



# MFG/MFY300A

## Non-Insulated Type Thyristor Diode Module

### Features

Isolated mounting base 2500V  
 Increased power cycling capability  
 Space and weight savings

$I_{T(AV)}$	300A
$V_{DRM}/V_{RRM}$	400-2600 V
$I_{TSM}$	9.6KA
$I^2T$	470KA <sup>2</sup> S

### Application

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

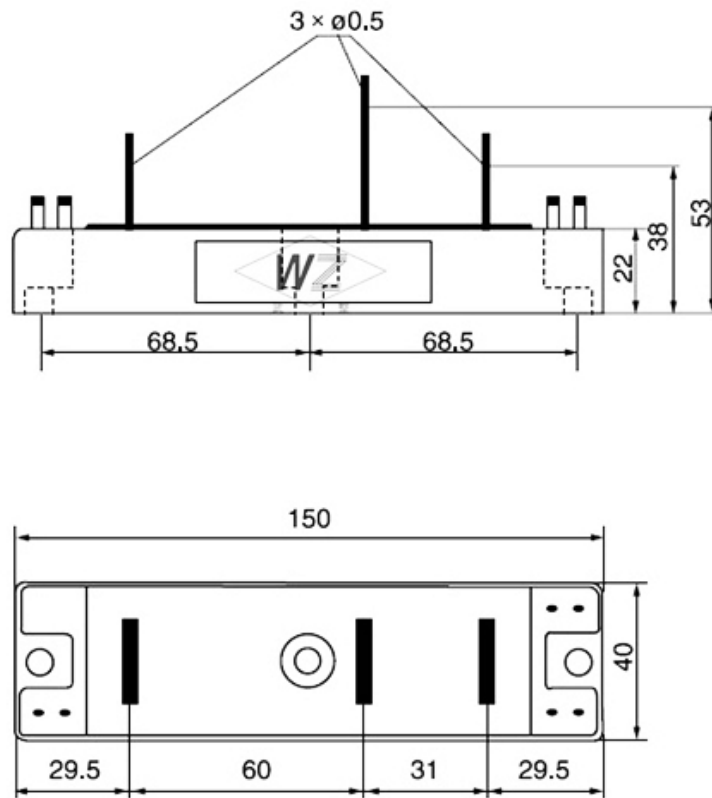
Symb.		parameter	Test Conditions	$T_{J(C)}$	Value	Unit
Current Ratings	$I_{T(AV)}$	average on-state current	180° half sine wave 50Hz Single side cooled $T_c=90^\circ\text{C}$	125	300	A
	$I_{T(RMS)}$	RMS on-state current		125	471	A
	$I_{TSM}$	Surge on-state current	10ms half sine wave $V_R=0.6V_{RRM}$	125	9.60	KA
	$I^2t$	I <sup>2</sup> T for fusing coordination		125	470	KA <sup>2</sup> S
Characteristics	$V_{DRM}$ $V_{RRM}$	Repetitive peak off-state voltage Repetitive peak reverse voltage	$V_{DRM}\&V_{RRM}$ tp=10ms $V_{DSM}\&V_{RSM}=V_{DRM}\&V_{RRM}+200V$	125	400-2600	V
	$I_{DRM}$ $I_{RRM}$	Repetitive peak current	$V_{DM}=V_{DRM}$ $V_{RM}=V_{RRM}$	125	Max.25	mA
	$V_{TO}$	Threshold voltage		125	Max.0.80	V
	$V_{TM}$	Peak on-state voltage	$I_{TM}=900A$	25	Max.1.58	V
	$r_T$	On-state slop resistance		125	Max.0.72	mΩ
	$I_H$	Holding current	$V_A=12V, I_A=1A$	25	20-200	ma
Dynamic Parameters	dv/dt	Critical rate of rise of off-state voltage	$V_{DM}=67\%V_{DRM}$	125	Max.800	V/μs
	di/dt	Critical rate of rise of on-state current	gate trigger current amplitude $I_{GM}=1.5A$ , gate tigger current rise time $t_r\leq 0.5\mu s$	125	Max.100	A/μs
Gate Parameters	$I_{GT}$	Gate trigger current	$V_A=12V, I_A=1A$	25	30-150	mA
	$V_{GT}$	Gate trigger voltage		25	1.0-2.5	V
	$V_{GD}$	Non-trigger gate voltage	$V_{DM}=67\%V_{DRM}$	125	Min.0.2	V

## Thermal & Mechanical Data

Symb.	parameter	Test Conditions	Value	Unit
$R_{th(j-c)}$	Thermal resistance Junction to case	single side cooled	Max.0.080	°C/W
$R_{th(c-h)}$	Thermal resistance case to heat sink	single side cooled	Max.0.04	°C/W
$F_m$	Terminal connection torque(M5)		Min.12	N m
	Mounting force (M6)		Max.6	N m
$T_{stg}$	Stored temperature		-40+125	°C
$W_t$	Weight		680	g

### Outline:

M41



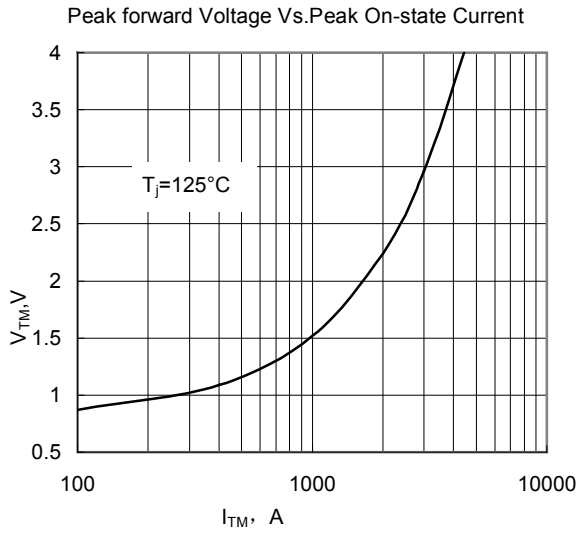


Fig.1

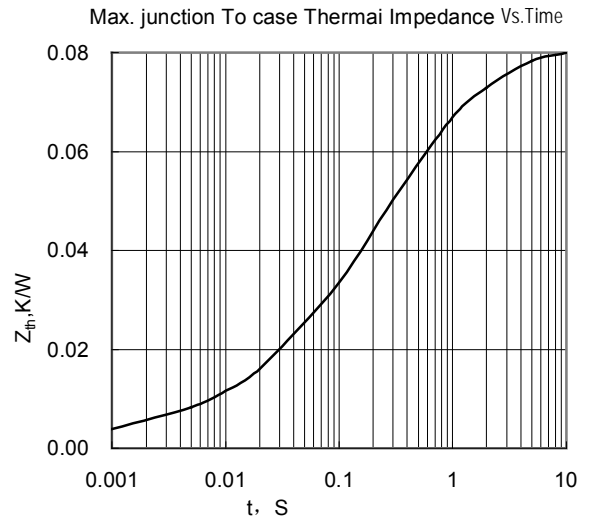


Fig.2

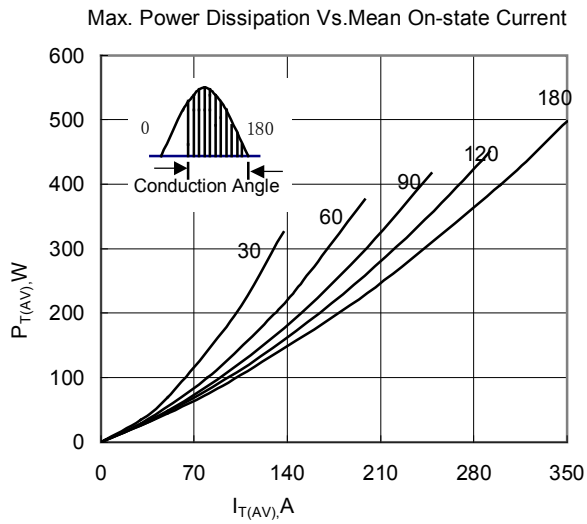


Fig.3

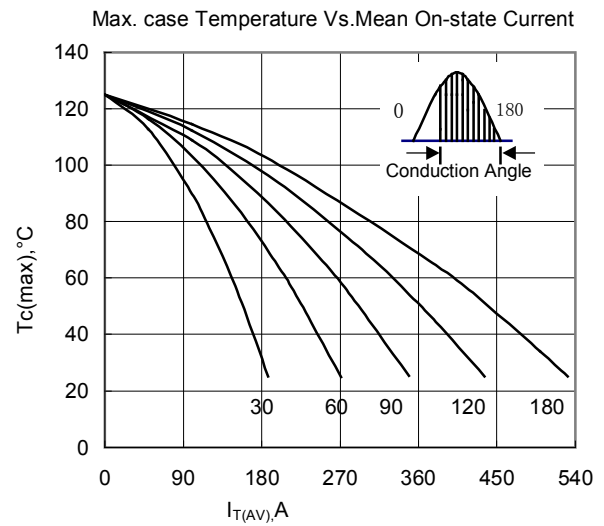


Fig.4

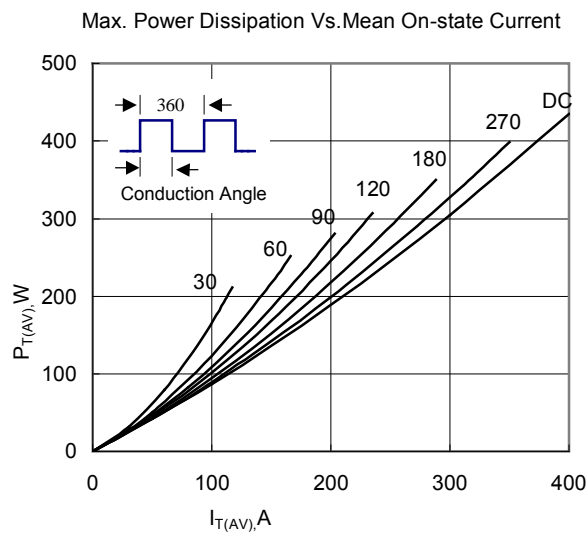


Fig.5

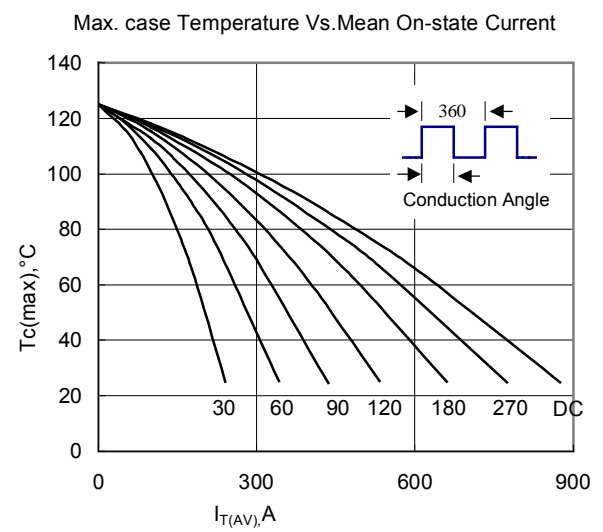


Fig.6

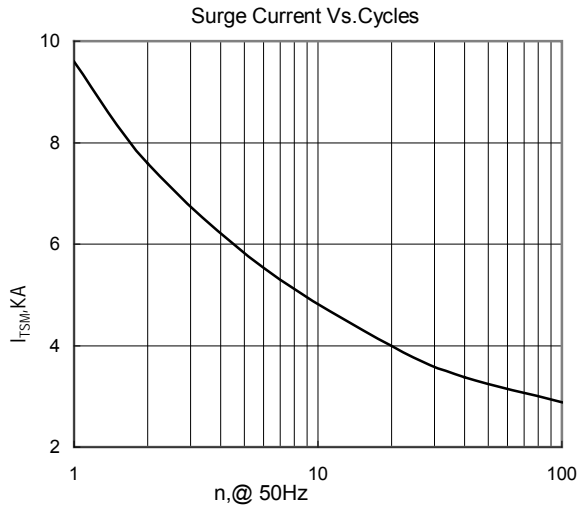


Fig.7

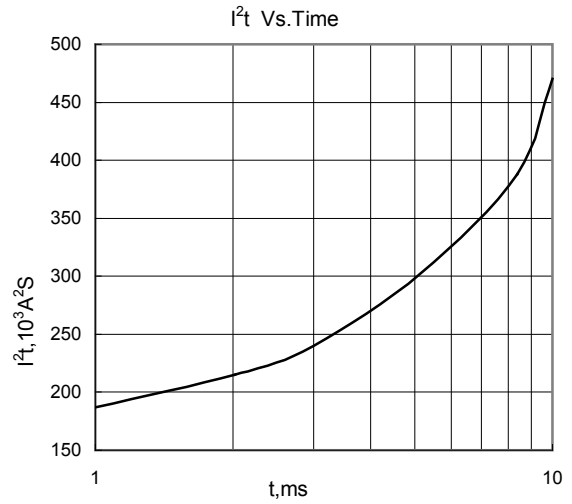


Fig.8

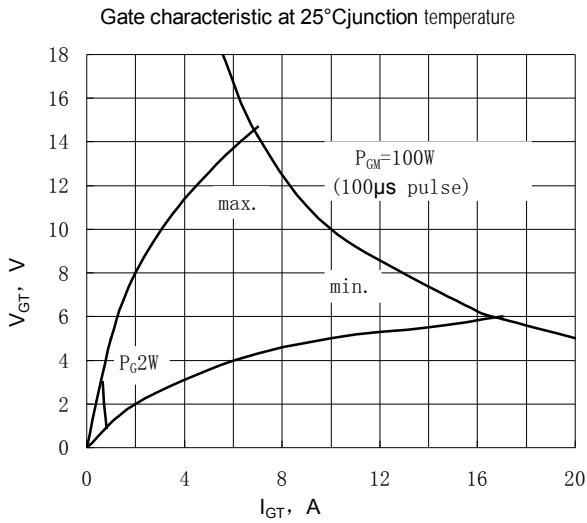


Fig.9

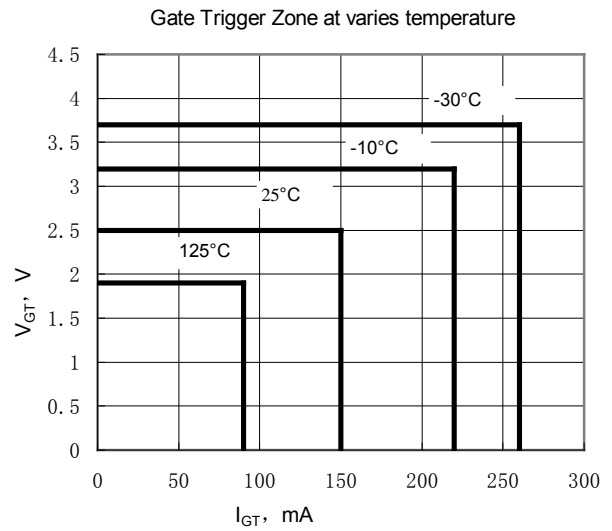


Fig.10

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