

# MTG(AA)160 MTY(AA)160 Thyristor Modules(Non-isolated Type)

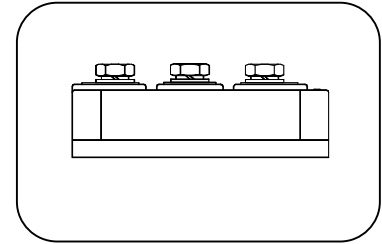
## Features:

- n Non-Isolated. Mounting base as common
- n Pressure contact technology with  
Increased power cycling capability
- n Low on-state voltage drop

## Typical Applications

- n Welding Power Supply
- n Various DC Power supplies
- n DC supply for PWM inverter

$I_{T(AV)}$       **160 A**  
 $V_{DRM}/V_{RRM}$     **200~600 V**  
 $I_{TSM}$              **$5.60 A \times 10^3$**   
 $I^2t$                  **$160 A^2 S \cdot 10^3$**



SYMBOL	CHARACTERISTIC	TEST CONDITIONS	T <sub>j</sub> (°C)	VALUE			UNIT
				Min	Type	Max	
$I_{T(AV)}$	Mean on-state current	180° half sine wave 50Hz Single side cooled, T <sub>c</sub> =110°C	140			160	A
$I_{T(RMS)}$	RMS on-state current		140			251	A
$V_{DRM}$ $V_{RRM}$	Repetitive peak off-state voltage Repetitive peak reverse voltage	$V_{DRM}$ & $V_{RRM}$ tp=10ms $V_{DSM}$ & $V_{RSM} = V_{DRM}$ & $V_{RRM}$ +200V respectively	140	200		600	V
$I_{DRM}$ $I_{RRM}$	Repetitive peak current	at $V_{DRM}$ at $V_{RRM}$	140			12	mA
$I_{TSM}$	Surge on-state current	10ms half sine wave	140			5.60	KA
$I^2t$	$I^2T$ for fusing coordination	$V_R=60\%V_{RRM}$				160	$A^2s \cdot 10^3$
$V_{TO}$	Threshold voltage		140			0.80	V
$r_T$	On-state slop resistance					1.15	mΩ
$V_{TM}$	Peak on-state voltage	$I_{TM}=480A$	25			1.43	V
dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=67\%V_{DRM}$	140			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	140			100	A/μs
$I_{GT}$	Gate trigger current	$V_A=12V, I_A=1A$	25	30		150	mA
$V_{GT}$	Gate trigger voltage			1.0		2.5	V
$I_H$	Holding current			20		200	mA
$V_{GD}$	Non-trigger gate voltage	At 67% $V_{DRM}$	140	0.2			V
$R_{th(j-c)}$	Thermal resistance Junction to case	Single side cooled				0.150	°C /W
$R_{th(c-h)}$	Thermal resistance case to heat sink	Single side cooled				0.04	°C /W
$F_m$	Thermal connection torque (M8)				12		N·m
	Mounting torque (M6)				6		N·m
$T_{stg}$	Stored temperature			-40		125	°C
$W_t$	Weight				680		g
Outline	404F4						

