = 125^\circ\text{C}$			0.90	V
$r_T$	On-state slope resistance	$T_j = 125^\circ\text{C}$			10	$\text{m}\Omega$
$V_{FM}$	Forward voltage drop	$T_j = 25^\circ\text{C}$ ; $I_F = 50\text{A}$			1.45	V
$R_{th(j-c)}$	Thermal resistance junction to case	per module			0.26	$^\circ\text{C}/\text{W}$
	Thermal resistance junction to case	per diode			1.56	$^\circ\text{C}/\text{W}$
$R_{th(c-s)}$	Thermal resistance case to sink	per module			0.15	$^\circ\text{C}/\text{W}$
$V_{ISO}$	Isolation voltage	50Hz, RMS, $t = 1\text{min}$		3000		V
$F_M$	Mounting torque - to heatsink (M5)		2.5		3.5	N·m
$T_{stg}$	Storage Temperature		-40		125	$^\circ\text{C}$
$T_j$	Operating Temperature		-40		150	$^\circ\text{C}$
$W_t$	Weight			70		g
Outline	M14C					



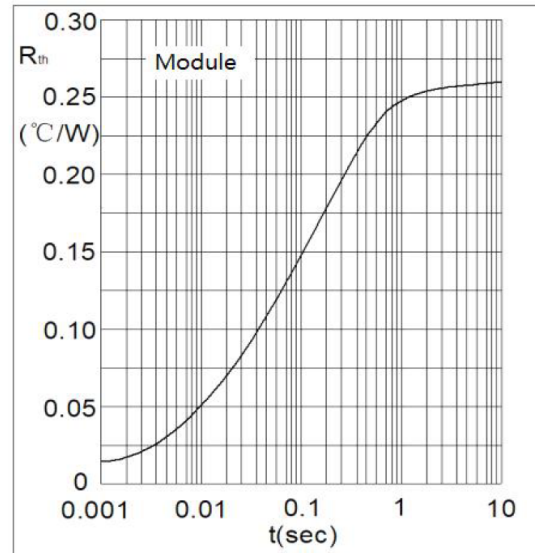
**Fig1. Power Dissipation**



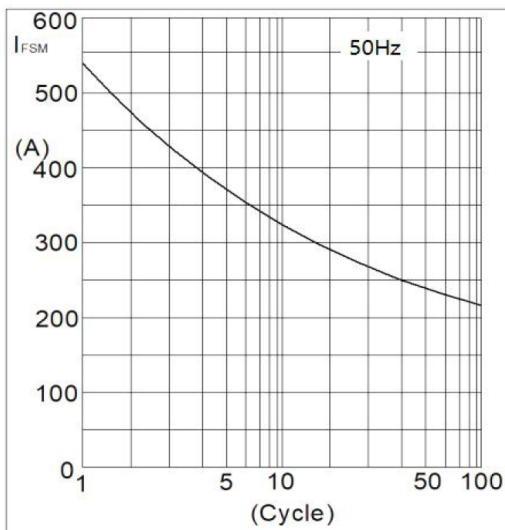
**Fig2. Forward Current Derating Curve**



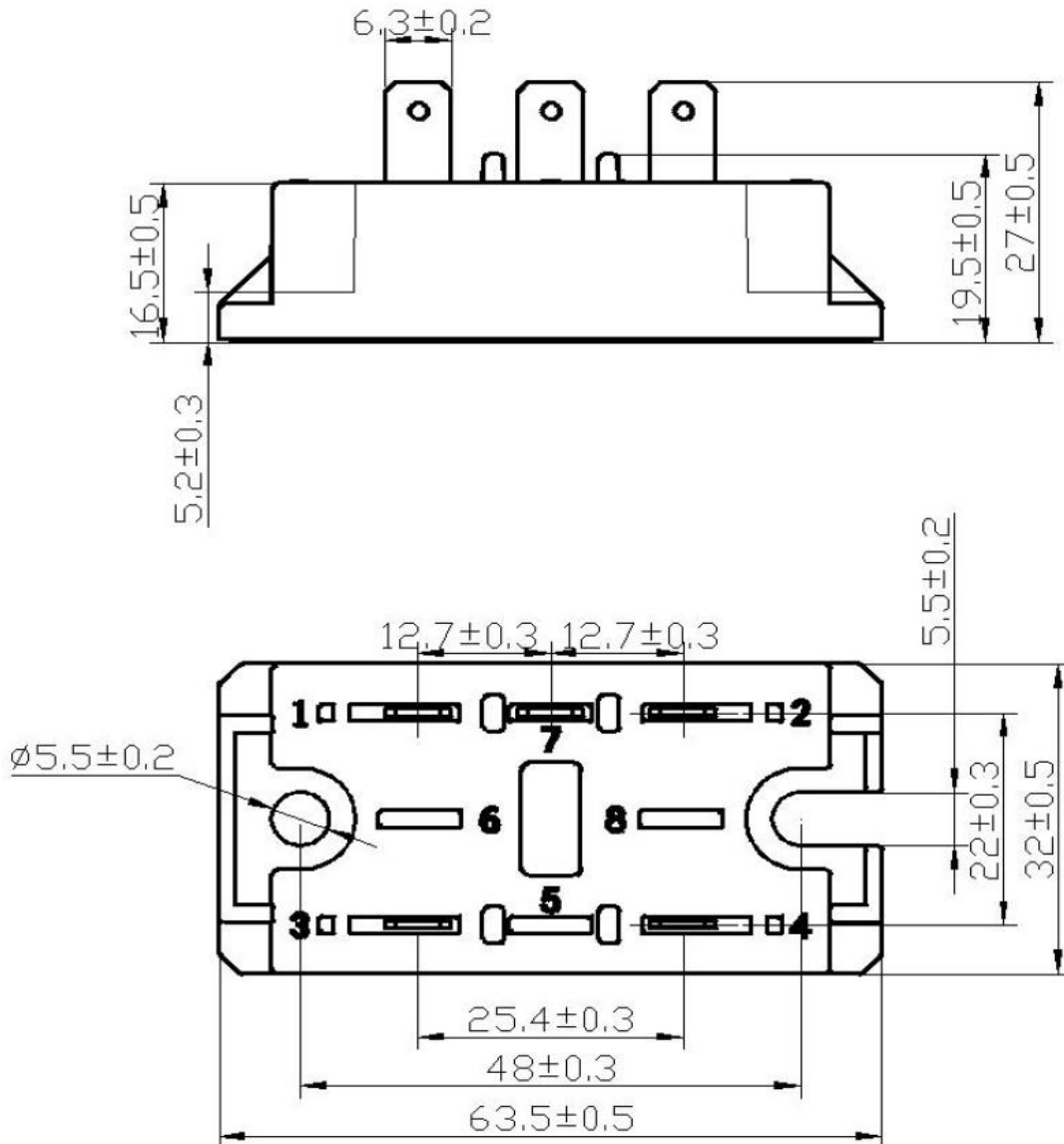
**Fig3. Forward Characteristics**



**Fig4. Transient Thermal impedance**



**Fig5. Max Non-Repetitive Forward Surge Current**



(dimensions in mm)

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