

## MRT200.16

### Thyristors module

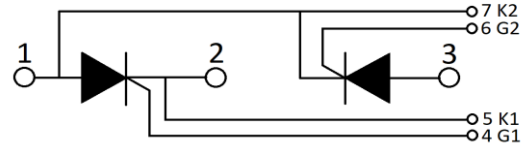
#### Features:

- International standard package
- High surge capability
- Glass passivated chip
- Simple mounting
- UL recognized, file no. E312789



#### Typical applications:

- Power converters
- Lighting control
- AC/DC motor control and drives
- Heat and temperature control



Symbol	Characteristics	Test Conditions	Value			Unit
			Min	Typ	Max	
$V_{RSM/DSM}$	Non-repetitive reverse/forward blocking voltage	$T_j = 25^\circ\text{C}$			1700	V
$V_{RRM/DRM}$	Repetitive reverse/forward blocking voltage	$T_j = 25^\circ\text{C}$			1600	V
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz			200	A
$I_{T(RMS)}$	RMS on-state current	$T_c = 85^\circ\text{C}$			314	A
$I_{RRM}$ $I_{DRM}$	Repetitive peak current	at $V_{DRM}/V_{RRM}$ $T_j = 125^\circ\text{C}$			30	mA
$I_{TSM}$	Surge non repetitive current	10ms half sine wave $T_j = 45^\circ\text{C}$			5800	A
$I^2 t$	$I^2 t$ for fusing coordination	10ms half sine wave $V_R = 60\% V_{RRM}$ $T_j = 45^\circ\text{C}$			168200	A <sup>2</sup> s
$V_{TO}$	Threshold voltage	$T_j = 125^\circ\text{C}$			0.85	V
$r_T$	On-state slope resistance	$T_j = 125^\circ\text{C}$			1.50	mΩ
$V_{TM}$	Peak on-state voltage	$T_j = 25^\circ\text{C}; I_T = 600\text{A}$			1.70	V
$dv/dt$	Critical rate of rise of off-state voltage	$V_{DM} = 67\% V_{DRM}$ , $T_j = 125^\circ\text{C}$ , linear voltage rise			1000	V/μs
$di/dt$	Critical rate of rise of off-state current	$T_j = 125^\circ\text{C}$ , Gate source 1,5A, $T_r < 0,5\mu\text{s}$ Repetitive			150	A/μs
$I_{GT}$	Gate trigger current	$V_D = 6\text{V}$ , $T_j = 25^\circ\text{C}$			150	mA
$V_{GT}$	Gate trigger voltage				3	V
$I_H$	Holding current		150		400	mA
$V_{GD}$	Non-trigger gate voltage	$V_{DM} = 67\% V_{DRM}$ , $T_j = 125^\circ\text{C}$			0.25	V
$R_{th(j-c)}$	Thermal resistance junction to case	Single side cooled per chip			0.17	°C/W
$R_{th(c-s)}$	Thermal resistance case to sink	Single side cooled per chip			0.10	°C/W
$V_{ISO}$	Isolation voltage	50Hz, RMS, $t = 1\text{min}$ , $I_{ISO} : 1\text{mA (MAX)}$		2500		V
$F_M$	Mounting torque - copper plate (M6)		4		6	N·m
	Mounting torque - terminal (M6)		4		6	N·m
$T_{stg}$	Storage Temperature		-40		125	°C
$T_j$	Operating Temperature		-40		125	°C
$W_t$	Weight			200		g
Outline	M42					