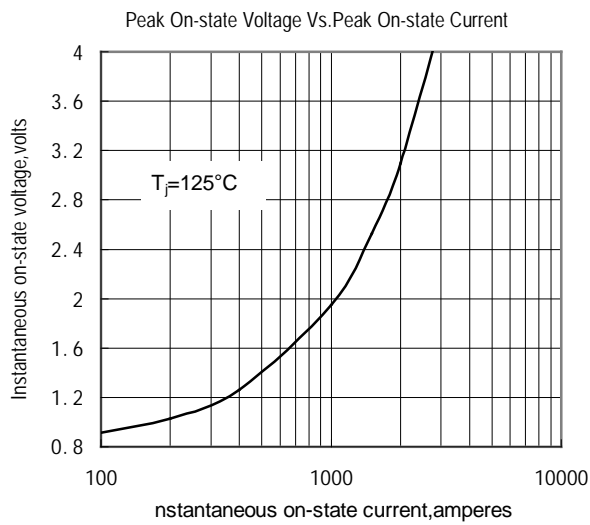


Fig.1

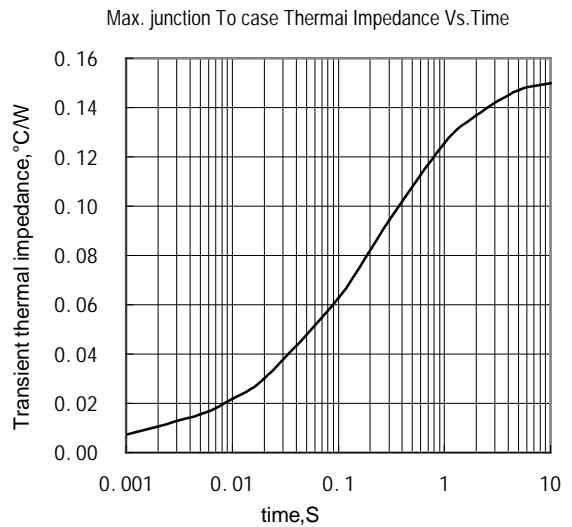


Fig.2

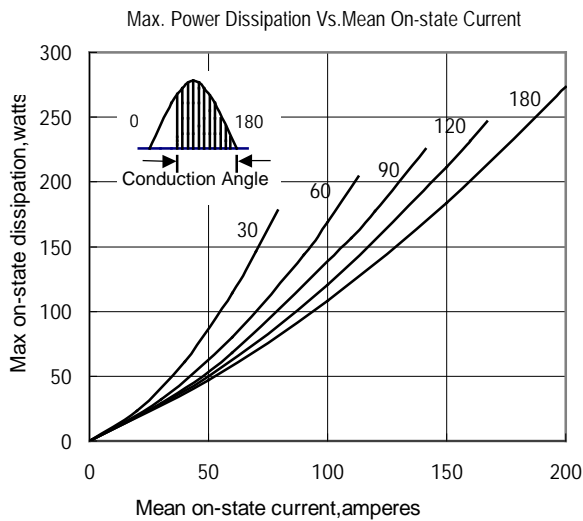


Fig.3

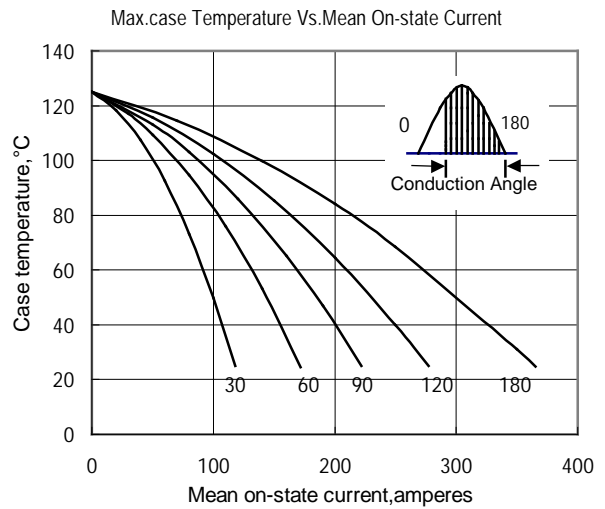


Fig.4

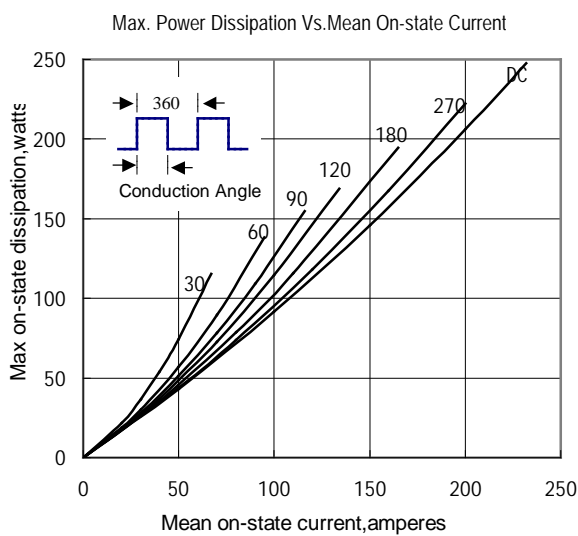


Fig.5

