



# Thyristor Modules MTx500



$I_{T(AV)}$       **500A**  
 $V_{DRM}/V_{RRM}$     **1900~2500V**  
 $I_{TSM}$              **$14.5A \times 10^3$**   
 $I^2t$                  **$1051A^2 S \cdot 10^3$**

### Features:

- Isolated mounting base 3000V~
- Pressure contact technology with Increased power cycling capability
- Space and weight savings

### Typical Applications

- AC/DC Motor drives
- Various rectifiers
- DC supply for PWM inverter

SYMBOL	CHARACTERISTIC	TEST CONDITIONS	$T_j(^{\circ}C)$	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Single side water cooled, $T_c=55^{\circ}C$	125			500	A
$I_{T(RMS)}$	RMS on-state current		125			785	A
$V_{DRM}$ $V_{RRM}$	Repetitive peak off-state voltage Repetitive peak reverse voltage	$V_{DRM} \& V_{RRM}$ tp=10ms $V_{DSM} \& V_{RSM} = V_{DRM} \& V_{RRM} + 100V$ respectively	125	1900		2500	V
$I_{DRM}$ $I_{RRM}$	Repetitive peak current	at $V_{DRM}$ at $V_{RRM}$	125			45	mA
$I_{TSM}$	Surge on-state current	10ms half sine wave	125			14.5	KA
$I^2t$	$I^2t$ for fusing coordination	$V_R = 60\% V_{RRM}$					1051
$V_{TO}$	Threshold voltage		125			0.87	V
$r_T$	On-state slop resistance						0.78
$V_{TM}$	Peak on-state voltage	$I_{TM} = 1500A$	25			2.15	V
dv/dt	Critical rate of rise of off-state voltage	$V_{DM} = 67\% V_{DRM}$	125			800	V/μs
di/dt	Critical rate of rise of on-state current	Gate source 1.5A $t_r \leq 0.5\mu s$ Repetitive	125			100	A/μs
$I_{GT}$	Gate trigger current	$V_A = 12V, I_A = 1A$	25	30		200	mA
$V_{GT}$	Gate trigger voltage			1.0		3.0	V
$I_H$	Holding current			20		200	mA
$V_{GD}$	Non-trigger gate voltage	$V_{DM} = 67\% V_{DRM}$	125	0.2			V
$R_{th(j-c)}$	Thermal resistance Junction to case	Single side cooled				0.073	$^{\circ}C/W$
$R_{th(c-h)}$	Thermal resistance case to heat sink	Single side cooled				0.04	$^{\circ}C/W$
$V_{iso}$	Isolation voltage	50Hz, R.M.S, t=1min, $I_{iso}: 1mA(MAX)$		3000			V
$F_m$	Thermal connection torque(M10)				12		N-m
	Mounting torque(M6)				6.0		N-m
$T_{stg}$	Stored temperature			-40		125	$^{\circ}C$
$W_t$	Weight				1820		g
Outline							

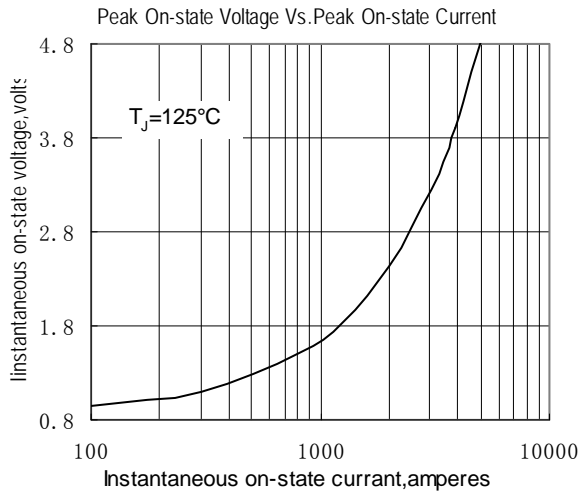


Fig.1

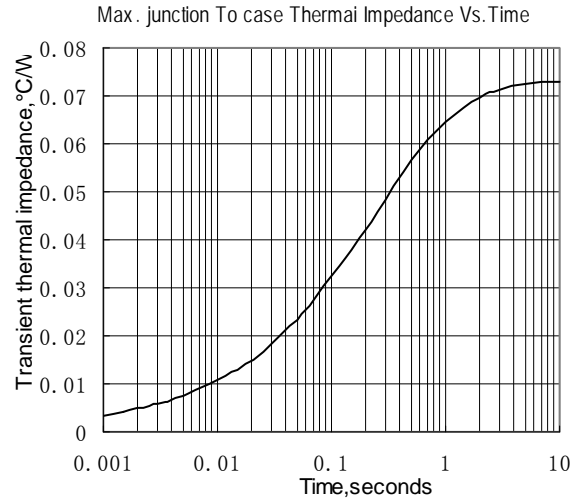


Fig.2

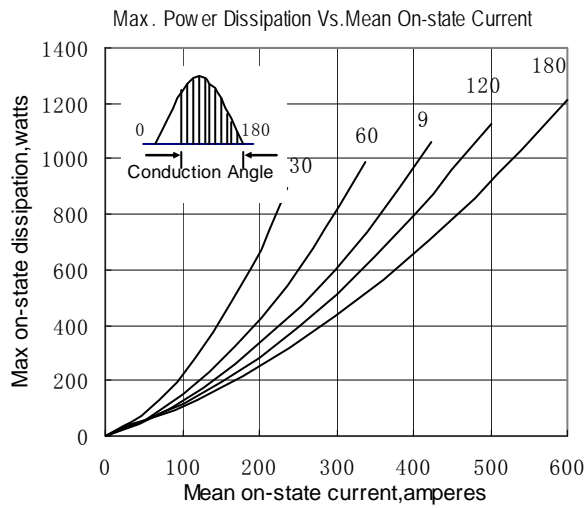


Fig.3

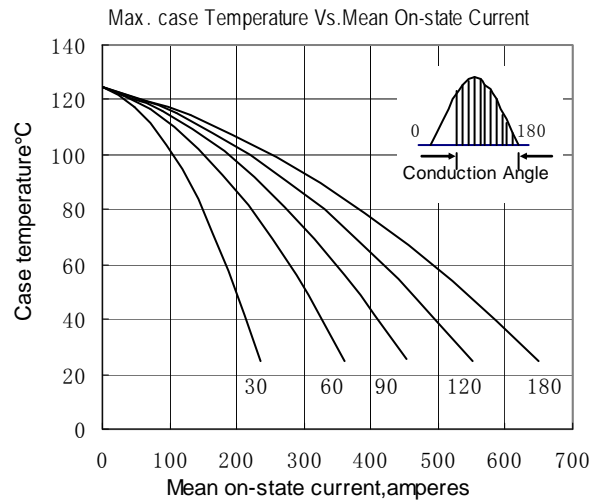


Fig.4

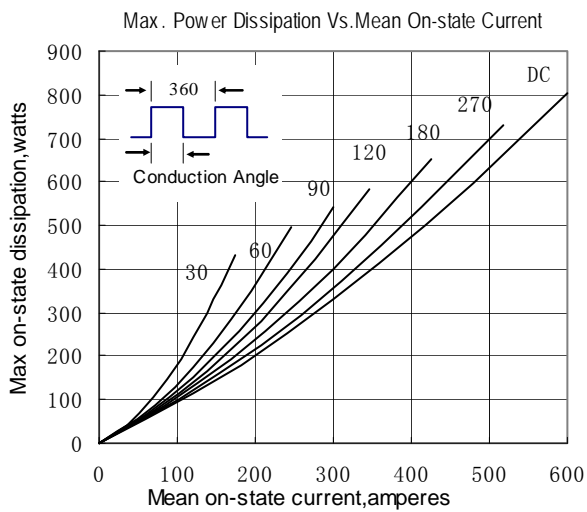


Fig.5