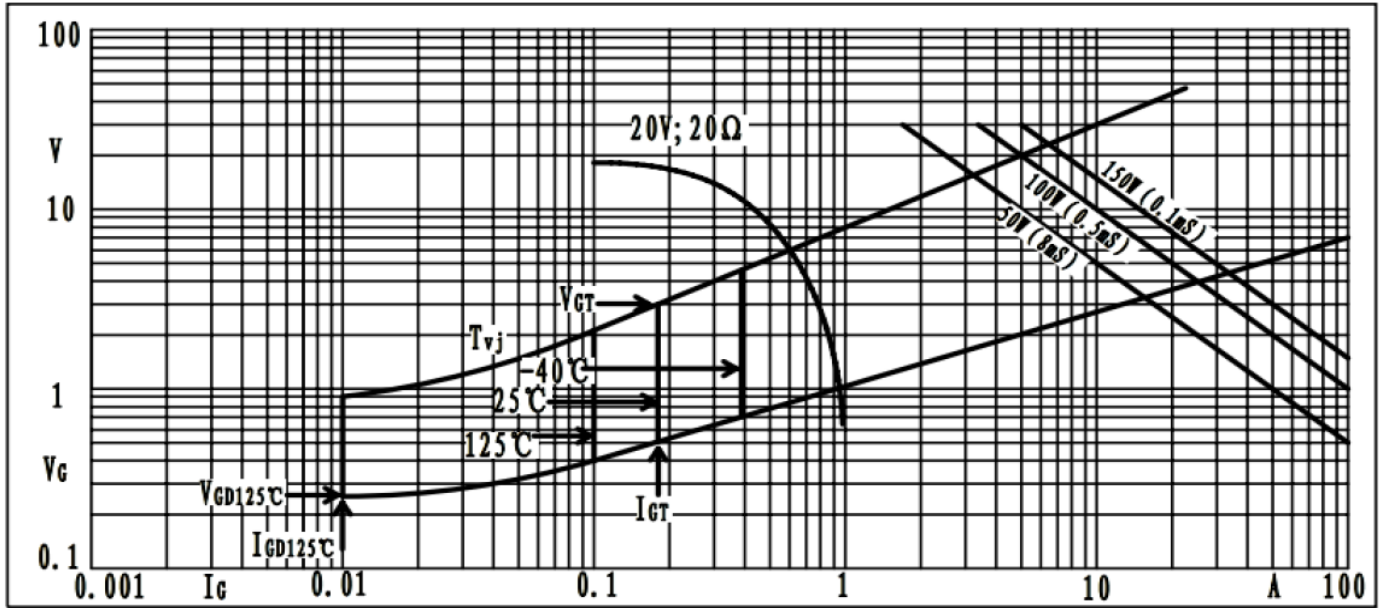


Fig1. Gate trigger characteristics

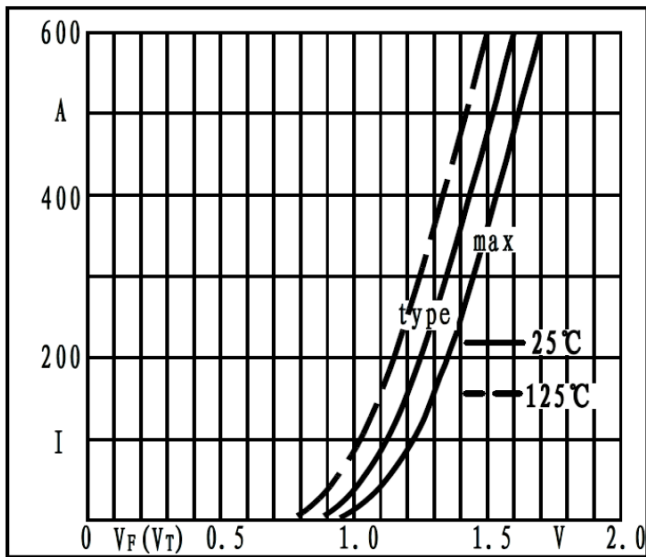


Fig2. Forward characteristics

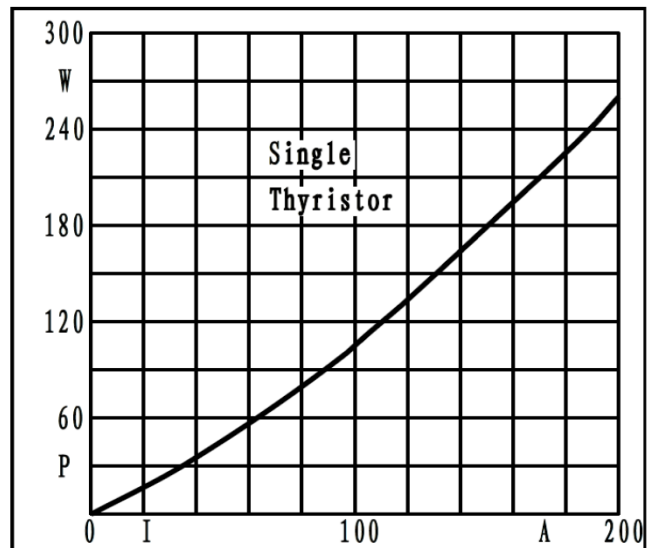


Fig3. Power dissipation

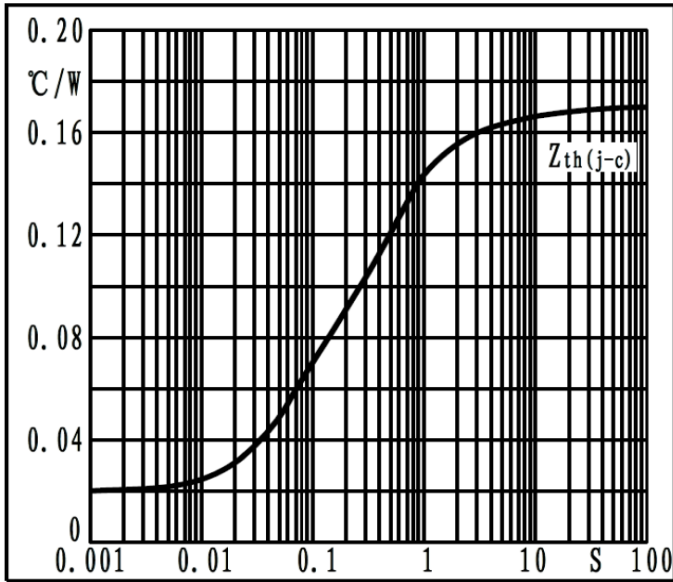


Fig4. Transient thermal impedance