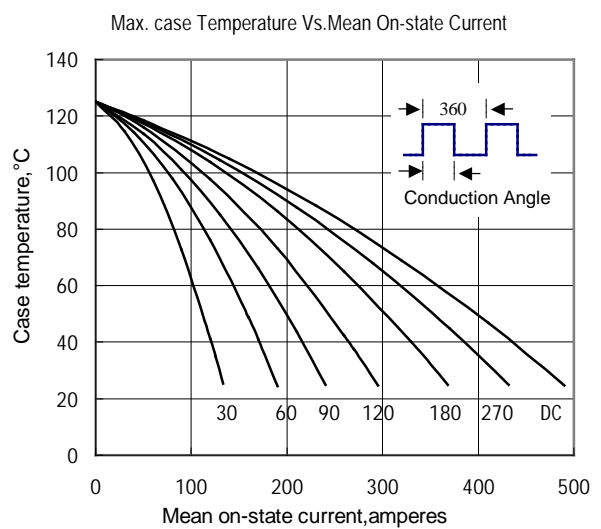


Fig.6

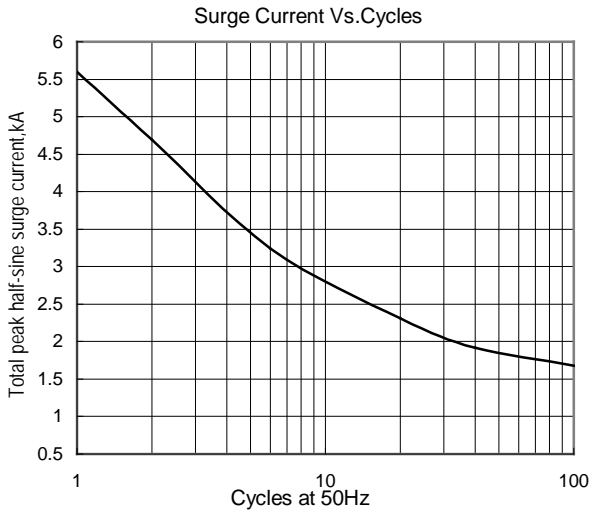


Fig.7

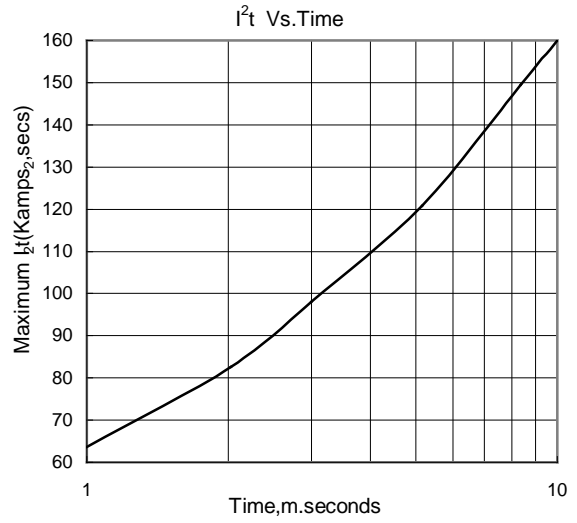


Fig.8

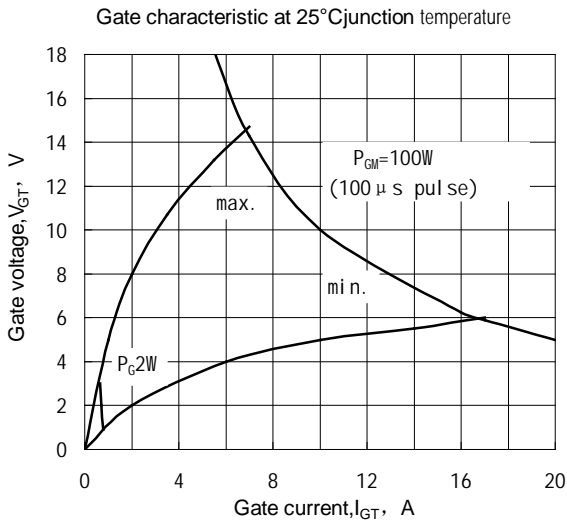


Fig.9

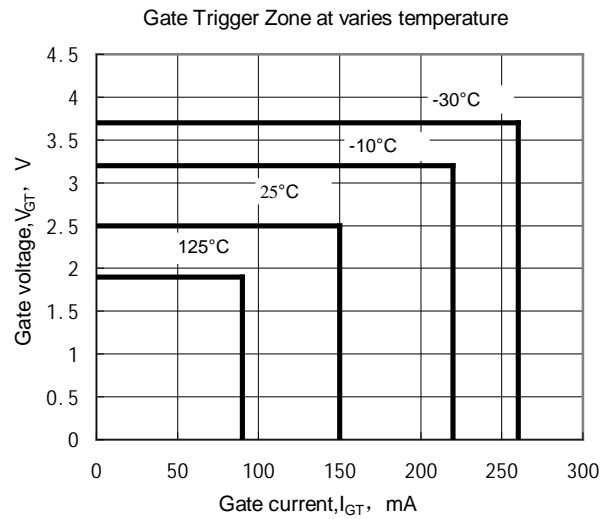


Fig.10

Outline:

