

MRT220.22

Thyristors module

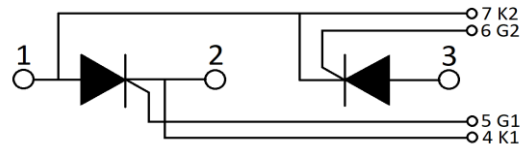


Features:

- International standard package
- High surge capability
- Glass passivated chip
- Simple mounting

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	$T_j = 25^\circ\text{C}$			2300	V
$V_{RRM/DRM}$	Repetitive reverse/forward blocking voltage	$T_j = 25^\circ\text{C}$			2200	V
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz			220	A
$I_{T(RMS)}$	RMS on-state current	$T_c = 85^\circ\text{C}$			345	A
I_{RRM} I_{DRM}	Repetitive peak current	at V_{DRM}/V_{RRM} $T_j = 140^\circ\text{C}$			30	mA
I_{TSM}	Surge non repetitive current	10ms half sine wave $T_j = 140^\circ\text{C}$			6100	A
$I^2 t$	$I^2 t$ for fusing coordination	10ms half sine wave $V_R = 60\% V_{RRM}$ $T_j = 140^\circ\text{C}$			180000	A ² s
V_{TO}	Threshold voltage	$T_j = 125^\circ\text{C}$			0.84	V
r_T	On-state slope resistance	$T_j = 125^\circ\text{C}$			1.50	mΩ
V_{TM}	Peak on-state voltage	$T_j = 125^\circ\text{C}$; $I_T = 400\text{A}$			1.48	V
dv/dt	Critical rate of rise of off-state voltage	$V_{DM} = 67\% V_{DRM}$, $T_j = 140^\circ\text{C}$, linear voltage rise			1000	V/μs
di/dt	Critical rate of rise of off-state current	$T_j = 140^\circ\text{C}$, 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				2	V
I_H	Holding current				200	mA
V_{GD}	Non-trigger gate voltage	$V_{DM} = 67\% V_{DRM}$, $T_j = 140^\circ\text{C}$			0.25	V
$R_{th(j-c)}$	Thermal resistance junction to case	Single side cooled per chip			0.13	°C/W
$R_{th(c-s)}$	Thermal resistance case to sink	Single side cooled per chip			0.07	°C/W
V_{ISO}	Isolation voltage	50Hz, RMS, $t = 1\text{min}$, $I_{ISO} : 1\text{mA (MAX)}$		4000		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		140	°C
W_t	Weight			200		g
Outline	M42G					

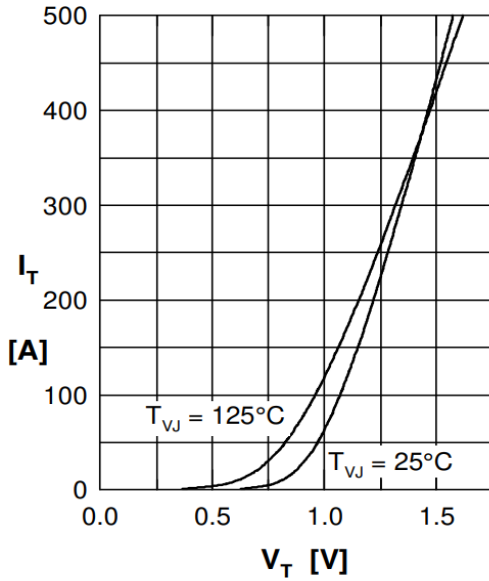


Fig. 1 Forward characteristics

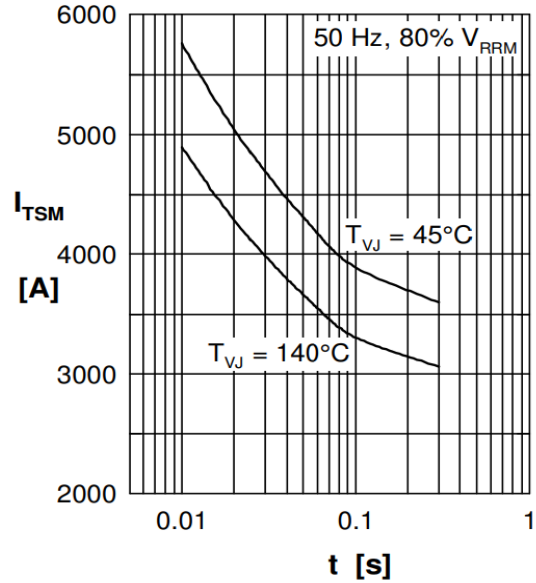


Fig. 2 Surge overload current

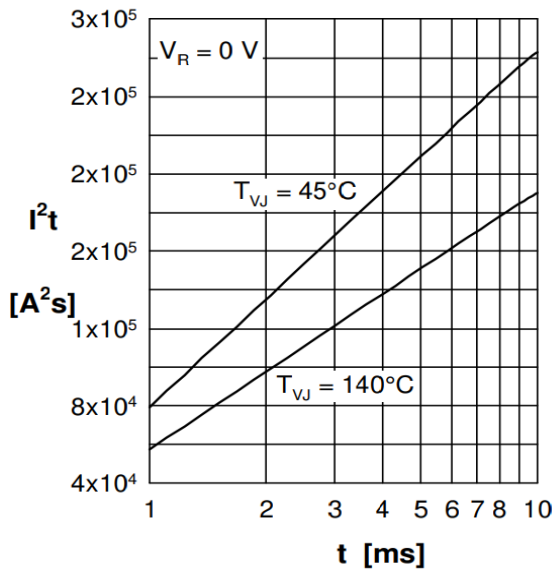


Fig. 3 I^2t versus time (1-10 s)