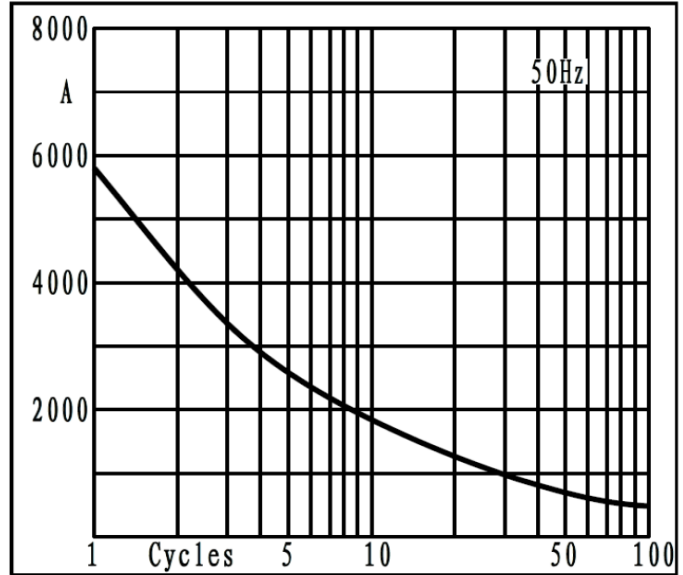


Fig5. Max non-repetitive forward surge current

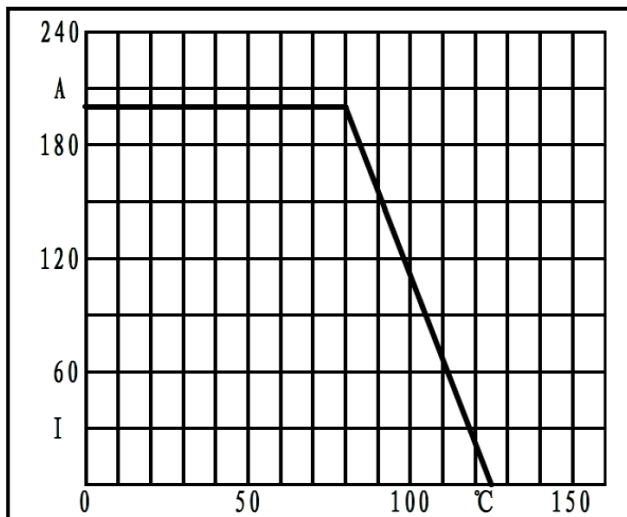
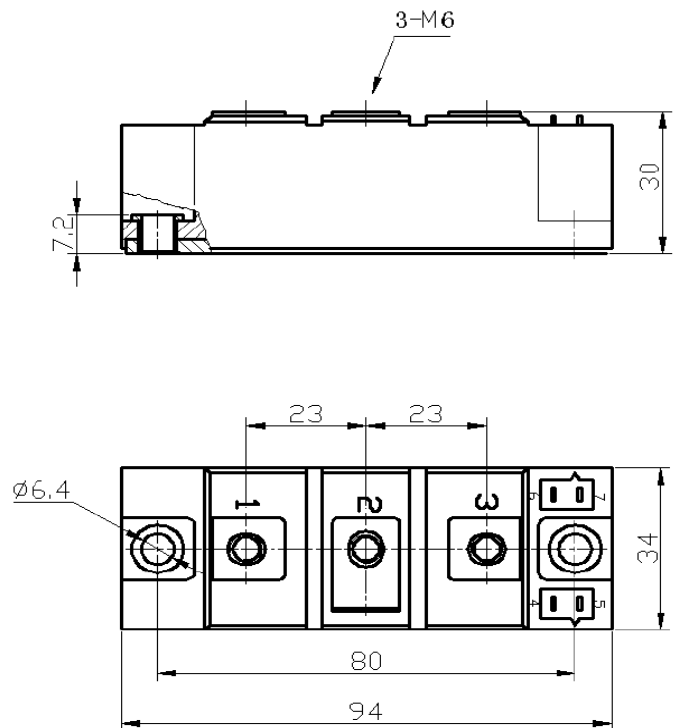


Fig6. Forward current derating curve



(dimensions in mm)

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