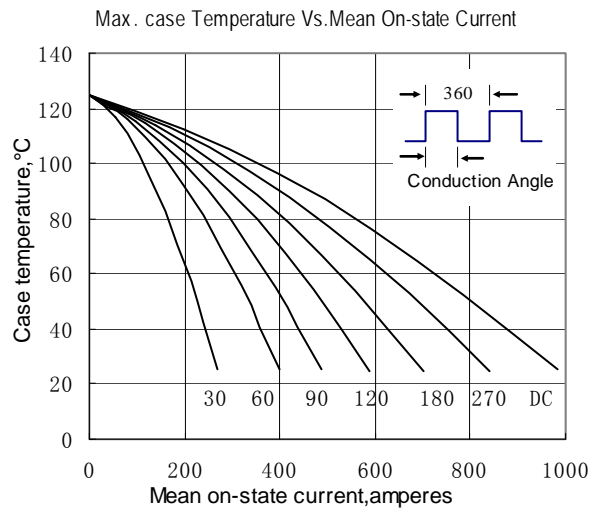


Fig.6

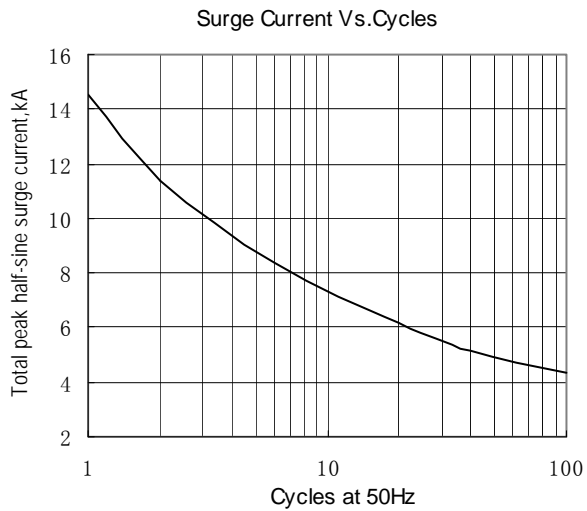


Fig.7

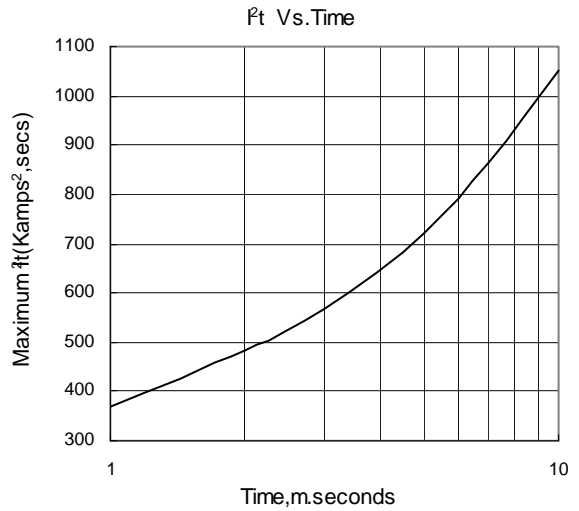


Fig.8

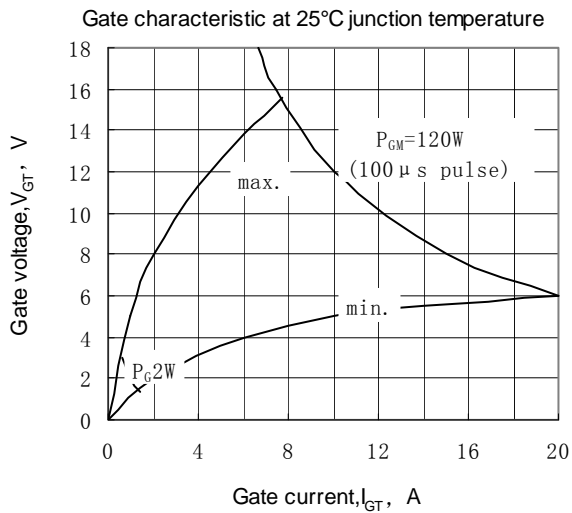


Fig.9

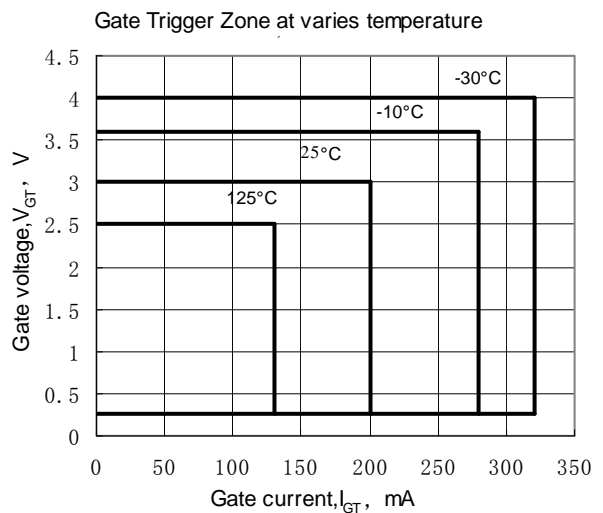


Fig.10

**Outline:**