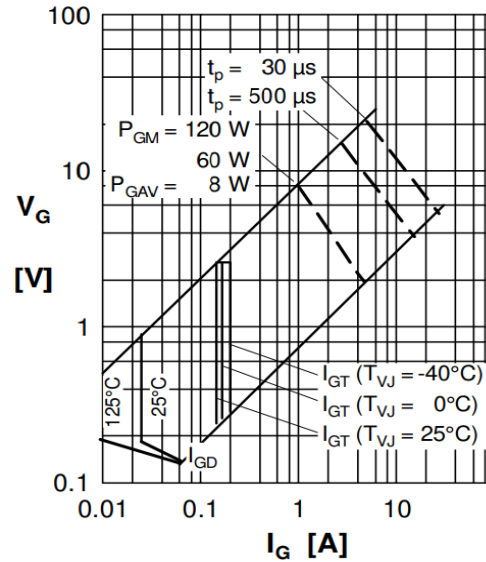


Fig. 4 Gate voltage & gate current

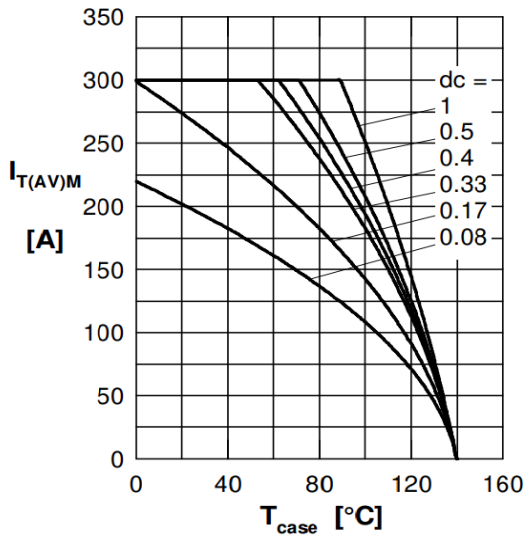


Fig.5 Max. forward current at case temperature

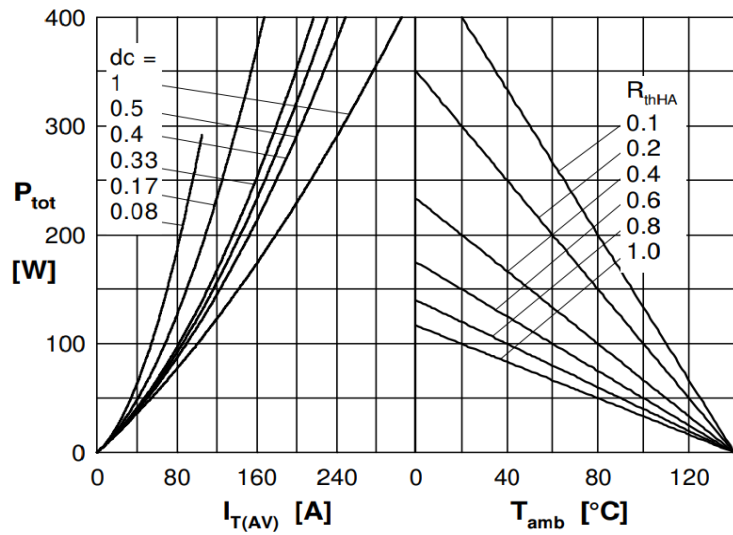
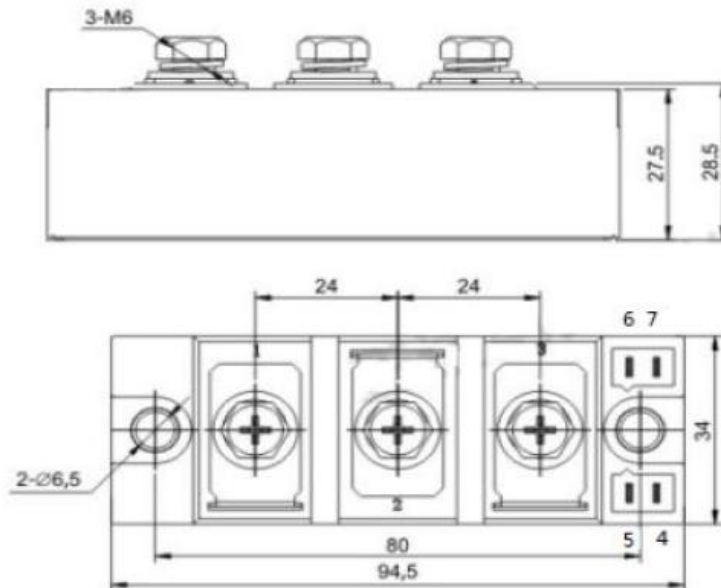


Fig.6 Power dissipation versus direct output current and ambient temperature



(dimensions in mm)

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